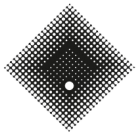

VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

Ecoso exchange no. 19 : incorporating Irregular no. 69

This is the Published version of the following publication

UNSPECIFIED (1979) Ecoso exchange no. 19 : incorporating Irregular no. 69. Ecoso exchange incorporating Irregular (19). pp. 1-10.

The publisher's official version can be found at

Note that access to this version may require subscription.

Downloaded from VU Research Repository https://vuir.vu.edu.au/16261/

ECOSO EXCHANGE No. 19: APRIL, 1979

(INCORPORATING "IRREGULAR" No. 69)

(Other publications welcome to use material if source acknowledged)

THIS ISSUE:

1. Transport Plan: "More of the Same" by Julius Roe

2. Energy Conservation: How to Avoid "Too Little Too Late" By John Dick

1. TRANSPORT PLAN : "MORE OF THE SAME"

by Julius Roe

In December 1978 the Minister of Transport released a "draft for community discussion" of a Transport Plan for Victoria. The draft was prepared by the State Co-ordination Council.

Disappointingly, as the author shows, the 1978 plan, like that of 1969 is a "demand" plan, "reflecting the dominant place of the motor vehicle (p.1) and condemning public transport to a continued decline.

The report is in three volumes:

Vol. 1 "The Strategy"

Vol. 2. "The 5-year Plan"

Vol. 3. "Basic Transport Data"

Despite acknowledgement in "The Strategy" (Vol. 1) that "conservation of energy has emerged as a critical issue" (P.3) and that "savings in motor fuel consumption can be achieved by arranging urban activities so that trip lengths are reduced" (p.9), none of this appears in "The 5-year Plan" (Vol.2) Taken as a whole, the report gives every appearance of being compiled by someone concerned with energy and public transport, but with its operative sections "cut to size" to suit the oil and automobile lobbies.

Just how, is the subject of this article by a worker in the transport industry.

The 200 pages of the report make it clear that the Government is promising more of the same. There is no likelihood of further federal funds to improve urban public transport while the Liberals remain in power. Most of the public transport projects promised in the last transport plan were never started. The record of the Hamer government suggests that Melbourne's travellers won't even get the minor improvements promised in this plan.

The plan promises a 10% increase in transport expenditure over five years. This however, is a 10% increase on expenditure excluding the Westgate bridge and underground rail loop (which are 22% of this year's transport works) - so the real situation is a decrease in transport expenditure over five years. Of this year's $292 million spent on transport works (excluding Westgate/Underground) rail received $45 m. (15.4%), tramways received $11.4m (3.9%), roads received $220.6 m (75.5%) and administration took the rest. Over the next five years the plan is to keep these proportions the same (Vol.2 P.6).

Despite the massive rundown of public transport it still accounts for more than a third of all metropolitcan work trips. Since public transport will continue to receive much less than one third of the funds it is clear that the run down of public transport in favour of private mtor car is to continue.

WHAT CAPITAL EXPENDITURE IS PROMISED?

VEHICLES:

Ten new trains a year are promised but 294 suburban carriages are more than 50 years old so at this rate Vic Rail will be lucky if it can maintain the current service.

Twentyeight new trams a year are promised. The authors of the plan have the decency to admit that this is to replace 'rolling stock at end of useful life.' So in five years the trams more than fifty years old will be replaced but almost 50% of the trams will be more than 35 years old - all of the open to the weather

type: 270 new buses are promised. All except 130 of the 315 Tramway buses (MMTB) buses are more than ten years old. Even the run down private bus lines have more modern buses.

So the bulk of the new buses will replace vehicles 'beyond their useful life'. What is more, the vehicles are to be leased and therefore debited to operating costs instead of capital expenditure. This saves the Government having to make funds available for capital for rolling stock, but decreases the funds available from fares for improvements to the system. The rolling stock is therefore now to be covered by fares, so that users of public transport will now be paying directly for the vehicle they travel in, similar to users paying for Westgate Bridge by a toll. Yet private bus operators are offered concessional loans to to buy buses. Since there are no adequate controls on private operators these funds will go into profit making charter work and the decline in the reliability and hours of operation of the private services will continue.

