**A couple of weeks ago I posted a video revealing that there was no technical barrier whatsoever to shifting oil refinery activity away from making combustible hydrocarbons and towards a 100% focus on all the other stuff that we get from this miracle black liquid – things like pharmaceuticals, plastics, fertilisers and other NON-COMBUSTIBLE petrochemicals. My industry expert guest, Paul Martin explained that all we needed was for the fossil fuel industry to agree to reduce its global annual turnover by about eighty percent or so, and for politicians to stop feathering their own personal nests with all the oil industry lobbying money that they’re currently pocketing, and to get back to the business of properly representing their constituents' interests, which is, after all, what we elect them to do.**

**Now, I can’t imagine why, but there were quite a lot of people in the comments sections of that video who didn’t seem to think that was a particularly realistic proposition.**

**There is another bunch of commentators though, who do think it’s not only possible but essential.**

**Greenpeace?**

**Friends of the Earth?**

**No.**

**The International Energy Agency.**

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

**Right now, as I’m sitting here making this video, our world leaders, plus about seventy thousand policy wonks, international lawyers, industry lobbyists and media journalists are attending the COP28 climate conference in Dubai. So, it was no co-incidence that the International Energy Agency, or IEA chose to publish this new report just last week.**

**It's probably worth just a very quick reminder of why the IEA exists. The agency was established in nineteen seventy-four in response to the previous year’s global oil crisis, when OPEC member countries proclaimed an oil embargo, causing a significant disruption in oil supply and a dramatic increase in oil prices globally. The primary aim of the IEA, as an autonomous agency within the framework of the Organisation for Economic Co-operation and Development or OECD, was to help its member countries coordinate a collective response to major disruptions in oil supply. It was also there to offer information and policy advice on energy security, economic development, and environmental protection. So, it’s kind of been a bit of a ‘frenemy’ to the oil and gas industry for half a century now, and over the years the response to its periodic publications has all gone a bit Marmite, which for those of you not subjected to British television advertising, basically means some people love them and some people… not so much!**

**I don’t think anyone questions their dedication, application and diligence in compiling their reports though, and this one is no exception. So, what delights does it hold for us then?**

**Well, first up, it makes no bones about the current state of affairs.**

 **“A moment of truth is coming for the oil and gas industry” it declares.**

**“Structural changes in the energy sector are now moving fast enough to deliver a peak in oil and gas demand by the end of this decade under today’s policy settings.”**

**But even if we do see peak oil this decade, the IEA points out that those so-called ‘policy settings’ don’t bring about a fast enough decline in fossil fuel greenhouse gas emissions to align with the Paris Agreement and the one-point-five-degree Celsius goal.**

**That’ll come as no surprise at all to anyone who regularly watches this channel or pays attention to thermometers. I know a strong El Nino is adding to atmospheric warmth this year, but it must still be noted that October saw a monthly average global temperature of one-point seven degrees Celsius above pre-industrial levels, and on Friday the seventeenth of November, the world witnessed the truly terrifying spectacle, albeit for one day only, of global average temperatures spiking to more than two degrees above eighteen fifty to nineteen hundred levels for the first time in recorded human history. Twenty-twenty as a whole year is on track to be very close to the one-point-five degree safe limit. Oh yeah, and by the way, the worst effects of that El Nino are due to hit in twenty-twenty-four, so you know…brace yourselves!**

**Anyway, less of my prattle and more of the expert analysis.**

**The IEA bods, being the disciplined, data-based boffins that they are, confine themselves to drawing THEIR conclusions purely from available stated government policy, rather than doing what the rest of us do which is to look at what’s actually happening and throw all our toys out of the pram. So, the grown-ups at the IEA tell us that IF all the governments of the world do actually deliver IN FULL on their national energy and climate pledges, then oil and gas demand would be forty-five percent below today's level by twenty-fifty, and the resultant temperature rise COULD be limited to one-point-seven degrees Celsius. And to parody a well-worn sporting cliché, if you offered me that final result at this stage of the game, I think I’d take it!**

