

Digital energy

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[Blockchain-Process](#) In this blog we are going to have a quick look at digital energy. One of the biggest problems with rising energy prices is that that many in the West on low incomes struggle to afford them. Since 2008 energy prices have risen in all countries and despite the plunge in oil prices have yet to fall to any significant extent. There are a number of reasons for this, excess profit taking by energy companies, rising gas prices due to a fall in the amount of easily extractable gases, a switch to renewables etc. In the future its impossible to predict with any certainty where prices are going to go. There are two competing trends. Renewable costs are falling fast and are soon going to be cheaper than conventional fuels. Conversely there is need to electrify the whole economy. This requires not only a huge amount of new generating capacity but also massive grid reinforcement. This could raise prices. So the fuel poverty could get better or worse. Those of us who have been thinking about this have proposed a number of solutions covered in other blogs on this site. These include the idea of a carbon ration to fairly share out energy resources or direct subsidy through bills by those who can pay to those who cannot. This happens already to an extent in the UK. The last idea is to directly pay someone's bills or part of it. This is made safer by digital energy. Most people have heard of bitcoin. Bitcoin relies on a technology called [blockchain](#). Despite this link attempting to explain it in a way that 5 year old's can understand its still difficult to get your head around. But basically its a decentralised digital ledger that does not go through banks. Every-time you buy something your purchase is verified its added in a block of transactions to the end of the file (hence the name). You get this enormous file spread over masses of computers. Its supposed to be unhackable. The idea of digital energy is that it fits in very well with a decentralised grid. So if I want to sell my excess solar power to someone else I can do. I can also give it to someone. I also found a site that is allowing you to donate "energy" to those without it in the developing world also using blockchain. This is quite a big story as you can see [here](#) and [here](#). There a variety of issues to overcome before this becomes a practical reality. First the technology as we have covered before uses a lot of energy although one of the proponents has modified the technology to get around this (or so they claim). Second the receivers have to be on the internet and tech savvy. Last it has to be safe to use. Its not a total solution to the idea of fuel poverty since it relies on voluntarism but it has great potential to change how we and the grid manage our energy. Neil

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