The expenditure on new vehicles is at a level which means that Melbourne's public transport cannot expand beyond the system which existed for pre-war Melbourne. Essential cross town services, services to the outer suburbs and services to new industrial and recreational areas will not be provided. Since 70% of commuters to the CBD still use public transport it is precisely these areas which fuel the growth in motor car traffic. This growth is by necessity not by choice.

CO-ORDINATION:

'The upgraded public transport facilities and services will be complemented by a single ticket scheme associated with automatic ticketing.' (Vol.2. P.3)

This is yet another fraud! What is the use of single tickets if there is no co-ordination of services - no reliable interchanges - few cross town services. If a passenger has to travel twice the distance and take twice the time for the journey, he/she will take a car (if possible) rather than use public transport. The government scrapped the plan to have a single transport authority to co-ordinate services; what they offer here is simply a scheme to increase unemployment and decrease off-peak patronage because lack of staff (particularly at night) makes public transport travel less safe.

TRAMWAYS PRIORITY:

'Priority for trams and buses, particularly at signalized intersections is being progressively extended'. (Vol.2. P1.3)

So far only one intersection in Melbourne has such a system. Separation of trams from traffic as in Nicholson St., Fitzroy, has been promised for St. Kilda Rd., Royal Pde., Flemington Rd., Wellington Pde.
Bridge Rd. is included (Bridge Rd. is to be widened.) After the completion of five years this scheme will be extended to Sturt St., Queensbridge St., Clarendon St., Lygon St., Queens Pde. and Batman Ave. Of course the main delays are not in these streets but in Sydney Rd., Elizabeth St., William St., Swanston St., Smith St., High St. and so on. In these streets separation of the tram tracks (meaning cars cannot use that portion of the road paid for by tram passengers) would inconvenience cars and car parking so there is no plan to do anything about these bottlenecks. Bus-only lanes have similarly been rejected in the plan.

OTHER TRAMWAY WORKS:

The other tramways improvements promised are the tramways extension to Bundoora (which conveniently falls short of Mill Park, Melbourne's fastest growing suburb) and more shelters at tram and bus stops (though shelters for the main city stops are in plans for the five years after 1985). The use of 'automatic ticketing machines' - discussed above is promised as is the 'rationalisation of tramway bus services and abolition of conductors. Finally there is the 'vehicle control system'. This was promised five years ago. Instead of the effective two-way radio system introduced in Adelaide and Perth the plan is to introduce a complex system which will spy on tram and bus drivers (cutting down on inspectors' jobs) and provide the information for 'demand response' services. This means the cutting out of any services which don't attract enough passengers to make sufficient money.

RAILWAYS:

On the rail, the situation isn't much better. There is a proposal to reconstruct stations from Jolimont to Clifton Hill, to provide transfer facilities

to Frankston and Box Hill (promised in the last plan), to duplicate the Ringwood to Croydon line, to electrify from Werribee to Langwarin and to eliminate a few level crossings. The Sth. Dynon freight terminal will be improved at the container terminal (again an exercise in the elimination of employment). Most essential track duplication and level crossing elimination has been postponed for another five years - as have any new lines. After branch lines have been closed 'the replacement of old country carriages will be evaluated.' (76% of country carriages are more than 50 years old.) It is planned to carry 'more general freight' by road as a result of relaxation of transport regulations.

R O A D S:

As a contrast with the savage treatment given the railways, the roads lobby, despite the scrapping of some of their grand plans, fared well. The amount spent on capital works by the state government for Vic Rail and tramways declined from 1977 ($59m) to 1978 ($56m) while expenditure on roads increased from $206m to $220.6m. It was this sort of spending which led to an increase in car ownership from 239 per 10000 people in 1964 to 370 per 1000 people today. The last transport plan predicted car ownership of only 354 per 10000 by 1985 (with a much larger population) - the public transport improvements in that plan did not occur. In the next five years the F9 to St. Kilda Rd. will be built; Bridge Rd. will be widened, Alexandra Pde. will be widened as will the Nepean Hwy., and the Princes Hwy. between Hawthorn and Waverly Rds. The Eastern Freeway (F19) will be extended to Doncaster Rd. and as the E6 to Harp Rd. (along the railway reservation!)