**But the IEA also points out that if we really did want to confine ourselves to only one-point five degrees Celsius, and reach net zero by mid-century, oil and gas use would fall by SEVENTY-five percent in the next three decades, which, ‘lo and behold’, is almost exactly what industry expert Paul Martin projected in my recent video.**

**The fossil fuel industry isn’t exactly leaping onto the energy transition bandwagon with gay abandon though, it has to be said. The analysis shows that oil and gas producers account for only one percent of total clean energy investment globally, which is truly pathetic!**

**The first thing they really need to do though, according to the IEA, is clean up their own act. In other words, slash emissions from the production, transport and processing of oil and gas itself, which, incredibly, produces almost fifteen percent of global energy-related greenhouse gas emissions. That’s before you even think about setting fire to the end-product and measuring any of that pollution. That’s equivalent to all energy-related greenhouse gas emissions produced by the United States each year! If we want to get anywhere near the one-point-five degrees scenario, the IEA tells us that those emissions will need to drop by sixty percent by 2030.**

**That will mean that oil and gas become less profitable and much riskier commodities as net zero transitions accelerate, with generally lower prices and an increasing risk of stranded assets. And, crucially, getting to net zero by mid-century means that “NO new long lead-time conventional oil 6:38 and gas projects are required”.**

**And you know what, I’m gonna say that again**

**“NO new long lead-time conventional oil and gas projects are required”.**

**The report reckons that any company engaging in those activities will need to explain how they can possibly be viable within a global pathway to net zero emissions by twenty-fifty, and be completely transparent about how they plan to avoid pushing this goal out of reach - not least to their shareholders, who may well currently include your bank or pension fund ( you might want to check that by the way).**

**So, let’s say the fossil fuel industry does actually get going on this epic odyssey towards a one-point-five-degree scenario. According to the numbers in this report, that would mean oil production dropping from more than a hundred million barrels to today to about twenty-four million by twenty-fifty, more than three-quarters of which will be used for NON-COMBUSTIBLE petrochemicals.**

**There’s also fossil gas of course. And it gets a little bit murkier and more contentious here.**

**The IEA suggests that gas volumes will drop from more than four thousand billion cubic metres today to only about nine hundred billion, half of which, THEY SAY will be used to produce hydrogen.**

**We could do a whole video on some of the insane suggestions for hydrogen coming out of the fossil fuel industry at the moment. In fact, I’ve done several videos myself in the past, links to which I will leave in the description section below, along with some extremely instructive articles from well-respected industry analysts like Michael Barnard, Michael Liebreich, Paul Martin and Jan Rosenow, all of which are well worth a read if you get a chance.**

**The IEA analysis suggests that about thirty percent of the energy in a net zero world will come from hydrogen and hydrogen-based fuels, backed up by good old carbon capture, utilisation and storage or CCUS, plus liquid biofuels, biomethane, and geothermal energy, as well as wind, solar, energy storage and a bit of nuclear, of course. Big oil and gas are dead keen on the whole hydrogen thing, largely because they already produce ninety-eight percent of the world’s supply by bombarding fossil gas with high pressure steam to break millions of tonnes of CH4 and H2O molecules into millions of tonnes of H2 and CO2 molecules, and you don’t need a degree in chemistry to see the flaw in that activity. They’re big on CCUS too, because as they’re happy to point out to anyone daft enough to listen – “it’s not burning the oil that’s the problem, it’s the carbon dioxide it produces that’s the problem.”**

**But according to this very report, and I quote…**

 **“Carbon capture, utilisation and storage is an essential technology for achieving net zero emissions in certain sectors and circumstances, but it is not a way to retain the status quo.”**

**If oil and natural gas consumption were to evolve as projected under today’s policy settings, this would require an inconceivable thirty-two billion tonnes of carbon captured for utilisation or storage by twenty-fifty, including twenty-three billion tonnes via direct air capture to limit the temperature rise to one-point-five degrees Celsius. “**

