

Positive Solutions for Surviving Peak Oil,
Retaining Economic Stability and
Increasing National Security

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1.0 INTRODUCTION

I would like to begin my submission by introducing myself. My Name is David Finlay and I'm 33 years old. My education lies in the area of Industrial Chemistry, but I now find myself working for the Roads and Traffic Authority as a Laboratory Officer assisting in the assessment of road construction and pavement conditions.

It is important to note that my opinions and recommendations expressed in this report are my own, and do not represent those of the RTA, and have no connection to my work or experiences at the RTA.

I am married and have a 21 month old girl, and another on the way.

My interest since I was very young (about 5 years old) has been centred on Astronomy, and in recent years I have developed skills as a professional photographer.

More recently I have classified myself as a "Peaker" or "Peak Oil" activist. The implications of living in a world with higher fuel prices and a dwindling global supply of cheap oil are so frightening that I have put aside my interests and hobbies to concentrate on learning about oil crisis issues, and our economy's dependence on a plentiful supply of affordable oil products.

I ride my bicycle to work. I cover half the distance on a major arterial road called The Northern Distributor (MR626) that carries large numbers of work vehicles and coal trucks. When your lungs are full of diesel fumes it is difficult to ignore how much oil is being consumed in our modern society.

I would like to focus on a few simple methods that could help retain most of our modern comforts as petrol prices increase and oil supplies begin to dry up. This is not a long term solution to oil depletion, but should make a significant difference in the quality of life for the next 40 years.

Put simply, the key to surviving the coming oil crisis is CONSERVATION; using less oil.

1.1 A Brief Outline of a Possible Peak Oil Scenario

Imagine the scenario where it is widely acknowledged the world has reached global "Peak Oil" production. Countries with an excess of oil recovery (higher production than consumption) may limit or stop exporting oil in order to retain their own security for future lean years. Those heavily industrialised countries relying on oil imports, such as the USA, Great Britain and Australia, may find themselves in the disastrous situation where they have access only to the oil within their own borders.

In our local circumstances, that will leave us in a deficit of around 300,000 barrels per day¹ (based on 2004 production/consumption figures from BP), or 35% less oil than what we currently need.

¹ See data contained in the BP Statistical Review of World Energy 2005

Australia has already reached Peak Oil in both reserves and production back in 2000¹. We import the majority of oil from Vietnam and Saudi Arabia. These are not necessarily politically stable nations.

Even if Australia can reach oil sustainability, a continual reduction in consumption would be required to match future decreases in local production rates.

Reduction in consumption will be required in the best case scenario, where world production peaks and it is physically impossible to import enough oil to meet demand.

2.0 METHODS OF CONSERVATION – HOW TO REACH THE GOAL OF OIL SUSTAINABILITY

Growing a few bio-fuel crops and watching a handful of people driving hybrid cars isn't going to help.

People will not easily give up their petrol guzzling 4WD's and V8's, even when fuel prices become too expensive to sensibly run them.

Riding public transport and buying a hybrid need to be affordable to the point where you'd have to be financially stupid not to use them.

The most effective method for surviving any future oil crisis is to use less oil. There are many methods that can be implemented to do this, such as artificially increasing the price of petrol, however this can cause the negative economic effects that we are trying to avoid. Not only are business running costs increased (which is passed on to the public), but the public will reduce spending money on non-essential items. The tourism and entertainment industry will suffer severely. Unemployment and Inflation will rise. Interest rates will increase to offset inflation and the housing market will slump.

We need to reach a point of national oil production sustainability; to only consume as much oil as we produce. This would provide Australia with an unprecedented amount of financial and physical security. We would no longer have to rely on other countries for our petroleum products. In the current unstable world political environment, oil sustainability is essential for national security. Also, importing less oil would significantly decrease our trade deficit.

The mitigation methods I am about to discuss do not involve the use of fancy new technologies, or vast amounts of time to implement. They are the first steps into a new world of efficiency and sustainability, and all they require is organisation and money.