Given the coming fuel shortage, the massive air pollution problem in Melbourne, the cost of the road toll, the inefficiency of road commuting which on some roads averages 15 kmph and the disruption to communities caused by the expansion of the road network - how can such a plan be justified? These planners say they aim to see that 'the market is served'. (Vol. 1 p.6.) The plan, 'should aim at optimizing the use of the existing public transport system whilst at the same time reflecting the dominant place of the motor vehicle in today's Australian society.' (Vol. 1 P.1.) As far as travel to the city is concerned 'optimising' could only mean cuts in off peak public transport (see Vol.1 p.7) This demand which the plan seeks to serve is apparently something which exists; it isn't created.

> 'The difficulty of forecasting travel demand for the various modes of transport, highlights the need to retain options on the relative investment in each mode in the longer term.' (Vol.1 p.36) The planners' job, they believe, is to record the current situation and trends, and then to develop a model by computer to predict future demand (see Vol.2.pp92,95)

But, of course, demand doesn't just exist; it is created by the appalling inefficiencies and lack of public transport, by massive advertising, by cultural values in films, etc., and by the massive roads lobby creating expenditure on roads. Not only that; reflecting demand means reflecting the wishes of the dominant forces in the community. The loudest voices belong to the rich and powerful. They will still be driving their cars around long after the workers have had their mobility severely restricted by rising fuel prices. The demands of the 17% of households without cars and those without cars (women and children mainly) in the 47% of households which have only one car come off second best. In Brunswick 40% of all trips are made by public transport while in Kew only 21% of trips are by public transport (in Frankston the figure is only 10%)

To add weight to their false 'demand" theory they repeat the myth that 'users are asked to pay only a share of the total cost of public transport' while Victorian motorists in total pay more than sufficient to meet present expenditure on construction and maintenance of the road network'. Vol. 1. p.8) What about all the taxes public transport users pay to fund roads, hospitals for road accident and air pollution victims, valuable land set aside for roads and all their lost time and wages spent in waiting for and travelling in inefficient public transport held up by road traffic?

What is even more staggering is that 70% of commuting to the CBD is by public transport yet vast sums of money are spent on capital works for the 30% who use their cars and that 30% then cause massive delays (by parking, sitting on tram tracks, making it difficult for pedestrians) for the majority who use public transport.

Sensing the growing awareness in the community about the massive social problems caused by the motor car there are lots of fine phrases in this plan. The

* Government will : 'continue to improve the State's public transport services wherever it is in the overall community interest'

* 'keep public transport fares at the lowest practicable levels'

* 'remove unnecessary restrictions on freedom of choice of transport modes' (no that doesn't mean give you the right to travel by train but rather give the trucking companies the right to poach on the railways)

* 'minimize the adverse effects of transport on the environment'

* 'encourage transport developments that contribute to the conservation of energy sources that are becoming scarce.'

* 'reduce the amount of road traffic passing through the CBD.'

* 'take steps to encourage the use of public transport'

* 'improve the travel times of road based public transport'

* 'development of cross town and feeder bus services' (but not one cent provided for this purpose in the plan!)

* 'protect local residental streets from use by through traffic as far as practicable.'

* 'means of improving availability of transport to those without ready access and ways of providing for bicycles will tontinue to be studied.

None of these pious promises are likely to be achieved for the following reasons:

* As the Plan acknowledges, employment is moving to new areas, as is housing, but no new public transport is to be provided or is there any mention of controls to be put on the determination of development by the interests of private companies.

* No new cross-town or feeder bus services are planned for the existing built-up areas.

* Many interchanges from train or tram to bus or vice versa are just too inconvenient. For example, to get to the large employment area of Fishermen's Bend involves interchange from trains at Flinders St. atation to bus. Not only is there no synchronisation of the two services, but passengers must walk two city blocks to make the interchange. As a result, bus patronage has halved in just a few years.

