

The Secretary  
Senate Rural and Regional Affairs and Transport  
Parliament House  
Canberra ACT 2600  
Re: Inquiry into Australia's future oil supply

Chris Shaw  
26 Church St  
Carisbrook 3464  
(03) 54 64 1067  
Mining Metallurgist (retired)

Dear Senators

I hope to present my point of view simply and unambiguously.

1. It takes a great deal of (oil) energy to find and exploit an oil deposit, process it and distribute the products.
2. We have until now, enjoyed a superabundance of excess energy left over after the extraction and processing of "easy" oil deposits.
3. In the best mining tradition we have exploited the better deposits of oil first, as that is where the greatest energy profit may be had.
4. Even the best and biggest oil deposits tend to yield their lighter, more valuable fractions first, leaving the poorer residues to be scavenged later.
5. Brand new oil discoveries tend to be ever further away from traditional markets and are trending smaller in relation to the necessary infrastructure.
6. The poorer the oil, the **more** the energy which must be sacrificed to liberate ever **less** contained energy (tar sand is an extreme example).
7. Simple in-situ estimates of oil reserves do not alone suffice to predict the availability of distributable liquid energy.

I beg Senators to reflect on the extent to which Australian food production and distribution are reliant upon cheap and easy oil. Similarly, our urea based fertiliser is produced from natural gas - another finite resource in great demand.

I do believe that the world has arrived at the point where our profligate use of energy must be pruned from the fingers of ideologues and profiteers, and be

subjected to the rigors of hard science. Our primary energy supplies can only be burned once - then they are forever gone. Therefore we must exercise caution against spending too much reserve energy in search of too little remnant energy. We must proceed strategically.

### **Bad science: Example 1**

It is a fact that a primary task of the US Armed Forces is to secure access to, then maintain the flow of oil from the world's major oil reserves. From the largest aircraft carrier to a lace in a soldier's boot, every tiny unit operation is created and sustained by the burning of irreplaceable, high quality energy. The total energy requirement of this "global police force" is astronomical.

- Question: Is the US burning whiskey in pursuit of beer (metaphorically)?
- Question: While the US gives every appearance of a smart high-tech superpower, do I really see a dinosaur floundering in a tar-pit?

### **Bad science: Example 2**

We are repeatedly told that the hidden hand of free market economics will result in the best of all possible outcomes. The principle engine of this system is the force of human desire. Yet it is this very system which has blind-sided us to the realities of our diminishing energy supplies and concealed the reality of our overconsumption for so long.

Monetary economics - free market economics, is the best way there is to put the greatest distance between the consumer's actions - and their consequences. Small wonder we love it so.

- Question: Is free market economics, unbounded in the imagination, a sane method for managing a finite planet?
- Question: Is it possible to have a modern, viable economy which is based upon the natural laws of thermodynamics? Would cause and effect be better understood if that economy used feedforward and feedback based upon simple energy flows instead of the chaotic flow of capital?

Senators, I am trying to say that there is another description of the world which is more appropriate to our circumstances. We have honed monetary economics until it has achieved cult status in human society. This cult is delusional, if it cannot describe the world as it really is.

In times to come, we will have to readjust our society to take account of diminishing energy supplies. We will search for better ways to exploit inferior or remnant energy reserves. We will face up to the limits of "renewables". We will re-discover the simple virtues of muscle-power.

Profit is a human confection. I worry that if we face the future on a "business as usual" basis, then we are bound to make serious errors of judgment. Are we capable of making sacrifices now in favour of those who are yet to come?

For many of the answers, look no further than your humble CSIRO (unfettered by politics).

I wish you great wisdom in your determinations. My grandchildren may thank you.