¹ See data contained in the BP Statistical Review of World Energy 2005

2.1 Hybrid Vehicles

The simplest method of reducing oil consumption, while retaining economic prosperity, is to double efficiency through hybrid vehicles.

Just ask the Japanese. Japan has virtually no natural energy resources, therefore they need to take energy conservation seriously in order for their economy to remain stable. One way they have achieved this is to put a staggering 11 million low consumption vehicles, such as the Toyota Prius, onto the road. This accounts for 21% of their fleet².

It took 20 years to phase out leaded petrol vehicles in Australia, but this was due in part to a lack of significant financial incentive. Leaded petrol was only a few cents extra per litre, which did not offset the large outlay for purchasing a new unleaded vehicle.

I'll use myself as an example. My first car purchase (in 1991) was a 1982 Mitsubishi Sigma. I drove that car into the ground before repair costs forced me to upgrade to another second-hand vehicle in 2003. That vehicle was unleaded because I wanted to buy a relatively new model, not because I made a choice on fuel price or vehicle efficiency.

When my current vehicle becomes too expensive to repair in another 10-15 years, I'll purchase whatever vehicle I can afford, possibly a hybrid if I can find a second-hand one.

We can not wait that long to fully introduce hybrid technology. A gradual introduction will not keep pace with the price of petrol or lack of oil. Petrol prices may fluctuate wildly as its influence on the economy takes effect, but the world will only have less and less oil as the years go by.

The obvious key to a rapid introduction of hybrids is affordability. At the moment the few hybrids available on the Australian market are around \$36,000 plus costs³. A V6 Commodore or Falcon is a much more practical vehicle even with rising fuel costs.

Hybrids need to reach a price where they are significantly cheaper than the popular sedans, and then people will begin to purchase them. Their lack of power, size and ugliness will be offset by petrol savings, and people will make a financial decision to buy them.

The initial step to hybrid affordability will need to be subsidization. Once enough people purchase them, prices should come down gradually so that subsidization can be decreased.

Also, as the demand for hybrids increases, car companies will begin to establish a new hybrid market by introducing newer models (such as those already on the roads in the US and Japan) and more affordable technology.

² Washington Post article "Japanese Putting All Their Energy Into Saving Fuel" by Anthony Faiola.

³ <http://prius.toyota.com.au>

Where possible, all government fleet vehicles should be hybrids. When they are traded in after a few years they will be much more affordable because of the initial subsidization and their second-hand status. There will be a massive influx of second-hand hybrids onto the market in only two or three years. In this way the federal and state governments can play a direct and significant roll to increase numbers of cheap hybrids.

Further tax benefits could be offered to businesses that use hybrids. This can replace the current outdated system of tax benefits for utility vehicles, which is heading in the opposite direction of oil sustainability. Utilities are even less fuel efficient than sedans.

2.2 Public Transport

Mass transport, such as buses, light rail, normal rail and fast trains are methods already widely used in other countries where transport costs and traffic congestion make driving a car to work impractical and unaffordable.

We currently have similar small scale systems in Australia, however there is no real incentive to use them. Also, the price of public transport shadows any increase in the price of fuel.

Public transport needs to be much cheaper in order for those people who drive to work to share their personal space with strangers. When is the last time you rode on a bus or train, and how safe did you feel? Some people have no choice, and that's why they use public transport, but given a choice I'm sure they'd prefer to be in a car. Car travel also has the benefit of being faster in most cases.

Make public transport cheap enough and the choice of car commuters could be to switch to buses and trains.

When fuel prices increase, the price of public transport should, at the very least, remain static. As with hybrid vehicles, the way to achieve this is through subsidization. Also, a ticket on a train, bus or ferry should not be taxed.

In an extreme case, it should be considered to offer free public transport.

2.3 Decreasing Speed Limits – 110 to 100, 100 to 90km/hr

In the USA during the oil crisis in the 70's, maximum speed limits were reduced in order to increase vehicle efficiency. The added bonus of such a simple process could also significantly reduce road deaths.