So the trend for public transport to decline will surely continue if this Plan is all that is offered: 70% of work trips to the CBD are by public transport still, but only 24% of work trips to middle/outer areas are by public transport. The Tramways have lost 7.7%, Vic Rail 17% and private buses 39% of their total passengers between 1970 and 1977. The fact that this decline is due to unavailability of efficient public transport, inconvenient interchanges and remoteness of workplaces from public transport is further illustrated by the fact that much of the traffic through the city is bound for workplaces in outer suburbs inaccessible by good public transport: 56% of traffic from the Western suburbs through the city is bound for middle/outer suburbs, and only 15% is bound for the CBD itself.

And along with further decline in public transport will go a loss of opportunity to make any significant savings in transport energy.

In the 200 pages of the Plan there is one page which deals with the possibility of changing demand - shifting people to public transport (Vol.3 P.92) A study of the eleven most trafficed corridors revealed that 'to obtain a greater swing to public transport (than 10%) disincentives would be necessary. These disincentives would need to be severe and are therefore likely to be unacceptable for the immediate situation'. Of course no study was done of the effects of spending the $100 million wasted on the Eastern freeway on disincentives like bus only lanes, tram right of ways, and on new lines. Their study of the eleven most trafficed corridors did reveal that the 10% increase in public transport usage they thought practicable would decrease trip times for car users by 33% (ranging from 26% in the Keilor corridor to 52% in the Coburg corridor). In the five Sth.-Eastern corridors $80m.in one year could have been saved! This would have eliminated the need for freeway projects at a much lower cost! The findings of this study are not reflected in the transport plan since they contradict its whole philosophy.

ENERGY CONSERVATION:

HOW TO AVOID "TOO LITTLE TOO LATE" (Part 1)

By John Dick

TWO CHANGE-RESISTING ELEMENTS:

The great majority of Australians have yet to realise the important role that energy plays in our materialist lifestyle. The society has developed a complex consumption pattern around the use of a cheap high energy portable non-renewable fuel - crude oil - which has formed the basis of the transport revolution in the past forty years. Petroleum has allowed the development of a readily accessible, mobile privatised transport, the car, this in turn has led to an urban form based around the high mobility created by the car. It has allowed the dispersal of destination to occur. The dispersal of destination has reduced the efficiency (due in part to the low load factor that occurs when servicing low population densities) and economies of public transport and forced an increasing dependence on the private car. This trend leads to an ever lower population density based on the need for even more mobility which is exceedingly difficult to service by public transport.

The Federal and State Governments have acted to further compound the problem by legislating to legitimise our energy-inefficiency cities with various Acts and Regulations as well as providing funds from budget and capital allocations and road grants to various statutory authorities. The inefficiencies have been institutionalised via poor town planning and land zoning, such as the provision of large industrial estates remote from public transport, which makes it essential for the workers to use a car to commute to work whilst their wives are also dependent on a second car to service the various needs of the household.

The largest single source of employment in the secondary industry sector of the economy is the car and its ancillary industries; whilst the transport, insurance, financing and advertising related to transport, and the transport-related jobs in the public service are a significant proportion of the tertiary sector employment. All these elements combine together to reduce the potential rate of change from oil dependent energy economy towards an economy less dependent on oil.

Australia missed the major impact of the 1973-1974 O.P.E.C. oil embargo due to the contribution of the Bass Strait oil fields, which have also helped ameliorate the impact of the possibly permanent drop in production from the Iranian oil fields in the next three to five years.

The current situation is dominated, firstly by the above-mentioned large employment investment in the car industry and secondly, by the fact that Australia is currently 70% self-sufficient in supplies of crude oil which is rich in transport fuel fractions. This situation will rapidly change on the decline in production of crude oil from Bass Strait, except in the unlikely event that a new source of crude oil is found and developed to productive capacity within the next five years. Any new source would have to be capable of replacing the loss in capacity from Bass Strait if major change is to be avoided.

