**I’m guessing most of you have heard of an organisation called the International Energy Agency, or IEA. And you’re probably also aware that they’ve been publishing what they call their annual Energy Outlook for several years now.**

**I always like to have a bit of a scoot through their findings each year to bring you some sort of summary video – you may remember that lovely little balloons analogy from last year’s paper for example, which the IEA offered us in an attempt to illustrate just how badly the world was missing its carbon reduction targets.**

**Well, the twenty-twenty-three update has just landed, and would you believe it…it turns out the world has changed quite a lot in the last twelve months!**

**Who knew?**

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

**I must admit to feeling a bit sorry for the folks at the International Energy Agency sometimes. Every year they sweat blood and tears to bring us what they regard as the most accurate and most thoroughly researched data possible, in an effort to help policymakers, commercial operators and members of the public make the right strategic decisions about our future. And every year their output gets a battering from both ends of an increasingly polarised spectrum of opinion.**

**For example,** **they calculate that based on the currently stated policies of national governments around the world, which they call STEPS, demand for coal, oil and natural gas will all peak this decade. It may not surprise you greatly to learn that the Organisation of Petroleum Exporting Countries, or OPEC, disagrees.**

**In a statement published in September twenty-twenty-three, OPEC Secretary General, His Excellency Haitham Al Ghais, said**

 **“It is an extremely risky and impractical narrative to dismiss fossil fuels, or to suggest that they are at the beginning of their end.”**

**“Such narratives” explains His Excellency, “only set the global energy system up to fail spectacularly. It would lead to energy chaos on a potentially unprecedented scale, with dire consequences for economies and billions of people across the world.”**

**But then, he would say that, wouldn’t he?**

**The folks at the IEA are not blind to the multifarious challenges facing our modern world. In fact, the very first paragraph of the Executive Summary hits us with a pretty blunt breakdown, including references to conflicts in Ukraine and the Middle East, stubborn inflation, higher borrowing costs, elevated debt levels and of course the small matter of global average surface temperatures sitting at one point two degrees Celsius above pre‑industrial levels with no sign of a slow-down in the rampant growth of greenhouse gas emissions. The summary also points out that the energy sector remains the primary cause of the dangerously polluted air inhaled on a daily basis by ninety percent of the world’s population, six million of whom go to meet their maker prematurely each year as a result.**

**Those balloon clusters from last year’s report, that I mentioned at the start of the video, represent four very specific levels of geopolitical ambition. NZE means Net Zero emissions by twenty fifty which is why this 2050 balloon has burst you see, because it represents zero… you get the idea? Net Zero by twenty fifty would in theory enable the world to stay within one-point-five degrees Celsius of pre-industrial levels by the end of the century, albeit with a bit of inconvenient temperature overshoot along the way. Just a couple of quick reality checks on that one. Firstly, average global temperatures have already temporarily exceeded that limit more than once in the last eighteen months or so, and they will almost certainly exceed it again in twenty-twenty-four as the influence of a strong El Nino really starts to kick in. Adjusting future more permanent temperature overshoots back down again would require the global implementation of technologies to suck billions of tonnes of carbon dioxide back out of the atmosphere. Technologies that are largely unproven and currently don’t exist at anything like the necessary scale.**

**The next set of balloons represents the so-called Announced Pledges Scenario or APS. These aren’t real policies, they’re just a bunch of aspirational promises spewed out by world leaders just before the COP26 climate conference in Glasgow in twenty-twenty-one, so we can pretty much ignore this second set of balloons. The purple balloons up here represent the catastrophic state of affairs just before the Paris Agreement back in twenty-fifteen, when emissions were set to rise to fifty-three billion tonnes a year by twenty fifty, and the blue balloons represent the so-called Stated Policies Scenario, or STEPS, which is all the legally binding stated policies that are actually on the statute books of world governments today. If all those policies were genuinely and thoroughly implemented, which is by no means a given, then the world would warm by about two-point-five degrees Celsius by the end of the century, which for the absence of any doubt, will be an absolute shit-show for our descendants.**

**The report tells us one of the outcomes of fully implementing the STEPS scenario would be a reduction in the share of coal, oil and natural gas in global energy supply from eighty percent all the way down to only seventy-three percent by 2030.**

**I know, ‘whoopee-doo’! But it is a downward move which, contrary to the protestations of OPEC, does indeed suggest a peak in fossil fuel production at some point in the next few years.**

**And there are some other little nuggets of positivity in the report too.**

**Global investment in clean energy for example, has risen by forty percent since twenty-twenty.**

**This year will apparently see five hundred gigawatts of renewable energy generation capacity added to grids around the world. And that is a new record for a single year.**

**More than one billion US dollars are now being spent on solar deployment every single day.**

**Manufacturing capacity for key components of a clean energy system, including solar PV modules and EV batteries, is expanding fast, thanks in no small part to the US Inflation Reduction Act.**

**That legislation means that fifty percent of new car registrations are now projected to be electric by twenty-thirty in the United States if the STEPS scenario is adhered to. As recently as twenty-twenty-one, the IEA had that figure at only twelve percent.**

