in considerable sums of money to get into the business, so let me say that you may feel free to develop any facts, background, underlying facts, or economic policies, or anything else that you think would back up your testimony with respect to the regulations.

I would say that this applies to anyone else who is in attendance.

Mr. WINSTON. I appreciate that very much. I propose to eliminate a few facts of this statement, and stick to the matter under discussion.

There are two areas that I think are of importance, so far as the need for shale oil is concerned. And the committee has heard here in the day and a half of hearings a good bit that is relevant to this subject, and what we believe to be the status of the industry as it stands today, both as to technology and as to the reserves.

On the question of need, I do not think I have ever heard a more comprehensive, basic analysis than that which Mr. Winger gave to the committee this morning. However, I might say in summary that there are some substantial conclusions to which we think that analysis leads.

We think that domestic shale oil production is not only desirable but necessary, and in the light of the status of domestic petroleum supplies, it has been too long delayed. This was the view of my company in 1957, when it commenced pilot plant operations. The evidence of a deterioration of the domestic crude oil supply position which has accumulated since that is extensive. And nothing that has happened since has changed our views.

In this presentation which has been accepted for the record, we have set out what we think are key statistics, drawing chiefly on the American Petroleum Institute and the American Gas Association surveys.

In summary, they say, as Mr. Winger made plain, that for the past decade the rate of increase in demand for petroleum liquids has been about 3.5 percent a year on the average. It has lately somewhat increased over that, and for the future it is very difficult to suggest any reduction in the rate necessary.

During the same time, the cost of exploration has risen, and the amount of exploration has sharply decreased. This is simply another way of saying what Mr. Winger stated, that the total capital flowing into exploration has not kept pace with the percentage increase in demand.

As the result of these facts, which we think are not new—they have been quite apparent for quite a few years—it had become apparent that by 1957 net additions of approved liquid reserves had just about ceased to exist. None has occurred since, except in 1959, and with the exception of that year, which showed about a 3-percent net increase, none has occurred.

Everybody has a favorite year toward which to project domestic supply and demand. We have chosen 1980. And we used the statistics that were used by Mr. Winger. By that time we would anticipate about 6 billion barrels of consumption per year, which is the equivalent of about 17 million daily barrels, as against our present 12 million barrels.

Even if from now until then, by conventional means, we could increase exploration at the rate of increased demand, the reserves in the ground in 1980 would represent substantially less than 7 years' supply. And, again, as Mr. Winger and others have pointed out to this committee, there is no indication whatever that the exploration rate is