

LEAD CONSUMING INDUSTRIES AND THE LEAD MARKETS

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Lead is an extremely important commodity to the State of Idaho as all of you are well aware. Last year the lead mined in this state had a value of more than \$23,000,000. Conversely Idaho is extremely important to the lead industries. In 1952 it accounted for about 19 percent of all U.S. lead mine production and over 6 percent of all the lead consumed by United States industry. If we add the adjacent states of Washington and Montana in whose lead production many of you have a direct interest, these figures rise to 27 percent and 9 percent respectively.

That the lead industries as a whole recognize this importance of Idaho to them is evidenced by the fact that one of your past presidents is now president and chairman of the Board of Directors of the Lead Industries Association and your present president is a member of our Board. I hope this close relationship between the Lead Industries Association and the Idaho Mining Association will always be maintained for the good of both and it gives me particular pleasure in being here.

I know that recent months have not been happy ones for most lead miners, but I feel that basically our industry is sound and that maladjustments which have led to hardships are being corrected.

For a moment let's look at the current lead situation. Lead consumer business in the United States is running at a high level. In the first four months of this year about 27,000 tons more lead went into consumption than in the like period last year and if consumption continues at that rate about 1,200,000 tons would be used this year.

Paradoxically, the lead mining industry in the United States is suffering under a price which is unprofitable to many and not very profitable to a Address before Idaho Mining Association, Sun Valley, Idaho, July 14, 1953.

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others. This unpleasant situation is the result of a number of unusual events.

First, the start of the Korean war created extensive scare buying both here and abroad, causing a temporary artificial shortage and a rapid climb in prices. Then business in lead products here in the early part of 1952 failed to come up to expectations and business abroad has been in the doldrums for some time. This, plus currency difficulties and the large stocks that had accumulated abroad kept foreign buyers out of the market. Thus large amounts of foreign produced lead sought a market here and at the same time excess foreign stocks, particularly British, were liquidated.

With the opening of the London Metal Exchange last October, combined with the foregoing factors, the market broke badly. American business just could not absorb all this lead.

Today, this situation has changed and lead appears to be in a comparatively sound position statistically. Excess stocks have been liquidated and I do not know of any large stocks of lead anywhere hanging over the market. Of course, there is our government stockpile, but that is frozen. In fact, abroad, buyers seem to be operating on a hand to mouth basis and business has shown some slight improvement which has become more pronounced in the last week or so. Also the thinness of the London market has been realized and it no longer wields the same influence on the big market in the United States. Consumption here is good and even though imports continue at a high rate, metal does not seem to be accumulating. At the same time, production both here and abroad has been moderately curtailed.

What happened apparently was the result of bad timing. Excessive buying at one period created a temporary shortage with the consequent high prices and accumulation of metal where it was not needed. Then disposal of this metal and withdrawal from the market by those who had accumulated it, brought a temporary serious oversupply and collapse of prices.

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Now that the most serious maladjustments seem to have been corrected and the market has recovered somewhat, the future of lead appears to depend mainly on what happens to business generally and the lead consuming industries in particular. Therefore let's take a look at some of the important lead consuming industries.

The storage battery industry uses about a third of all lead consumed in this country. The president of the Association of American Battery Manufacturers recently estimated that consumption of lead in batteries this year will be about 415,000 tons. This means that in 1953 batteries will use some 50,000 tons more than in 1952. Since the battery business is seasonal, about two-thirds of the replacement batteries, by far the biggest part of the total, are shipped in the second half of the year. The Battery Association estimates that 23,470,000 replacement batteries will be shipped this year, a million more than last year. Since 6,633,000 were shipped in the first five months, that means that 16,837,000, or well over twice as many, will have to be shipped in the last seven months if the estimates are correct. Therefore, the immediate outlook for lead consumption in batteries, the biggest use, is distinctly encouraging.

A further few words about lead in batteries will be interesting. You have no doubt read of the trend to 12-volt instead of 6-volt batteries in automobiles. These larger batteries use 30 to 40 percent more lead per battery. This will mean more lead per unit for some time to come but in the long run, say after two or three years, the longer life of the bigger battery should largely compensate for this and overall consumption will probably not be greatly affected.

You may also have read of various new types of batteries that have been developed. I think it is safe to say that none of these threaten the large automotive lead battery market. Most are special purpose batteries

with limited fields of application, and, at least to date, do not appear to be important factors, tonnage-wise, as competition for lead.

Turning to the second largest use of lead - tetraethyl lead - the picture is also encouraging. In 1952, the United States used about 150,000 tons and the rest of the world another 10,000, for a total of about 160,000 tons of lead for this purpose. In thinking of these figures, remember that no lead was used for the purpose until about 30 years ago. This use of lead depends upon the number of cars on the road and the distance they are driven. These are constantly growing. Both producers of TEL in the United States have recently expanded their plant capacities to meet the growing demand and the one in Great Britain will have expanded facilities in operation in 1954. When all this new capacity is complete, it could consume about 215,000 tons of lead at full operation. While we cannot plan on full operation, nevertheless it is obvious that this use of lead can be expected to continue its healthy expansion. As a matter of fact in the first four months of this year, lead consumption for TEL averaged about 1,500 tons a month greater than in the same 1952 period.

