**We’ve been looking at charts like these all over the place in recent years, haven’t we. All giving us lots of jolly good encouragement that renewable energy technologies like solar, wind and battery energy storage are on a relentless march forward.**

**I may have even mentioned it once or twice myself come to think of it!**

**Believe it or not though, there are some people who would prefer things to stay as they were before all this talk about climate emergencies and energy transitions started infiltrating the public discourse.**

**I know! who’d have thought it, eh? I mean I can’t imagine why those folks, having had their OWN geologists confirm the existential dangers of the status quo and the clear benefits of carbon-free energy production wouldn’t have immediately chosen to give up their globally co-ordinated monopoly supported by a trillion dollars a year of explicit subsidies and another six trillion or so of hidden subsidies, including tax breaks, preferential land deals and the entirely unaccounted for cost of environmental damage, poor health, traffic congestion, road accidents and infrastructure degradation.**

**I mean it’s almost as if the bottom-line profit of their companies and the multi-million dollar bonuses their CEO’s receive each year mean more to them than the future safety and prosperity of the human race…which would be ridiculous**

**Thankfully those good folks have now come clean as to why they’ve taken their entrenched position – on the transition. Apparently, the latest reason is that renewables like solar, wind and batteries, championed by over-zealous left-wing political idealogues, are forcing ordinary citizens like you and me into economic hardship by imposing infrastructure costs and green energy prices on us that we simply can’t afford.**

**So, we should have a think about that, shouldn’t we?**

**Hello and welcome to Just Have a Think,**

**On the twenty-second of May twenty-twenty-five the US House of Representatives passed a legislative bill which, among myriad other measures, opens up new oil and gas drilling sites and significantly cuts funding for renewable energy initiatives that had previously been ringfenced in the Inflation Reduction Act.**

**If the bill gets approved by the Senate, which is a big IF, but IF it does, then the US shale gas industry will embark upon a drilling bonanza that will not only drive greater dependence on gas in the States, but will also accelerate Liquified Natural Gas, or LNG exports to the UK and the EU.**

**Despite this last huzzah, though, data from the US Energy Information Administration, or EIA and the National Renewable Energy Laboratory suggest that shale gas is effectively a busted flush.**

**Shale wells have very steep decline curves, losing about seventy percent of their output in the first year. So, very quickly, you have to move all your equipment to a new site and start again. And all the so-called sweet spots where the gas is most accessible and cheapest are being rapidly exhausted. So while prices might drop in the short term as new sites are offered up by the Trump administration, on a levelised cost of electricity or LCOE measure, which looks at the lifetime costs of a technology, shale gas prices are projected to rise steadily in the next decade and a half, while the cost of solar, wind and batteries will continue to fall, despite the herculean efforts of the fossil fuel industry to stymie their progress.**

**According to the EIA, thirty gigawatts of new Solar PV was installed in the US in twenty-twenty-four, representing sixty-one percent of ALL newly installed electricity capacity.** [**This chart**](https://www.linkedin.com/posts/mikeandrade1_bombshell-eia-chart-solar-wind-batteries-activity-7333235795392122880-zOTF/?utm_source=share&utm_medium=member_android&rcm=ACoAAAVKJeYBLPvCP9ho1wylBxw5I7NOUQ83xbM) **shows that Solar, wind and batteries COMBINED are set to provide NINETY-THREE percent of new electric capacity in the US in twenty-twenty-five, much of which is in red states like Texas where, by the way, a bill aimed at killing renewables in that state has just FAILED to progress to the state’s House of Representatives. Adopting FEDERAL level legislation deliberately aimed at harming the renewables industry and helping the fossil fuel industry, even if it gets through the Senate in some form or other, might slow the transition down a bit in America for now, but many industry analysts argue that all it will really do is allow other countries, and in particular, China, to pull even further ahead.**

**That thirty-gigawatts of new US solar PV installed during the twelve months of twenty-twenty-four that I just mentioned? Well, to give some context to that number, in April twenty-twenty-five, just in a SINGLE month, China installed forty-five gigawatts of new solar PV, and in many regions, this is how it’s being done, using robots to do the back breaking work of mounting the panels so that electricians can concentrate on the skilled work they’re actually paid for, which is to connect everything up.**

**Mr Trump’s long-term strategic thinking does only extend about as far as the end of his nose though of course, as has been so amply demonstrated in the first few frantic months of his administration, so the short term sugar rush of additional shale gas production, and in particular those lovely lucrative LNG exports, is clearly proving too tempting for him to pass up, which brings us across the Atlantic Ocean to the shores of the United Kingdon.**

**Here in Britain, household energy bills have rocketed up in recent years, with some commentators and politicians placing the blame squarely on the renewables industry. That assertion was assessed recently by Simon Evans and Molly Lempriere, writing for the highly respected Carbon Brief website. I’ve left a link in the description to the full article, but it’s worth just picking out a few key findings.**

**In twenty-twenty-two, as we all know only too well, Russia invaded Ukraine for the second time and effectively cut off gas supplies to Europe, setting off a global energy crisis. Gas prices rocketed upwards, and so did UK energy bills. And although they’ve come down a bit in recent months, as of May twenty-twenty-five, gas is still roughly three times as expensive as it was prior to the crisis.**

**In the UK, just like in many other countries in the EU and around the world, a wholesale electricity price auction takes place every half hour of every day. That auction allows electricity generators like gas fired power stations, nuclear power plants, wind farms and solar parks to bid in a price to supply some of the required capacity for the following thirty minutes. In our current UK bidding system, known as the marginal pricing, or ‘pay as clear’ system, the price paid to ALL successful bidders is set by the price bid by the generator that fills up the last bit of capacity in each auction, and at the moment that is almost always gas, because gas turbines have the flexibility to ramp up to meet that last bit of demand.**

