which seem to be available, we wonder about whether or not a person speaks French. That is about the size of it. I do not think the people of Quebec will worry for a month or two, or for two or three years, in respect of such an important program, when we need technically trained people to handle these things, if some people do not speak French.

In essence, what the hon. member for Don Valley (Mr. Gillies) said in plain, earthy terms is that approximately half of the energy produced and utilized in Canada today is wasted in our present system, whether it is in respect of the automobile, transportation, or whatever. The parliamentary secretary suggested that one of the types of waste is our failure to move, technologically. I think we are all aware of the inefficiency of the gasoline motor which we have had for the last 50 years. We know that changes will be made in less than ten years from now because of individual breakthroughs. But where is the federal government in this research? Is that part of the $1.3 billion? In no way!

● (1630)

There is another type of ignorance on the part of the government that is holding us back. I am referring to the fact that one of the reasons we are under pressure today on the supply of fossil fuels is that we have not run out of them. What we have run out of is proven, traditional fossil fuels in an oil well. We have 1,000 billion barrels of fossil fuels in the tar sands, or oil sands of Alberta and Saskatchewan, and if we hope to recover a mere 300 billion of that—which is several hundred years' supply—we cannot do it with the present method of financing. In the last two years I have put forward in the House financing techniques that would bring the cost of producing synthetic oil of higher quality than traditional oil out of these tar sands at $3 a barrel, instead of the $11 a barrel that this government, together with Ontario, the province of Alberta and the private companies are planning.

All I could get from the then minister of finance, after I had asked him to study carefully these proposals and told him that the large companies of the world were willing to come in with much lower interest rates if that type of financing were used, was that industry does not use this method of financing. What he meant, of course, was that Canadian business does not use this method of financing, because what Canadian business is going through is obvious to all of us. I am simply pointing out that the crisis we are supposed to be experiencing is not a crisis of supply; we have all the energy we need, if we applied to these problem the knowledge that the engineers and the scientists have, as well as ordinary principles of economics.

I want to move on to the subject of other forms of energy. I think it is well known that we have to stop this waste. Before I leave this subject, let me say one more thing. I will give an example of the type of waste which it would cost nothing to stop. I am referring to our provincial hydro systems which we have in all the provinces as well as in the territories. Not one of these provincial hydro companies has moved in the matter of management of peak loads. In the province of Ontario, the hydro company has asked the provincial government to allow them to raise hydro wholesale rates by 27 per cent, without mentioning how the cost could be held down by simply exercising peak load management.

In plain terms, out of 24 hours a day, in dense residential areas such as are found in Ontario and Quebec, only seven hours have traditional peak loads. If you take all those peaks out of those seven hours, at no cost to provincial hydro, you simply change your rate structure. There are half a dozen ways of doing it. You can charge half as much wholesale during the 17 hours, raise the rates during the seven-hour peak to double and let the individual manufacturer or householder decide whether he wants expensive power of cheap power. That would reduce by 20 per cent, approximately, the need for capital structures in place to provide the large reserve capacities to meet the peaks. This is elementary, fundamental economics which have been ignored because for years we have been getting along by stealing oil from producers at a few cents a barrel. Now that the producers are refusing to sell oil at the price the oil barons gave to them, and are asking for a price competitive with that of other fuels, we have to start thinking hard about the elementary, fundamental principles of economics.

I put that concept before the government, not because they have too much to do with provincial hydro companies but because they will have something to tell them, at least, if the people in the provincial governments are not able to advise their hydro companies how to do it. If you want to find an example of this, look at the tiny state of Vermont, only a few hundred miles from here, which has adopted this practice for over two years. It is a practice which is working. Everybody knows this, except the provincial hydro systems. I am putting this concept before the federal government for another very simple reason. Sometimes you have to tell the provinces how to do things without interfering with their constitutional rights. You have the right to advise them.

This brings me to my main point. I want to speak, now, about alternative forms of energy. Even though energy is largely in the field of provincial and private use, the function of the federal government is in research and development. In dealing with alternative forms of energy I will not bother with the exotic ones unless I have time at the end of my remarks. I just want to remind the House, again, that one of the great forms of energy that has always been available to man since he had knowledge of the wheel is the translation of the sun's power in the form of wind into electrical energy. We used to use this system on the farms many years ago, but farmers were glad to give it up because of the noisy type of propellers they had on the windmills; the generators were not of a quality which would stand up to high-speed operation, and provincial hydro systems operated along the road, so it was easier to turn on a switch rather than service the wind-power source.

The reason farmers did not like the wind-power source was that they had to save up excess power in high wind periods. I am simply suggesting to the minister, through his parliamentary secretary, that all this was 40 years ago. Today, thanks to the scientists of the National Research Council and of other countries in the last couple of years, Canada has pioneered in the development of a modern, sound and efficient windmill which runs with elliptical instead of circular blades. In any part of the country where