RESOURCE AVAILABILITY: The Minister for National Resources has been widely espousing the doctrine the Australia is a resource-rich country with large deposits of coal and natural gas that can be developed for export to assist the nation to pay for the imports of crude oil on the decline of the productive potential of Bass Strait. (See Newman, K. "Oil - Australia's Response to Dwindling Resources" ANZAAC Congress, Auckland, 1979.) A number of models and forecasts have been used to assess the resource demand and resource availability as well as resource life. Three basic models are commonly used. The first method is to quote the resource life in years of life at current consumption levels. This appears to be the most commonly used model, even though it ignores any commitment to compound growth. The second method is to forecast resource life using an exponential depletion date based on a set growth rate as the basis of the calculation. The third method is to use a method developed by Hubbert which is based in lifecycle forecasting. (See "Perspectives in Energy: Issues, Ideas and Environmental Dilemmas" Ruedisill and Fueborg (Edd, Oxford University Press 1975) Table 1 illustrates a range of forecasts of resource life for brown coal using each of these three methods.

Various Estimates as to the Life of Victorian Brown Coal Resources:

SOURCE	LIFE OF RESOURCE	METHOD OF CALCULATION:
Prince & Nucifora	3,500 years	Resource divided by current consumption level
D.W. George	1,000 years	" " " " "
Ranger Environment Inquiry	444 years	" " " " "
Department of National Resources Solar Energy	Some hundreds of years	" " " " "
Conservation of Urban Energy		Hubbert calculations 6.6% growth rate
		Electricity generation only
	45 years for	12,200 m. Tonne
	58 years for	30,000 m Tonne
	71 years for	60,000 m Tonne.
		Coal to oil, coal to gas and electricity generation
	29 years for	12,200 m Tonne
National Energy Advisory Comm. (NEAC)	1,300 years	at 1975/76 levels
	1,000 years	at 1984/85 consumption levels

NEAC suggest that potentially 300 years of brown coal will be consumed in nine years !!

Source: J.L. Dick "Energy and U Conference, MAUM, Melb. 1978.
"Coal to Oil. Victoria's Short Cut to Nuclear Power - Technical Fix Unworkable."

TABLE 1:

.. ..

REMINDER !

SEEDS FOR CHANGE
Creatively Confronting
THE ENERGY CRISIS

IS NOW AVAILABLE AT PATCHWORK BOOKSHOP: 118 ERROL ST., NTH. MELBOURNE.