**So, here’s how UK household electricity bills were tracking prior to Mr Putin’s ill fated ‘Special Military Operation’, and here’s what happened since then.**

**Since twenty-twenty-one the electricity price cap set by the UK regulator Ofgem has risen from six hundred and three pounds per year for an average household to nine hundred and twenty-six pounds. By far the biggest cause of that rise is the wholesale cost of electricity, almost entirely dictated by gas prices. By contrast, “green levies” have increased more or less in line with inflation, moving from a hundred and eighteen-pounds per year per year in summer twenty-twenty-one to a hundred and thirty-seven pounds per year today. That means their contribution to overall bills has actually FALLEN from 20% to just 15%.**

**But hang on, say the anti-renewables lobby, the cost of gas has risen just as much in continental European countries, and most of them have the same ‘marginal pricing’ wholesale auction system as the UK does, but THEIR electricity prices haven’t risen NEARLY as much as the UK, so what gives?**

**Well, here in the UK we don’t have massive amounts of hydro-electric power like many of our continental neighbours do, and we don’t have massive amounts of nuclear power either like they do in France for example. And we now have precisely ZERO coal on our electricity grid. European countries use a combination of all these technologies and fuel types to fill up the last gap in their half hourly auctions, so their electricity prices are reasonably well insulated from gas prices. By contrast, UK electricity prices have tracked gas prices almost perfectly over the last fifteen years or so.**

**It is true to say that UK NETWORK charges have been on the rise in recent years, moving up from a hundred and thirty-six pounds a year on the average household bill in twenty-twenty-one to a hundred and ninety-eight pounds in twenty-twenty-five. Critics of the energy transition point to the replacement of large centralised predictable and dispatchable baseload generators like coal and gas fired power stations with distributed VARIABLE generators like wind turbines and solar panels on a grid that was simply never designed to be used in that way. But the Carbon Brief investigation shows that network costs are also burdened with the consequences of bailing out energy companies that went bust as a direct result of the gas-driven global energy crisis. Those very high costs were not shared equally between gas suppliers and electricity generators. They were lumped entirely onto the distribution costs of the electricity grid. And it’s the same story with grid balancing. HIGHER gas prices during the crisis actually made it MORE EXPENSIVE to balance the electricity grid, but none of those costs are reflected in the unit price of domestic gas. They’re all allocated to ELECTRICITY grid costs. Those balancing costs used to be shared between the electricity generators and electricity consumers, but thanks to the Energy Act passed in twenty-twenty-three under the previous Conservative government they’re now paid for entirely by you and me via our monthly bills.**

**It’s like having a toddler who pours milk all over your kitchen floor and then stands there giggling while you clean it all up!**

**Nevertheless, even with all those iniquitous cost allocations factored in, the overall chart of costs still very clearly shows that it is overwhelmingly the wholesale price of gas that is driving up electricity prices, not the cost of additional renewables.**

**The future does look bright though, at least in countries that embrace the energy transition properly. The UK’s National Infrastructure Committee, or NIC, projects the average dual-fuel bill for electricity and gas to fall from almost two thousand pounds a year in twenty-nineteen to about thirteen-hundred pounds in twenty-thirty-five. That’s because in a decarbonised world, gas for heat and power, as well as fossil fuels in cars, will be progressively replaced with more efficient**[**electrified**](https://www.carbonbrief.org/factcheck-21-misleading-myths-about-electric-vehicles/)[**alternatives**](https://www.carbonbrief.org/factcheck-18-misleading-myths-about-heat-pumps/)**, which also means that part of the cost of upgrading, decarbonising and expanding electricity grid systems will be offset by major savings in the cost of transport.**

**Some analysts argue that the single biggest way to reduce UK electricity bills in the short term though would be to take the one-hundred and seventy -three pounds of policy costs paid annually on the average household bill and move those costs into general taxation where they would be allocated more fairly between higher and lower income households.**

**Another suggestion made recently by the think tank Common Wealth would be to take gas-fired power plants out of the wholesale electricity auction process and instead give them a regulated income on their assets. In return they would allow the network operator to switch gas plants on and off as required. That would effectively remove the costly link between gas prices and electricity prices.**

**There’s also a fierce debate going on in the UK about zonal electricity pricing instead of national pricing, which its proponents argue would not only lower electricity prices in areas with high levels of renewables but would actually lower cost in EVERY region.**

**And of course, the UK government, and every other government around the world, could apply an appropriate level of carbon tax on gas and other fossil fuel producers to reflect the real-world damage done by carbon dioxide and other greenhouse gases.**

**All those proposals are contentious and fiercely contested. Analysis of their pros and cons is outside the scope of this little missive, but it’s something we may well look at in a future video.**

**Of course, there will be many other factors that you’re probably aware of in your own country that are either helping or hindering the cost and speed of the energy transition. And, as always, it would be great to hear your feedback in the comments section below.**

**That’s it for this week though. Thanks, as always to the amazing folks over at Patreon, who make this channel possible and enable me to keep ads and sponsorship messages out of your way. And an extra special thank you to the folks whose names are scrolling up the screen beside me here, all of whom celebrate an anniversary of Patreon support in June.**

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**Most important of all though, thanks very much for watching! Have a great week, and remember to just have a think.**

**See you next week.**