

Pharmacy is in for a bumpy ride as world oil production goes into decline

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Few of us are fully aware of the extent to which cheap, fossil fuel energy has influenced modern life, modern pharmacy and modern expectations. With the era of cheap energy now drawing to a close, it is perhaps time to reflect on future scenarios which may be shockingly different from those assumed.

A declining resource

The discovery of new oilfields peaked in 1964 and has been falling relentlessly since then despite intensive exploration. Most experts say we are now at, near, or have in fact passed the “global oil production peak” — the point after which oil output declines forever.

There is evidence that this decline may be happening faster than anticipated. Ghawar, for example, one of the largest fields ever discovered and responsible for 60 per cent of Saudi production, is showing accelerated depletion to the extent that it is currently being injected with seven million barrels of seawater a day in an attempt to keep output up. As of summer 2004, more than half of Ghawar’s outflow was seawater, not oil.

Many reserves of oil and gas may have been grossly overstated for political or economic reasons. Shell was forced to reduce its claimed reserves by one-fifth last year. Saudi Arabia’s claims of 250 billion barrels of reserves are suspect: other authorities, including the companies that discovered the fields, claim there were only ever 130 billion barrels, of which 100 billion has already been pumped.

In the past, states with excess capacity were “swing producers” that could open the taps when needed to stabilise prices and prevent panic buying. It now looks increasingly as if everyone has the taps wide open and it is only a question of time before the shocks hit home.

China’s oil imports increased by 40 per cent in the first half of 2004 alone. Demand is also soaring in the rest of the developed and developing worlds.

There is growing political unease. The China National Offshore Oil Corporation’s recent attempt to buy American producer Unocal was blocked by US Congressional backlash as it was judged threatening to US national security. The Iraq wars, according to many, were also about oil — an attempt by the US to stabilise and control a region of the world with significant remaining resources. (Iraq originally invaded Kuwait accusing it of drilling diagonally under the border into

Iraqi reserves.) Corporate and international rules, as well as diplomatic niceties, are all likely to get left behind as politicians, and the populations they represent, grow desperate.

And there are no real alternatives. A close look at the energy and technical demands for producing, storing and attempting to transport, say, hydrogen make this obvious. Wind energy cannot produce cheap organic precursors for plastics and pharmaceuticals. Making alloys for turbines needs energy currently supplied by oil. Nuclear power stations are currently built and maintained with large inputs of fossil fuels.

There are those who envisage a magical new energy source appearing to save our current way of life *deus ex machina*, but this confidence is most likely a result of cognitive dissonance or a 21st century western mindset — so brainwashed are we by the incredible technological achievements made possible by the era of cheap oil we have just witnessed that we are unable to think the unthinkable. No one can doubt that the global energy profligacy of past decades has been truly awesome and unsustainable.

A few well-targeted terrorist attacks — or a decision by some countries not to continue to support the American Dream at the expense of their own futures — and within days we could wake up to find fuel rationed and our local just-in-time supermarket with empty shelves.

Addictive lifestyle

Cheap fossil fuels have underpinned most assumptions about what civilised life is like, from food production to health care provision. It takes 13 calories of energy input to produce one calorie of food value as grain and 70 calories of input to produce one calorie of food value as meat. We are “eating oil”. Take away the fossil fuel inputs, or hike the price, and the economics of everything around us — modern suburban life, out-of-town shopping, modern retail environments, regional hospitals, hamburgers, holidays, supermarkets, street lights, patient packs, globalism — is transformed.

Expensive and restricted fossil fuels will force us to re-evaluate the NHS, centralised manufacturing and modern protocols such as medicines reuse. The decimation of the huge budgets driving current health care, themselves the products of oil-economy, will force more radical changes as the very concept of economic “growth” becomes consigned to the history books. The pharmacy medicine review of the future might run along the lines

of “that, that and that are not available any more”.

Although we can expect the resurgence of the famous Dunkirk spirit in parts of the UK, there will be parts of our society where the more recent philosophy of aggressive individualism holds sway and for where co-operation and sharing may not be the chosen option.

Your local pharmacy of the future

Future scenarios without cheap fossil fuels could well resemble a medieval vision of hell if, as may well be the case, there is insufficient time or the political determination to put strategies in place to cope with or control the possible outcomes. The world population’s six-fold increase from pre-industrial levels has only been made possible because of, and is supported by, cheap fossil fuels: cut these off and we face mass starvation, migration, disease, crime and local and international conflict.

Older readers may be familiar with the National War Formulary, dispensing from bulk, compounding, reusable containers, infrequent deliveries, poorly heated pharmacies, curfews, armed guards and the only choice being “take it or leave it”. These things may be with us again. Sending off for “specials” at £120 per tube is what we will reminisce about over our pint of homebrew.

A much larger proportion of the population will have to be involved in the one subject that will preoccupy and unite people as no other — food production. Pre-oil-dependent societies can produce one calorie of food energy for one calorie of energy input (via a horse and more hands). The pre-industrial, walking-scale town, with its close proximity of food production and local trades and services, will probably be the best model.

Pharmacists are likely, once again, to be intimately involved in things like animal health and the supply of pickling jars and saltpetre. They may find themselves searching in a copy of the National Pharmacy Association’s compendium of past knowledge, the remarkable Pharmaceutical Formulas Volume 2, once again making all the things that were not available centrally: toothpaste, face cream, leather tanning solution, poultry and horse warming powders.

Could the past 100 or so years or so really have been nothing but an intoxicating dream, a glorious freebie gifted to us by vanished algae in long-gone seas? It seems ridiculous, it must be impossible: cheap energy is so ingrained in our thinking. Fasten those harnesses — we’re in for a bumpy ride.