

*The Address—Mr. McRae*

irreparable damage to the environment of the areas affected. Up to this point I have been dealing mainly with the supply side, and the brightest spot on that side is the nuclear possibilities. The CANDU reactor project has been a most successful one, successful beyond the dreams of the engineers who set it up. I do not think anyone expected the kind of load efficiency attained, which has been something like 95 per cent.

I think a serious look should be taken at the success of the CANDU plant at Pickering to see if it would not be possible to phase out some of the more difficult, more dangerous, and more environmentally expensive parts of the James Bay project in favour of using another CANDU nuclear plant. This is something that should be examined before the James Bay project proceeds much further.

But there is a serious problem associated with the CANDU plant also, particularly if we were to build 200 or 300 of them, and that figure is quite possible when one looks at the demand curves. With such a number we would have problems with heat, with nuclear waste, and with producing heavy water, although lately we have had more success in the latter area.

There are other ways in which energy supply can be increased, but all of them present serious problems. For instance, the gasification of coal is looked upon as something that can be done fairly easily. However, we must remember that this requires huge amounts of water. If the Americans intend to gasify a large quantity of coal—and it is said that they have enough coal to last them for 200 to 300 years—they will require huge amounts of water. Once again we would be placed under a strain. Where would they get the water they require? Approximately 2½ tons of water are needed for each ton of coal in order to produce gas. Of course that water would have to come from somewhere, and the Americans would naturally look to Canada for this water.

The requisite technology is nowhere in place for the development or the recovery of solar energy. Other suggestions such as biomass, and so on, have been put forward, but such developments are a long way off. The technology is not available. But even if by some magic sleight of hand we could develop all the energy we require, I think we would only be compounding our problems. I say this because if we were to increase our supply of energy, then we would use up other resources more quickly and eventually would run out of those. For instance, our supply of zinc would not last long if we decided that all cars should be electric. We would not have enough zinc under the earth to supply batteries for those cars. There are some very great dangers inherent in increasing energy supply at the rate we consider necessary.

● (1620)

Let us look at the demand side. We have looked at the supply side and it is grim. If we continue at a 5 per cent growth rate to the turn of the century—that is 27 years—we would have a factor of four: we would be producing four times the goods and services we are producing now. By 2028 we would be producing 16 times the goods and services we are producing now and would need 16 times the energy if the growth rate were 5 per cent. By 2056 we

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would need 64 times the amount of energy we are using today. That is what we call the demand side.

If you take the supply curves and the demand curves and plot them, as has been done by the Energy Board and other groups such as Gulf Oil, you see supply curves that rise fairly gently. In other words, we are only going to increase the energy supply slowly. But you see demand curves that go up almost perpendicular, and by 1978 or 1980 these curves cross. Beyond that point, the demand is ridiculous. I feel that we must take a real good look at the demand side and ask how we can reduce the demand for energy and the demand for natural resources. This is the important issue of the seventies, and if we do not solve it we are not going to make it into the eighties.

I have suggested that if we continue looking at these questions in terms of supply only all other things are going to run out. We have the supply question getting us into messes like the James Bay project, South Indian Lake, the South Albany River, the Mackenzie Valley oil and gas and these kinds of things. We have to find the massive investments required even for the gentle supply curves—\$75 billion to \$100 billion—in the next ten years and face the distortion that this will create in the economy.

My community is very involved in and dependent upon the pulp and paper industry. If there is an investment of \$75 billion to \$100 billion in energy alone, then a lot of it is going to come from the United States and other parts of the world. How are these countries that have to spend so much to get their energy, going to buy our pulp and paper? The Canadian dollar has gone up to \$1.03 and \$1.04 already, so what will be the distortion if we have such massive energy investments?

Inflation is a problem which the opposition has been talking about a great deal lately. One of the reasons for it is that we have a very heated economy with a 7 per cent growth rate. I was talking about 5 per cent when I said that by 2056 we would need 64 times the energy that is used now. In the last year we have been running at a 7 per cent growth rate and this has had a tremendous effect upon inflation. I think we really have to look at the cost of the demand side of our energy pattern.

I was very pleased to hear the Prime Minister (Mr. Trudeau) speak about the demand side in a statement made on New Year's Day, and I should like to quote from it. He said:

All of the resources we now take from the earth come at an enormous price. This price is in effect a distress signal, a warning that thoughtless exploitation can in the end lead only to tragedy. To continue our present rate of consumption would be to deplete in short order the heritage of countless centuries, to squander mankind's only legacy on this small and finite planet.

What we face now is not deprivation, but the challenge of sharing. We need not do without, but we must be good stewards of what we have. To ensure nature's continued bounty, we are not asked to suffer, but we are asked to be reasonable. We are asked to adjust our demands to nature's limitations, to realize that unrestrained consumption by individuals and economic sweepstakes among nations are not acceptable ideals.

I think this is one of the most important statements that have been made in the last two or three years, and there are certain things that flow from it. One is the setting up of a conservation office. I do not think that many of us are