I propose reducing our currently accepted maximum speeds from 110km/hr to 100km/hr, and from 100km/hr to 90km/hr. This will achieve a slight increase in vehicle efficiency.

This will not be a popular method of mitigation, however queuing hours for petrol will be even less popular.

I will repeat again that my opinions and recommendations expressed in this report are my own, and do not represent those of the RTA, and have no connection to my work or experiences at the RTA.

2.4 Problems With Reaching Sustainability

There are no real solutions for large trucks, aircraft and ships. There aren't any alternative fuels or magic technologies waiting to be developed that can match the price or calorific value of oil. They need oil to run and will always need oil.

We rely on these large scale transport methods in all areas of our economy. While trucking and shipping may survive if normal transport begins conserving fuel, you can only extract 12.3% of a barrel of oil for aviation fuel⁴. The days of frequent air travel are numbered, regardless of what we can achieve with vehicle efficiency.

3.0 HOW TO FUND SUBSIDIZATION

3.1 Redirection of Funds – Environmental Programs

A vast sum of government funding is currently directed towards lowering greenhouse gas emissions and developing sustainable technologies. I believe most of this funding is being directed into areas that offer little or no benefit in providing any real environmental impact.

Reducing oil consumption is the single most beneficial mechanism for reducing our environmental footprint. Money that is currently used to research cow flatulence, and other similar pointless environmental programs, can be funnelled into subsidization of efficient transport. All environmental programs that do not directly lead to a significant reduction in oil consumption should have their usefulness reviewed.

3.2 Redirection of Funds – Benefits and Rebates

All too often government funding is used to increase economic prosperity at the expense of our natural resources.

We give tax benefits to businesses buying utility vehicles, and we subsidize urban fringe development and first home owners. We even encouraged population growth through the baby bonus in a global environment that will have difficulty coping with current population levels. Programs that encourage oil consumption need to be phased out, and the funding redirected to the reduction of consumption.

One disturbing fact; the weight of our population will make the crash from an indefinite oil crisis much worse. If we had one tenth the population we might be able to cope without any mitigating effects. But we encourage growth and immigration, the opposite of what is needed. Static population growth, or even a slight decrease, will help to alleviate effects of oil depletion.

⁴ California Energy Commission,
http://www.energy.ca.gov/gasoline/whats_in_barrel_oil.html.

3.3 Increasing Petrol Tax

As scary as it sounds, increasing petrol tax will have several benefits. It provides funds to subsidize mitigation methods, it forces people to seriously consider using more efficient transport methods, and it directly reduces consumption.

Artificially increasing the price of petrol has its risks. We could cause the exact problem we are trying to avoid, therefore a sensible approach needs to be established.

An added bonus would see hybrids exempt from the tax. As the number of hybrids increases, the level of funds from the tax would decrease accordingly. Not only would hybrids be cheaper to run, but petrol prices would be cheaper for them as well.

Additional tax benefits could also be applied for businesses that purchase hybrids.

3.4 Retaining Income Tax Levels

The budget is currently running a major surplus and income tax cuts are being considered. This is the perfect opportunity to retain tax levels as they are, and use the surplus and any future extra funds for subsidization. It is much easier to do this rather than trying to increase taxes later.

4.0 HOW TO ORGANISE CONSERVATION

Current Government departments, such as the Department of Energy, Utilities and Sustainability and the Australian Greenhouse Office should already have a primary roll in reducing oil consumption.

In my opinion, a separate department governing oil reduction should be formed and any minor responsibilities stripped from other departments. How does the Department for Oil Sustainability (DOS) sound?

Oil depletion is about to become the single most important issue in our daily lives. It is only right that we provide the right infrastructure in order to meet this challenge.

The DOS should not only organise sustainability research and development, but should manage subsidization and tax benefits as well.

It should be lead by ex-oil industry, transport and financial experts, and team members should include people that already have a grasp of the real-life effects of oil depletion issues and *realistic* sustainability solutions.