Fig. 1. AUSTRALIAN CRUDE OIL PRODUCTION

IMPORTS AND DEMAND

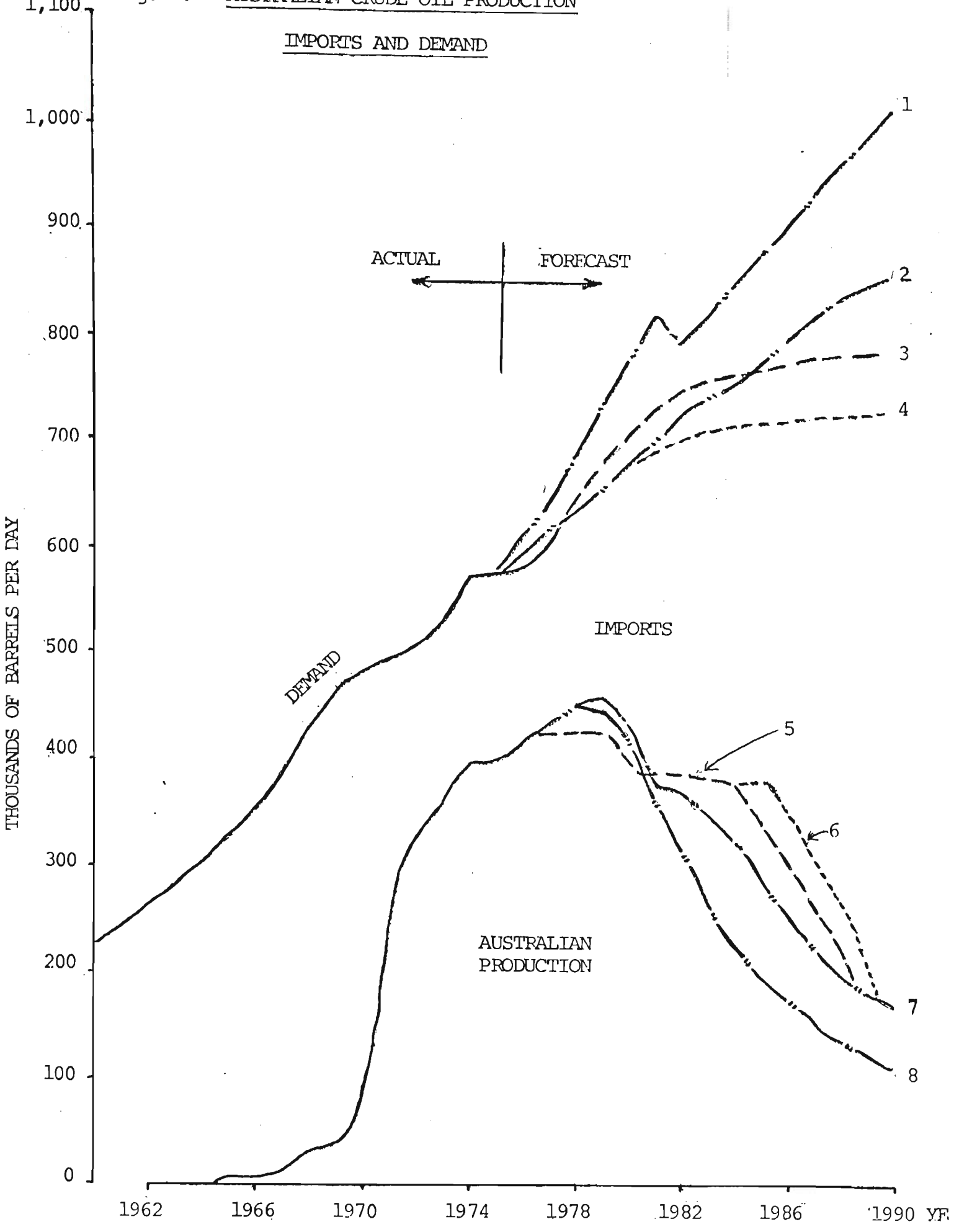


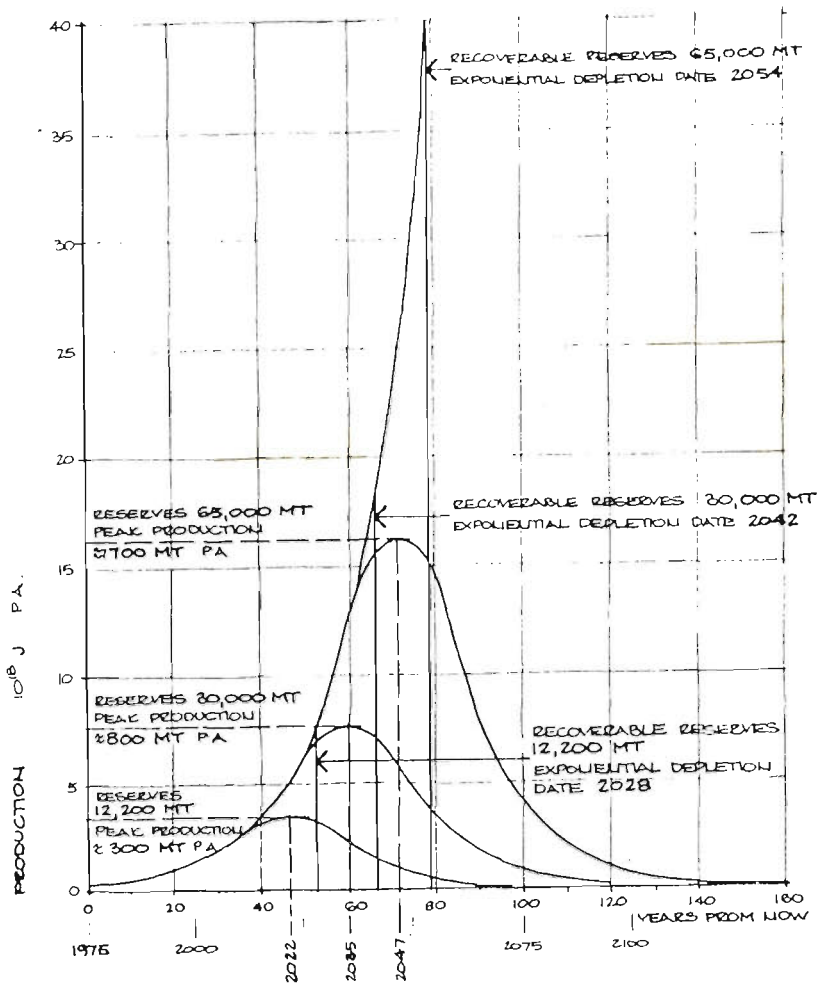
Figure 1 is as follows:

