

“Crisis, what crisis?”

These were the words of the Labour Prime Minister, the late Jim Callaghan to an enquiring reporter as he stepped off a plane on his return to UK after an overseas trip. It was during the early seventies, around 1973 I think, when Britain was plunged into darkness and despair; this was the “winter of discontent” as it became known. The three day working week was imposed on many energy consumptive industries as there just wasn't enough energy available. I can remember collecting ration coupons for petrol, but not ever using them, a 50mph speed limit was imposed and lights were being turned off all over the place. A campaign was launched-“Energy sense is common sense, save it” What I don't remember was what actually brought this state of affairs about, I had just turned 20 and just become a father so I wasn't exactly in a state of global environmental awareness. It wasn't until I became involved in agriculture later that decade that I started to become aware of the deeper environmental issues surrounding what I was doing with the Earth, this could be spelt with a capital or a little “E”

I find it totally absurd that so many governments later we as a population are still burying our heads in the sand over energy issues. Just how much does it need to be spelt out that we are never going to be able to continue squandering fossil fuels in the same way that we have over the past generation? Whatever it was that triggered the 70s fuel crisis and subsequent energy saving campaigns disappeared into the cosiness of government apathy as soon as somebody somewhere in the world opened up the oil tap. This was enough to douse the insecurity of inadequate energy. We are ever more reckless in our utter disregard for the finite black gold. We are no longer content to consume it as raw fuel for energy to power our machines; we drink it in our cups and eat it in our food. We are eating oil, the packaging the global transport systems, the nitrogen fertiliser and a host of other inputs. It is an utterly sad and very worrying fact that nearly all foods now produced contain very much less calories than it took to produce them. You don't need to be very smart to work out that this can not continue for very long in its present form, there just is not enough to go around. The peak of oil and gas reserves has, depending on who you talk to, either been reached or is about to be so. The barrel of oil will get ever more expensive to the point where hopefully the whole globalisation monster will begin to grind to a halt. No longer will food be transported from one end of the planet and back again, it just won't be cost effective anymore. So I for one will be happy to see oil get expensive, to become a luxury item and to be valued as a scarce commodity to be preserved for very essential uses.

The so called Fuel crisis of September 2002, when all the stations ran dry due to a few well placed union pickets and a perfect panic reaction from the fuel junkies served as a potent reminder that the system that we all live by and under is a precariously vulnerable one. The recent events with hurricane Katrina have also shown up some gaping chinks in the armour of the energy production system. So how would we as Stockfree Organic producers manage when the unthinkable happens and the oil ether becomes ridiculously expensive or is held back for reasons of “preservation for very essential use” I am guessing here that this may be a government option, to hold fuel back, not that I can see anything is more important than food production.

If it came to the crunch we could continue to grow organic vegetables. So would we use horse power? Well at the risk of infuriating some of you yes we would. I can't really see any viable option at the present. Horse power would replace the tractor and in many ways would be better for the land. Horses reproduce themselves, which is more than my tractors will do. The green manures that we grow for fertility would make a valuable contribution to its' feed. The horses manure would of course go back on the land. There is much talk of the benefits of bio-diesel, grown on the farm to run the tractors and machines needed to grow food. But hang on a minute; do you know how much land it would take to run a small tractor like mine? So there wouldn't be too much room left for the food for us humans if we end up putting huge swaths of land into bio crops to feed to our steel horses. And an even worse scenario is what about the energy needed to produce the steel and build the tractor in the first place? The energy consumed is far greater than it will ever use in its lifetime. So where do we grow the food for that energy input? Tractors don't live for ever, although one of mine is over 35 years old it can't work as hard as it used to, a bit like me then. Tractors have many attributes over horses, providing we can feed them the oil that is but they have one huge failing and that is they do not breed!

So assuming that we are completely without oil and the Stockfree Organic standards allow us to use horses then what would the changes be on my farm of 20 acres? The acreage of cropping would have to go down as the horse would need a cereal feed to maintain its condition. Around 15% of our land would be enough to cover this for one animal. There would be many times though when we would

need two horses, for certain operations and for deliveries. So in reality we would probably need to set aside 25- 30% of our land for this primary power source. Our production would therefore drop dramatically. We would also need to increase our labour input significantly. With a 55 horse power tractor I can plough and prepare 10 acres of land in around 25 hours. With horse power this would take around 150 hours-six times longer. There is another problem. With diesel power I can complete work very fast, this is particularly important when the weather can be particularly difficult. A lost opportunity with land preparation can mean a delay of weeks sometimes even meaning a missed crop. This would have a dramatic effect on yields.

