

*Energy Conservation*

● (2030)

I wish to make a few comments about our industrial sector. The industrial sector in Canada uses well over one third of the energy produced and consumed in Canada. If I may say so, they use it about as inefficiently as any sector of our economy. We in this House often have debates on energy, building standards, the insulation of residential homes, and so on. In terms of the total construction across Canada, very few large industrial buildings contain any significant amount of insulation other than a minimal amount in the ceilings. Very few have a centralized exhaust system.

In most industrial buildings where there is an industrial process, involving a considerable amount of heat there is an extremely high exhaust rate. None of this heat is being reclaimed. Most plants that use a good deal of water or other liquids for cooling, dump that liquid into the drain without any attempt to recover energy.

In terms of the tremendous amount of energy going into our industrial sector, the possibility of reclaiming a good deal of this is very high. We might ask why this has never been approached before. The point made by a number of speakers today is that the economics have not been there before. The traditional practice is to build the cheapest building possible and to have a large number of exhaust locations through the ceiling or around the perimeter. The economics have perhaps not been there until now to collect the exhaust, and have a central exhaust where you can reclaim heat.

There has been another very important reason. I feel strongly that we should be taking more action in this area. Most people involved in the industrial sector will tell you that the availability and real reliability of heat reclaiming equipment is not high. Many are convinced it would make good economic sense to install heat reclaiming equipment for air or water. Those types of equipment are available in theory and some are available commercially.

Most people in the industrial sector are not convinced that if they install this equipment that it will operate trouble free or that it will approach the efficiency level it is designed to do.

We need to do a good deal of work and give a good deal of assistance to the industrial sector in the same way that we have in rural extension in the agricultural industry to ensure them that heat reclaiming equipment can be made to work. If necessary we should be involved in the development of it.

Many people have good ideas about energy conservation related to industry. However, they are reluctant to take on the whole project development cost themselves, most of all to install this equipment and not really know about the reliability. Perhaps this is a larger risk than they want to undertake by themselves.

Most of the industrial processes in this country are selected for labour input efficiency, the number of man hours per ton or per unit. Until recently, if at all, no consideration has been given to the amount of energy per ton or per unit of output. If you look at industrial processes they can vary 200 or 300 per cent, even from competitor to competitor.

[Mr. Milne.]

We are coming to the point where we should be giving industry some leadership and encouragement to do a good energy audit in their plants to determine in each of these industries and each of the processes the amount of energy actually being used. We should be publishing standards so that industrial people can compare their performance of a plant or a certain process to see whether it is efficient or inefficient.

The time has come to convince them that they should spend a good deal of money in terms of capital to upgrade their industrial processes to make them more energy efficient. It has been possible to do that for 20 years or more in order to make them more labour efficient. It is only at this point in time that we have had the opportunity to talk to them about being more energy efficient.

To demonstrate the savings that are possible, one need only look at the commercial sector. When I say the commercial sector I think of the larger office complexes and hotels, the towers which you find in the central part of most cities. Most of those buildings operate at between 25 and 30 per cent efficiency. It does not take a good deal of design or ability in the engineering field to raise that to 50 to 75 per cent. The biggest problem has been that many of the structures are built with the idea that they will be sold or rented and whoever eventually rents or buys the structures will pay the energy costs. Therefore the person designing and erecting the building has no interest in the energy efficiency of it. I suggest that is probably going to change. People selling or renting buildings will have to answer with regard to energy efficiency. This is a very significant cost for purchasers or renters to undertake.

I will give an example. In five minutes you could probably walk from here to buildings that are using 200,000 BTU per square foot per year. Using a simple ordinary heat reclaim, that figure could be reduced almost 50 per cent to 120,000 BTU per square foot per year. Some of the more advanced designs of office buildings around the centres of our cities use only about 60,000. A very realistic figure to reach is 75,000. That is about one third of the standard. This is only using heat reclaim, storage of chilled water, and engineering principles that are very well known. In fact in most buildings there is an improved comfort level and the productivity level of people in them is actually higher with these types of systems.

To date the problem has been to convince people to spend a good deal more money on their initial cost to receive this kind of energy saving over the life of the building. What we need is a very aggressive program to sell people on the concept that they have to spend money to save money in the capitalization of a building.

If you review the life of some of these buildings it is amazing to find that the initial capital cost of some of these towers only represents about one third of the cost of owning it over the life of the building.

Close to 50 per cent of the total cost of owning a building over its life is to purchase the energy, maintenance and operation within it. We are talking about almost half the cost. Most of the time when we are doing engineering or design work we are trying to meet a very low first cost, when in fact we are incurring a much larger cost over the life of the building. There are many things that can be done.