In this connection you may have read recent advertisements of a large oil company about its new premium gasoline containing TCP - tricresyl phosphate. These ads claim that TCP is the greatest advance in gasoline since the development of tetraethyl lead 31 years ago. Our investigations indicate that TCP is not a threat to TEL but is a further additive intended to improve gasoline and is being used as such.

The third most important use of lead is in cable sheathing. This use has met intense competition from plastics and aluminum in recent years and will continue to. They have already made sizable inroads on lead sheathing, both by complete replacement in some types of low-voltage power cable and in

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some telephone cable, and by reducing the lead thickness where combination lead-plastic sheaths are used. Nevertheless some 140,000 tons were employed for this purpose in 1952, and no great change need be expected in the immediate future. In fact, the first four months of 1953 show a slight increase over the 1952 annual rate. However, this application bears careful watching by the lead industries and is being studied for possible steps to protect this market. Lead has certain virtues not possessed by its competitors that in the long run may well outweigh the advantages of the competition.

Fourth on lead's list of important applications is construction, which includes both ordinary buildings like homes, apartments and commercial buildings and the construction of chemical plants. The principal products involved are lead sheet, pipe, fittings and calking lead. For the immediate future, the amount of lead used will depend upon the course of construction itself. While construction may be slowing up slightly, it is still at an extremely high level. In the first four months of this year, lead in construction averaged about the same as last year, around 9,000 tons a month. No major change right now seems likely.

For the long pull, however, lead meets strong competition in the field. In building construction, its main competitors are iron, steel, copper and brass, with aluminum and plastics sure to make a bid in the future. In chemical construction, there are such competitors as stainless steel, monel metal, plastics, rubber, ceramics and glass. All these competitors have shown themselves willing and able to spend large sums to capture the markets. Only aggressive selling and constant technical vigilance will enable lead to hold its place, but I think that sizable tonnages of lead will be used for

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these purposes for a long time to come because of inherent advantages possessed by lead and because of the potential growth that may be expected of these consuming industries, particularly the chemical process industries.

The four uses of lead that I have just discussed consume about two-thirds of all the lead used in the United States in a year. The course of these uses in the future will therefore have the major effect on the lead market. But lead is used in a great many other industries which add up to sizable tonnages and need watching at all times because of the competition they meet.

Take paint, for example. This was once a leading use of lead that has gradually dwindled over the past 30 years because of the advent of new pigments. Yet the paint industry still uses some 70,000 tons of lead a year in all forms, that is for a white pigment in house paint, for metal protective paints, for colors, and for driers. Most of the loss has been suffered as a white pigment but a growing recognition of lead's chemical action in paint and development of new lead pigments, I believe, will stop the downward trend and at least stabilize the use of lead pigments if not actually reverse the trend. In the field of metal protective paints lead suffered temporary losses but an aggressive technical program by the industry through our Association in the interest of red lead is definitely recovering the losses and putting our competitors on the defensive.

In the printing field, magnesium and rubber plates and photographic methods of composition threaten lead's time honored place, but here any loss is not so serious to the lead miner because comparatively little new lead is used. It is largely a circulating load of old type metal coming back for cleaning up and to be brought back to composition before being used again.

In the ceramics field, which has used as much as 25,000 tons of lead in a year, new compounds, particularly those of lithium, are strong competitors.

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Technical knowledge is needed to combat them because lead has certain advantages that other products have not yet been able to reproduce.

Of course, new lead products often open up completely new fields for lead. In the last few years, lead has been employed as a stabilizer in certain plastics, mainly the vinyl plastics for insulation, floor and furniture coverings, shower curtains, pipe and the like. While only a few percent of lead generally goes into the plastic mix, in the aggregate it now adds up to an appreciable figure, over 7,000 tons of lead last year, with this business showing an increase of 40 percent in the first quarter of 1953. You are all aware of the tremendous growth in the use of plastics which shows no sign of abatement for a long time to come.

One of our members also has a development program under way on certain other new lead compounds that will eventually mean new consumption of thousands of tons of lead a year. Unfortunately I am not at liberty to say anything detailed about that at this stage of the game. And of course, no one can guess what the development of atomic energy may mean to the use of lead for radiation protection in the long run.

I have gone into some detail on certain lead consuming items because it is what happens to those things that will determine the future of lead, particularly over the years. We are in a buyer's market in lead and we have to do some selling. To sell an industrial product means more than ringing door bells. It means research, so that the seller knows all about his product, what it can do in comparison with its competition, how it can be used to get the best results, what new applications can be found for it. Then it means advertising and promotion to pass on the technical information gained by research to the prospective user, and engineering service to help the prospect to know how to use the product to advantage. It means market research to find new outlets that technical research may suggest.

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In short, in a day of great technical advance and intense competition, no product can long sell itself. It is my belief that the lead industries need more and more to search for markets and expand existing ones through the combined efforts of all branches of the industry. And these efforts need to be sustained efforts, not turned on and off like a water faucet, if the industry is to find long term prosperity.