Without doing a comprehensive study it is clear that without the fuel our output would drop dramatically, as much as 50% and our labour costs would go up significantly, this is already our single most biggest expense. The use of tractors on the land has had a greater effect on yields per labour input than any other factor since the invention of fire and the wheel. Please note-labour input. Because if you go to the Third World and see what farmers produce there on fertile farms using only hand labour then it is much higher than our western system. Growing food by hand is wonderfully productive and is without doubt the ideal. The problem is that in the Western culture people are not interested in spending almost all their time in growing enough food to keep them. Our culture is centred on huge urban developments with little land available for food growing and food has to be grown on an ever larger scale. Joe Public has a romantic notion of "back to the land" ambling along behind the plodding horse and plough, the skylarks singing overhead, the whispering corn shimmering in the summer sun and all that romantic stuff. But the reality is not like that at all. Gruelling hours in all weathers, physical work that wrecks the body before it even reaches 40 years old, boredom and solitude that your average modern day keyboard operator could never comprehend. Not to mention a pittance of a wage. To replace our machinery with hand labour would be difficult and very expensive if we were to pay a living wage. Few people in our society would accept this nowadays.

The conclusion is that no fuel would reduce our output and increase our costs. I estimate that we would have to increase our prices by at least 350-400% to maintain a viable business, and this would be with using horse power. Without the horses it would be many times greater than this. To put our fuel use into perspective here are some interesting figures: In an average year I use around 1100 litre of tractor diesel, around 650 litre of petrol/diesel for deliveries and around 110 litre of petrol for small machinery that we use in the intensive vegetable areas. A round figure of about 2000 litres per year. So every one of our 400 odd customers is using about 5 litres of fuel to supply around 70% of their vegetable requirements. Compared with conventionally produced vegetables this is low. The biggest cost in conventional production is the fuel that goes into making nitrogen fertilisers and distribution systems. So we can make a little fuel go a very long way, our system is very fuel efficient, and we could improve this without too much difficulty.

For arable farms producing cereals and commodity crops, life without fuel would, I suspect be even more difficult. These are big farms, to be viable, with the downward pressure of globalisation the average needs to be around 1000 acres to stay in business; this is more than 50 times bigger than our farm. They will generally employ just the farmer and one tractor driver. All other machinery operations will be carried out by contractors who have the massive fuel guzzling machines to consume the acres of work needed to get crops grown and harvested. These arable farms are far more energy dependant than we are as there is so little human labour involved. There would be the need for dozens of horses and men to care for them and work them all day and every day. A rule of thumbs for arable farmers is that one needs to be able to till around 10% or more of your land in a day. So this could mean having at least 100 horses to compete with present day work rates. This is unlikely to be realistic so work rates would drop dramatically and yields suffer accordingly. And of course a lot of land would be needed to feed the horses. Pre industrial revolution horses took up around 25% of land. I am guessing here but I would not be surprised if the cost of the weekly food bill in a post-fuel agricultural world didn't reach something like at least £500. Clearly this is considerably more than many families earn, so we wouldn't be eating anything like the variety and choices that we have grown accustomed to over the past three generations. Food would be basic, largely unprocessed and undoubtedly healthier for land and body, providing it were organic that is. Can not see how it could be anything but in a fuel-less society.

I have not carried out a full energy audit this is something I would like somebody to do to get a clearer picture of our energy usage. There are other energy inputs to our production cycle that need to be calculated, such as the inputs we buy in, seeds, crop covers, packaging etc. This aspect of food production and energy use is worthy of a more thorough study.

So the really big question for the Stockless Organic and Vegan movement is will draught animals be an acceptable form of energy inputs? It is exploitation of animals for sure, but is there any alternative? Replace it with human power maybe, but who will do this miserable hard and thankless work, isn't this just human exploitation? We need a different society where food is de-centralised and people live and work in small rural communities, but this needs massive social change to bring about a new direction and it will not happen overnight, no we are talking about generations of time and the political will needs to be with it, that may well be the greatest challenge of all.

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