1. Royal Commission "High" demand forecast.
2. Royal Commission "Low" demand forecast.
3. Department of National Development 1978 forecast.
4. Actual trend in demand.
5. Production with early development of Cobia and West Kingfish fields.
6. Ditto, but with production from Fortescue field beginning in 1984.
7. Royal Commission "Possible" production forecast (deferred development)
8. Royal Commission "Probable" production forecast

(Source: Marden, Chris. "Oil Demand and Availability in Australia, 49th ANZAAC Congress, Auckland, 1979)

Figure 2.

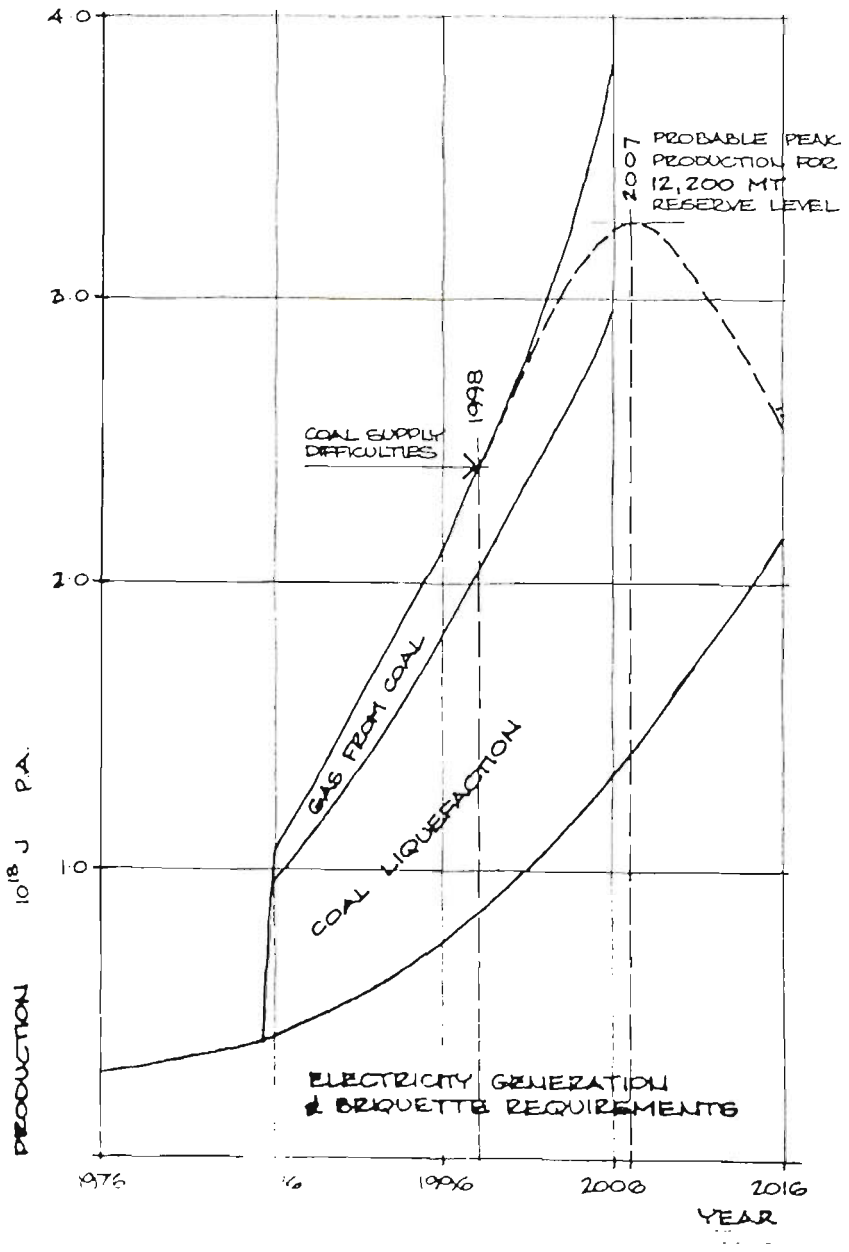
EFFECT OF CHANGES IN RESERVE SIZE ON PRODUCTIONS OF VICTORIAN BROWN COAL



This Figure is based on the use of brown coal for electricity generation only at a growth rate of 6.6% per annum, the offical SEC projection. The use of brown coal for other purposes such as oil and gas synthesis would increase depletion rates.

Figure 3

LIKELY EFFECT OF COAL LIQUEFACTION & GASIFICATION ON BROWN COAL REQUIREMENTS



The Hubbert method is the most rigorous of the three methods, and provided that a commitment to relatively constant growth is maintained, the most realistic model, because it takes into account production and investment realities. One example of the third method is the forecasts used by Mardon in his estimate of the Bass Strait life cycle illustrated in Figure 1. (Source Marden, Chris. "Oil Demand and Availability in Australia" 49th ANZAAC Congress Auckland 1979) The only Australian group to apply this technique on a wider scale so far has been the Conservation of Urban Energy Group, who have applied this technique to natural gas and to brown coal. Their work indicates the problems associated with maintaining a commitment to compound growth of a finite resource. The problems can be illustrated with an example from the book "Seeds for Change" (White, D, Sutton, P, Pears, A., Dick, J, Crow, M. C.C.V. - Patchwork 1978)

