



PRIME MINISTER

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ADDRESS TO THE SYMPOSIUM OF ACADEMY OF TECHNOLOGICAL SCIENCES

I would like to congratulate the Australian Academy of Technological Sciences on holding its first invitation symposium. The Academy's inauguration in February 1976 was a significant step forward for Australian technology, bringing technologists from all fields together at a time when the need for technological skills and the challenge to apply them is greater than ever before.

The Academy of Technological Sciences, because of its membership, its stature and its aims has a major role in ensuring that sound judgement and foresight are corner-stones of technological activity. We look to you to alert the Government and the community to potentialities of technology - and its pitfalls - in sufficient time to enable us to make an effective response.

This Symposium accords with the Academy's primary objective of promoting Australia's application of scientific knowledge to practical purposes, and providing a forum for advice and discussion from which both Government and community may benefit.

I greatly welcome your decision to hold your first symposium on energy. Energy is one of our most basic resources. It enables materials to be transformed into the products upon which our culture and economy is based. There are few matters as crucial to Australia as the need to secure our future energy requirements. The jobs, the incomes, the wellbeing of all Australians depend in very large part on the capacity of technologists to respond to this need.

Since coming to office we have set about building a national energy policy - many measures have been taken and there are more to be taken. These measures are being integrated into a national energy policy, mainly through the work of the National Energy Advisory Committee, ASTEC and with the States through the Minerals and Energy Council.

Measures we have taken include: foreign investment guidelines which ensure that the search for and recovery of our fossil resources is not hindered; the introduction and extension in time of a forty percent investment allowance; phasing out of coal export levy; extension of a significant range of income taxation incentives designed to offer assistance in the financing of mining projects;

development of a suitable crude oil pricing policy to encourage development of our known crude oil reserves and the exploration for more oil; the decision to go ahead with the mining, milling and export of uranium for peaceful purposes; the decision to permit the export of substantial quantities of L.N.G. from the North West Shelf, and other measures designed to ensure that this development will be economically feasible; a development of a nationwide cooperative energy conservation plan, particularly with respect to liquid fuels; the development of a realistic national energy research and development programme; the development of plans and programmes to ensure self-sufficiency in liquid fuels.

Four years ago, the OPEC countries increased the price of their oil. The result was the so-called energy crisis, which delivered a shock to the world, and particularly to western Europe and Japan which rely so heavily on imported oil. The crisis was also a warning that oil is a limited resource to be conserved not squandered.

To an extent, Australia has been insulated from all this. We are abundantly endowed with energy resources, particularly coal, uranium, and natural gas. Nevertheless, we are dependent on imported crude oil and this dependence will increase, affecting our balance of payments and our standard of living. Although it is quite possible that by the late 1980's Australia could be earning \$1 billion from the sale of uranium we would be spending 2½ times that on purchasing increasingly expensive and ever larger quantities of crude.

Our transport, and our defence system, are firmly based on oil fuels for which at present there are no ready substitutes.

The long term availability of liquid fuel - or an acceptable substitute - is essential to our national independence and prosperity. One way of achieving this is to find more oil, on-shore and off-shore, and to conserve existing oil reserves, and Mr Anthony who will be speaking this evening, will be giving details of what the Government has done and intends to do about this problem.

Another possible long term solution to the problems posed by dependence on imported oil is the large scale production in Australia of motor spirit from coal. The Commonwealth, New South Wales, and Victorian Governments - in association with the Federal Republic of Germany and German industry - have recently agreed to a joint study of the production of motor spirit from coal.

At the same time, CSIRO is proceeding with its work with other methods of liquefaction. Converting coal to liquids is costly to develop to the commercial stage and there are some important questions which need to be answered: to what degree should the Commonwealth support one process or the other? To what degree should indigenous technology be favoured over foreign?

What are the relative social and environmental impacts of the various processes? Should we be seeking alternatives to the internal combustion engine rather than spending our limited capital on coal liquefaction?

I have asked ASTEC to report to the Government on energy research and development, the first of NEAC's series of reports on energy to the Government has already been tabled in the Parliament and I would be very interested to know this Academy's views.

The issues are so complex that Governments need the best advice from several sources. We should be in a position to ensure that no part of the Commonwealth is disadvantaged by an energy shortage. One question which arises is whether more effective national energy and planning would achieve it. For example, would a more effective capacity to transfer energy from one state to another have prevented extremist unionists in Victoria from holding that state to ransom?

Many of you wear more than one hat - and I am pleased to note that some members of this Academy are also members of ASTEC or the National Energy Advisory Committee. This means that there is communication at a very high level between technologists and scientists, between Government, academia and industry. We need this high level coordination to solve the problem of liquid fuels for transportation, and other crucial technological problems that may arise.

It is generally accepted that the sun is the least polluting and exhaustible source of energy, whether it is direct sunlight or wind, waves or hydro. Except for hydro there is no ready, relatively cheap way of using the sun's energy to produce electricity as a prime source of power. There is, however, some interesting experimental work being undertaken throughout the world including Australia, on solar electricity. While we do have large supplies of low sulphur fuels, should we not as a technologically sophisticated nation be using our highly trained engineers and scientists to help find the best way of achieving solar electricity? In any case, should not Australia be advancing more rapidly the development of technology for export? Are we not exchanging German coal liquefaction technology for Australian resources - but why not export Australian technology? Should not Australia be a society that produces new processes and products for export? This could assist our manufacturing industry, allow full utilisation of the Australian workforce and enable us to compete more successfully on the world market.

So what is the best way to achieve innovation? How do we get that bright idea into the market place? To encourage and develop innovation in Australian technology is of fundamental importance. Potentially, Australia, with its highly trained manpower, its increasing cadre of scientists and engineers, its sophisticated technological base and abundant natural resources has the capacity to be one of the most technologically effective nations.

Are we lacking in drive and enthusiasm? Have we been too lucky too long? Are we too lethargic to utilise our capacities effectively? I know your Academy is very conscious of the technological challenges which face Australia and our capacity to meet them, and the Government is most receptive to the Academy's views about how to bring this about.

The Fellowship comprises distinguished technologists in all major sectors of industry, foremost being your President with his long and distinguished career in the mining and manufacturing sectors. The Fellowship also comprises distinguished Government scientists, and scientists with extensive experience in advising Government on policies for the development of technology in Australia.

It is very encouraging to observe the growing cooperation between those concerned with developing a coordinated and integrated effort to meet Australia's energy requirements. The manner in which this Symposium has been organised is a direct reflection of this.

I look forward to the Academy playing a significant role in Australia's future, and I hope you have the will and heart to play this role. You obviously have the necessary fellowship to do it. Mr President, I wish the Academy every success.
