

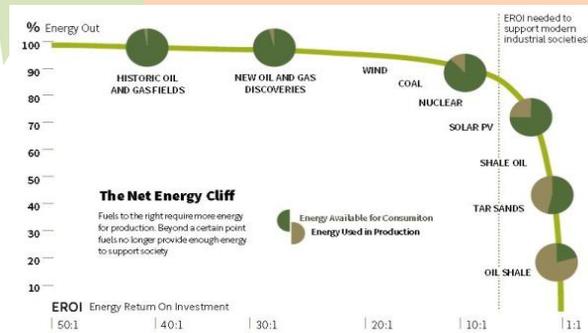
# Unconventional Gas. Why now?



## Fossil Fuel Depletion – The context for Fracking

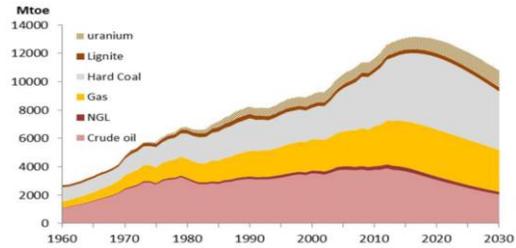
Oil, gas and coal are not renewable resources. The easiest and cheapest to extract resources are taken first, then it becomes increasingly expensive - in money, energy and pollution - to keep on extracting even more to fuel economic growth.

*Net energy falls as more fuel is extracted – the amount of energy left over from gross energy after the energy used in extraction have been taken into account.*



Source – Corporate Watch Study June 2014

Figure 116: Fossil and nuclear energy supply from oil, NGLs, natural gas, hard coal, lignite and uranium



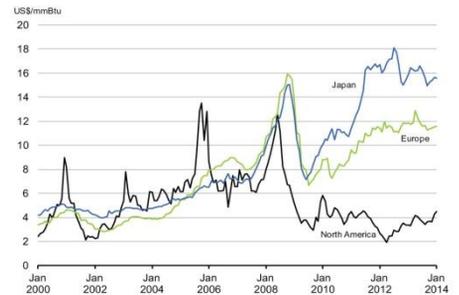
Graph from Energy Watch Group Research 2013

Many researchers think that world total energy from fossil fuels and uranium will soon start to fall due to depletion – just as coal production has been falling in Britain since world war one and oil and gas production from the North Sea has been falling for over ten years.

## Dependence on Fossil Fuels – which we can no longer afford...

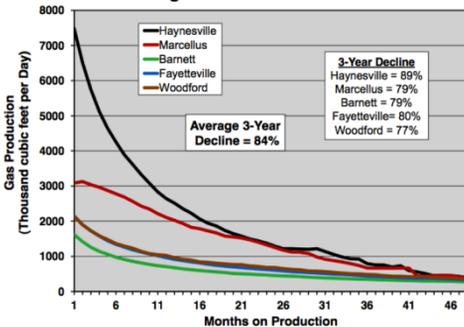
Virtually all the technical devices of our society – cars, computers, lights, cookers, heating – run using coal, gas or oil directly or indirectly (electricity generated by burning the fuels). That's why depletion and rising fuel prices is a big deal and a serious crisis for the economic system. More expensive fuel means companies, households and public services find it difficult to make ends meet. With less left over its difficult to service their debts too - which threatens the banking and financial system. Above a certain level high energy prices crashes the economy. But there's a catch 22 here – unless energy prices rise high enough it's difficult to make fracking profitable. If interest rates were to rise the fracking companies would not be able to service their own debts...

The way to try to make fracking profitable has been to cut corners, to do it fast and dirty at the cost of communities who live nearby. If they were to do it slow and carefully they would not make money particularly because fracking wells deplete incredibly rapidly as the graph below shows....



Graph showing Global Natural Gas Prices

## Type Gas Well Decline Curves for Top Five Shale Gas Plays Constituting 80% of Shale Gas Production



© Hughes GSF Inc, 2013 (data from DrillingInfo/HPI, March, 2013)

## Counting Environmental, Health and Climate Costs too

The costs are not only the energy used during drilling, pumping, carrying water and fracturing. Proper accounting of the costs of fracking would include energy used carrying water to places whose water has been contaminated, or looking after people made sick by fracking, replacing contaminated farm land or rectifying the damage caused by climate change when methane leaks or is burned and adds to the greenhouse effect. Many of these costs would be hard to calculate but are very real nonetheless! Sea level rise from climate change will eventually obliterate Hull, Portsmouth, the Lincolnshire coastline...there is no time to be lost in an international effort of change.

## No easy answers – acknowledging and facing our dilemmas

Government and communities will have to transition to a low energy society powered by renewables – in Britain that will involve a heavy reliance on offshore wind but no governments are brave enough to rise to the challenges we face. In any case, after decades of being strategically vital the oil and gas industry still has immense power in government and a stranglehold on policy development.