**The necessary carbon capture technologies would require twenty-six THOUSAND terawatt hours of electricity generation to operate in twenty-fifty, which is more than global electricity demand in twenty-twenty-two.**

**And it would require over three-point-five trillion US dollars in annual investments all the way from today through to mid-century, which is an amount equal to the entire industry’s annual average revenue in recent years.**

**So, the problem IS burning the oil. Because NOT burning it would prevent all of the above!**

**Another very common misconception, according to our friends at the IEA is that transitions can only be led by changes in demand. It’s yet another favourite mantra of the big strong men who like to tell us little people how the real world works.**

 **“When the energy world changes” they declare “so will we.”**

**Not good enough! Says the IEA. That pathetic cop out is NOT an adequate response to the immense challenges at hand.**

**No one committed to change should be waiting for someone else to move first. Successful, orderly transitions are collaborative ones, in which suppliers work with consumers and governments to expand new markets for low-emissions products and services.**

**The IEA does warn though that declining markets are difficult to plan for, and there will likely be disruption from geopolitical tensions and increasing extreme weather events. That will be felt most acutely in emerging and developing economies in Asia, whose share of global crude oil imports is set to rise from forty percent today to sixty percent by mid-century.**

**Countries that are heavily reliant on oil and gas revenues face some stark choices, the report says. But in most cases, today’s major producers of low-cost hydrocarbons also have expertise and ample, under-utilised renewable energy resources that could anchor their positions in clean energy value chains and low-emissions industries if they just got off the pot and started getting busy. Which is why we could well do without stories like this one from the BBC’s Climate Editor Justin Rowlatt in late November highlighting leaked documents that show the United Arab Emirates plans to use its Presidency of the COP 28 conference to arrange back-room discussions on new fossil fuel deals with fifteen different countries, something the UN points out is entirely at odds with the UAE’s responsibility as COP President, to act without bias or self-interest.**

**Now, I don’t have anything like enough money to even suggest that His Excellency Dr Sultan Al Jaber and his colleagues might be a bunch of lying, greedy, psychopathic, hypocritical, shitbags. And as a demure and polite Englishman I wouldn’t dream of casting those kinds of aspersions on such an honourable group of gentlemen. But there are others less prudent than me, and they are definitely suggesting that this apparent skullduggery does indeed represent a highly disingenuous approach to the whole COP Presidency thing.**

**I’ll let you be the ultimate judge of course, but whatever the truth of the matter, there’s no doubt the human species now has a truly daunting mountain to climb. If we’d started to climb it when we first discovered it was there, about forty years ago, as these internal memos from geological experts employed by Exxon at the time reveal, it would have been nothing more than a slightly inconvenient bump in the road, but decades of piling ever larger dollops of shit onto the pile have brought us to where we are today. So, now we really do need to stop shovelling and start scrambling. And following the radical recommendations of this latest IEA report would not be a bad starting point.**

**That’s it for this week. Thanks, as always, to our Patreon supporters, who keep this channel a hundred percent independent and allow me to make these videos without any annoying ads or sponsorship messages. And I must just give a shout out to some folks who’ve joined recently with pledges of ten dollars or more.**

**They are**

**Jim Sheffield**

**Nick Terry**

**Mark Gaiser**

**Paul Mandres**

**Bernard Dare**

**Vincent Meyer**

**Jim McNeil**

**Magnus Witting**

**Kevin Drew**

**Jef Bryant**

**and**

**Matthew Walker**

**And of course, a big thank you to everyone else whose joined since last time too.**

**If you enjoy these videos and you feel like you could support the channel for about the price of a coffee each month then why not pop over to patreon.dot.com forward slash just have a think to find out about all the exclusive extras you can receive there.**

**And you can hugely support the channel right here on YouTube absolutely for free by subscribing and hitting the like button. It won’t cost you a penny to do that, and it’s just a simple mouse click away, either down there somewhere, or on that icon there.**

**As always, thanks very much for watching! Have a great week, and remember to just have a think.**

**See you next week.**