**Globally, in twenty-twenty, only one in every twenty-five cars sold around the world was electric. Today, at the back end of twenty-twenty-three that number is now greater than one in five, despite significant and increasingly desperate efforts by some elements of our mainstream press to convince us that EV sales are tanking and that all sorts of other terrible things are happening as a result of people driving Beelzebub’s Electric Contraptions, all of which utter drivel is quite well addressed by Simon Evans in this excellent fact checking article published recently at the Carbon Brief website. There are no fewer than twenty-one examples of demented nonsense about EVs that Simon comprehensively demolishes in here, so it’s worth having a look at the full article if you get the chance. And of course, I’ll leave a clickable link to it in the description section below here.**

**Not owning a car at all isn’t a bad idea either, by the way, but if you really do need one, then it’s like your next one will have a battery bolted to its underside.**

**And despite rabid opposition from the same familiar sections of the British press, the IEA now projects that, by twenty-thirty, heat pump installations over in the far-off land known as the European Union, will reach two-thirds of the level required by the Net Zero Scenario, compared with their twenty-twenty-one projection of only one-third. Sales of residential gas boilers have apparently been trending downwards and are now outnumbered by sales of heat pumps, not just in many European countries, but also over in the United States.**

**Meanwhile over in the People’s Republic of China, additions of solar PV and offshore wind are now projected to be three-times higher by twenty-thirty than the IEA thought just two years ago. China obviously has a big influence on global energy trends and often not in a good way. Over the past ten years, that countries economic growth has accounted for almost two-thirds of the rise in global oil use, nearly one-third of the increase in natural gas and it’s also made China a dominant player in coal markets. But the rapid build out of physical infrastructure is now slowing, as I’m sure you’ve seen in recent news stories. Residential floorspace per capita in China is now equal to that of Japan, according to the IEA analysis, and that saturation is inevitably leading to lower demand for carbon-intensive materials like cement and steel.**

**The IEA has this year revised China’s GDP growth projection to just under four percent per year up to twenty-thirty. Couple that with an expansion in green energy technologies that in many cases matches the rest of the world put together, and you have a recipe for financial disaster for our friends in the fossil fuel industry.**

**The IEA found that if China’s near-term growth were to slow by another percentage point, which looks entirely possible right now, then their twenty-thirty coal demand would reduce by an amount almost equal to the volume currently consumed by the whole of Europe.**

**There are other regions of world outside of the USA, the EU and China, of course, and we disregard them at our peril. The IEA report points out that one-point seven billion people will be added to the global population in the next three decades, taking us to about nine-point seven billion by twenty-fifty. Almost all of that expansion will be in urban areas in Asia and Africa where a mighty battle is already taking place for energy system supremacy between fossil fuels and renewables. In India for example, which is now the world’s most populous country, shooting for a twenty-fifty net-zero economy would, according to the IEA, would require a thirty percent reduction in industrial CO2 emissions by twenty-thirty compared to today, and at least a twenty-five-percent reduction in emissions from passenger cars.**

**Arguably the biggest paradigm shift will be in sub-Saharan Africa though. The IEA reckons that meeting the diverse national energy and climate targets in that part of the world will require no less than eighty-five percent of all new power generation plants to be based on renewables by twenty-thirty, providing half a billion people with access to a reliable supply of electricity, in many cases for the first time. That’s going to need some serious large-scale financing mechanisms to support clean energy investments in all those developing economies, alongside what the IEA calls ‘an orderly decline in the use of fossil fuels, including an end to new approvals of unabated coal-fired power plants.’**

**But, again, even if every nation on the planet achieves their stated policies, that STEPS scenario is not a safe scenario – it still takes us to two point five degrees of warming within eighty years, as I mentioned earlier. Oil and gas investments today, as the IEA points out, are still almost double the level they would need to be if we were genuinely shooting for the Net Zero or NZE Scenario, so it remains very hard to see how we can still be clinging on to the one point five degrees dream.**

**Don’t give up all hope though, say the folks at Greenpeace in their response statement to the IEA’s latest analysis.**

**“We now have everything we need to solve this crisis” they tell us**

**“but it hinges on governments acting with the political courage to make a fast and fair plan to end climate-wrecking fossil fuels.**

**The priority of this year’s UN Climate Conference has to be a global agreement to end the use of oil, coal and gas urgently and fairly, starting with an immediate end to all new fossil fuel projects.**

 **“Every new fossil fuel project is in stark violation of the Paris Agreement’s 1.5°C warming limit –leaders simply cannot claim to be in support of global action on climate change while supporting fossil fuel expansion.”**

**So, what’s your view on where we stand right now then? There are certainly plenty of geopolitical and socioeconomic variables that I haven’t covered in this little summary video that’s for sure, so if you’ve got some wisdom to share on any of those then as always, feel free to jump down to the comments section below and leave your thoughts there.**

**That’s it for this week though. I’m taking a short break next week so there’s no video next Sunday, but I’ll be back in a couple of weeks’ time with more news and views from the climate and sustainable technology world. In the meantime, a big thank you to our Patreon supporters, who keep ads and sponsorship messages out of all of these programs. And I must just give a quick shout out to some folks who’ve joined recently with pledges of ten dollars or more a month. They are**

**Roberto Ottaro**

**Ross Wilson**

**Nicolas**

**Allen Carr**

**Robb Johnson**

**Gannon McWhirter**

**Gary Pipenger**

**And of course, a huge thank you to everyone else whose joined since last time too. If you’d like to support the channel and speak with other like-minded folks about climate and sustainable technology issues, then why not pop over to patreon.dot.com forward slash just have a think to find out how you can get involved.**

**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 couple of weeks, and remember to just have a think.**

**See you next time.**