Figure 2 shows the production cycle for Victorian brown coal as securing a growth rate of 6.6% per annum for three different reserve sizes. The 12,200 million tonne "Readily Recoverable Reserves" reach peak production after 45 years. The 30,000 million tonne "Economic (with foreseeable mining technology) Reserves cast 55 years before peak production is reached, whilst for the 60,000 million tonne resource (the current level for the Proved Geological Reserves) peak production would be reached after 70 years if the 6.6% commitment to growth is maintained. The graphical representation is illustrates in Figure 2. This figure illustrates the effect of the "find more" solution that is offered by a number of forecasters as the answer to forecast resource shortages. In fact Figure 2 illustrates that the strategy of finding more delays the date of peak production by only 15 years if the resource size is increased from 12,200 m tonne to 30,000 m tonne and another 15 years if the resource is increased by another 35,000 m tonne to 60,000 m tonne. This picture is dramatically changed if substitution of brown coal occurs, for example, the conversion of coal to oil or coal to gas. Figure 3 illustrates the effect of using brown coal as the feed stock for two 50,000 barrel per day coal to oil plants and a coal to gas plant producing 2 x $10^9 m^3$ of gas per annum using the 12,200 m tonne "Readily Recoverable Reserves" as the resource size. This strategy brings forward the time when peak production occurs by 15 years to the year 2007.

The black coal situation is slightly different due to the sterilization of in situ reserves in the underground mining operation. The CUE group has just started to carry out an assessment on the nation's black coal reserves.

So far we have been discussing the effect of a commitment of compound growth on energy reserves. In Part 2 of this contribution (which will be published in the next issue of Ecoso Exchange), the CUE group's recent estimates of total energy savings due to substitution of methane and solar energy for fossil fuel will be given, and a model for Melbourne to meet energy shortfalls outlined.

.. ..

SUBSCRIPTION TO ECOSO EXCHANGE IS $4. 00 FOR 4 or 5 ISSUES. THERE ARE NO SET DATES FOR PUBLICATION. FOR MORE INFORMATION - WRITE TO

BOX 87, CARLTON SOUTH. 3053
or PHONE 328 - 2345

. . . . . .

SUBSCRIPTION FORM:

NAME : . . . . . .

ADDRESS: . . . . . .

. . . . . .

AMOUNT ENCLOSED: $ . . . . . .