The DOS should have offices in all major metropolitan and regional cities. This allows local issues to be dealt with directly without DOS employees having to travel large distances from a central metropolitan office. They should lead by example in efficient use of resources and intelligent business practices. Ideally, DOS employees should be offered the incentive of working from home, with most communication being handled by email and telephone.

5.0 THE PROBLEM WITH GLOBALIZATION

Globalisation will help to distribute an individual country's oil crisis. Our economy relies on normal imports from other nations, such as the USA and China, which could experience extreme economic impacts after Peak Oil. I will describe a theoretical example to elaborate this problem.

Clean Water Pty Ltd bottles natural spring water for sale in supermarkets and other retail outlets. They import plastic bottle caps from China because it's cheaper than producing them locally. Nobody in Australia can compete with the Chinese bottle tops, therefore any company that produced them has long since gone out of business. China experiences a major oil supply problem; consumption has risen to the point where it outstrips production and industry experiences both petrol and raw plastic supply problems. Clean Water Pty Ltd only receives half the number of bottle tops in their next delivery, and because they use the Just-In-Time method of production, they do not have any reserves of products. They cannot meet contract quotas and either lay off staff or go bankrupt.

John worked for Clean Water Pty Ltd, but has now been laid off because of an oil supply problem in China. John's wife Sue is a school teacher, so their income is secured assuming she doesn't get pregnant with the baby they were planning to have. They can still pay off the mortgage on her wage, and barely manage to pay the bills and put food on the table after they sell John's car, which he couldn't afford to run anyway because of a sudden increase in the price of petrol. John and Sue's plans to holiday at U-Relax Resort are put on indefinite hold because they can't afford non-essential expenses.

Garry worked over the bar at U-Relax resort, but he's now been laid off because 100 "John and Sue's" can no longer afford a holiday this year, and for some reason the price of bottled water has doubled and people have started drinking it out of a tap.

John tries real hard to get more work, but suddenly 1000 Garry's are unemployed and they are all fighting for the same jobs, which there doesn't seem to be many of lately.

Then Sue gets pregnant. The week after she finds out, interest rates go up to dampen the inflated price of bottled water. They foreclose on their mortgage. The bank tries to sell their house, but nobody can afford to buy it for the same price it was 5 years ago (with bottled water being so expensive), and the bank loses money. 6 months later and even the bank is having trouble after 100 "John and Sue's" and 1000 "Garry's" foreclose on their loans and house prices have dropped to levels they were at 10 years ago.

Food becomes more expensive, and there is less of it as farmers start to go broke due to high fuels prices, lack of affordable fertilizers and huge increases in interest rates. The whole country goes on a forced diet, and suddenly oil has become the nation's #1 concern.

6.0 CONCLUSION

Do we have to get to the point where there are petrol and food riots before something is done about oil consumption? One Senate Inquiry does not solve a problem as monumental as Peak Oil. This is not a “Y2K” look-a-like, where people and organisations with vested interests are inflating a problem that doesn’t really exist. Books are being written about Peak Oil, and profits are being made, but it is impossible to deny we are entering an era of expensive fuel and oil depletion.

When it is widely recognised that the world has reached Peak Oil, or reached a point where it is obvious that there are oil supply problems, I think we will see most oil producing countries significantly reduce exports. This will leave places like Australia stranded with a massive gap between production and demand. The result of this will be a sudden and fatal shock, and we have to decrease demand as soon as possible in order to cope with such a scenario.

Riding public transport and buying a hybrid car need to be affordable on a large scale because people will not easily give up their 4WD’s and V8’s.

Also, we are growing a population that does not know how to feed or care for itself. We have gradually evolved to rely on cheap oil so much, we could not physically survive with out it. Most people do not know how to grow or hunt their own food, and we’d find it difficult to survive without our modern conveniences.

We need to do something now.

2006 is the best chance to secure our future. Each year after that will become harder and harder, to the point where we reach an Oil Event Horizon, the point of no return. That is, of course, assuming we haven’t left it too late already.