

Tullett Prebon Research, a blog by Dr Tim Morgan

Hot air

by Tim Morgan on November 23, 2012

The publication of the coalition government's energy bill will produce a glut of commentary, but almost all of it will focus on the wrong issue – the cost of energy to consumers. So I plan to look instead at the real issues, which are the energy-economy context, and the side-issue of national idiocy.

Consumer bills are the wrong issue, because the real cost of energy is rising inexorably. As I will endeavour to demonstrate in a forthcoming report, energy costs absorbed less than 3% of global GDP back in 1995. By 2010, that figure was about 5%. This may not seem too bad a deterioration over fifteen years, but it's the exponential trend that's critical. By 2020, energy will be absorbing about 10% of GDP, a number that could easily climb to 15% by 2030.

Fundamentally, the economy is a surplus energy equation, in which prosperity is determined by the relationship between, on the one hand, energy extracted, and, on the other, the amount of energy consumed in the extraction process. The key metric here is the energy return on energy invested, or EROEI.

For almost two centuries after the Industrial Revolution, this ratio trended upwards, powering enormous economic growth. Oil and gas discovered in the 1930s, for instance, seems to have offered EROEIs of better than 100:1. Since then, however, costs have risen just as the average sizes of oil discoveries have declined, so the trend is going relentlessly downhill. Oil and gas discovered today seldom delivers an EROEI of more than 10:1. Thanks to legacy assets – old, high-returns oil discoveries like Saudi Arabia's giant but ageing fields – the global average EROEI is higher than this, but it has probably fallen to about 17:1, and continues to decline.

Supposedly "new" energy sources are no answer to this problem, EROEI's on tar sands and biofuels are less than 3:1, and some of these fuels deliver no energy surplus at all.

So, like it or not, the cost of energy is rising. Unfortunately, few if any policymakers are prepared to come clean on this (always presupposing that they actually understand energy returns, of course). They prefer to reassure the public that there will be no major increases in energy bills.

This is idiotic. It is pretty much undisputed that at least £100bn will need to be invested in Britain's energy industry by 2020. Politicians who try to deny that this will have a material impact on consumers are guilty of flagrant dishonesty. Consumers are almost equally stupid if they are taken in by this nonsense.

To cap this story of idiocy, the government has become almost totally beholden to short-term consumer sentiment. Pinning any faith in low-return shale gas – or, for that matter, in wind – as a national energy saviour shows a willful ignorance of the energy returns equation. Worst of all, governmental obsession with energy bills can only undermine the confidence of the industry that it will be allowed to earn appropriate returns on the vast energy investment that the UK requires if energy is to remain available.

Let's put this very simply, and challenge policymakers to display equal candour – "pay up, or the lights go off".