**I’m always trying to walk a fine line on this channel between championing new technologies that can potentially accelerate the ‘green’ energy transition on the one hand, while on the other hand bringing you unsettling explanations of the existential dangers we face if we screw up our urgent decarbonization challenge.**

**Despite the quite astonishing progress of the former, it still seems to be the latter that has the upper hand.**

**The folks in the Arctic circle have known that for years of course, as they‘ve watched their roads, homes and infrastructure buckle down into thawing permafrost and sea ice dwindle to the point that seasonal food gathering activities are in many cases now all but impossible.**

**And I’m sure you folks in North America don’t need a Brit with a funny accent telling you about all the catastrophic extreme weather events YOU’VE been experiencing in recent years, but I’ll remind you anyway.**

**Continent wide winter freezes, followed by spring storms and floods and summer heatwaves and wildfires have been making everyday life a bit tricky in some regions, not least in the areas where you grow most of your food. Similar challenges are being faced in many parts of sub-Saharan Africa where the locals, who played no part in causing the climate emergency, often don’t have enough money to cope with the consequences of the rapid changes. And even in Asia and Australia, things are not looking great, are they?**

**Now you might think that leaves Europeans like me, with our slightly drab but relatively uneventful meteorology sitting rather smugly in one of the few parts of the planet that might actually avoid turning to dust in the next couple of centuries.**

**Well, not according to this latest research from the European Environment Agency.**

**Turns out we might be even more fucked than the rest of you!**

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

**So, what’s it all about then?**

**Well, this is in fact the first ever climate risk assessment published by the European Environment Agency. The report builds on existing research by the Intergovernmental Panel on Climate Change, the Copernicus Climate Change Service and the Joint Research Centre of the European Commission, as well as outcomes of EU-funded research and development projects and NATIONAL climate risk assessments.**

**And I have to say, the news is not great!**

**The report tells us that Europe is the fastest warming continent on the planet, and that climate risks are now threatening European energy and food security, ecosystems, infrastructure, water resources, financial stability, and people’s health.**

**Many of those risks have apparently already reached critical levels that could become catastrophic without urgent and decisive action. And let’s not forget that these policy wonk types have to choose their words extremely carefully so as not to induce yet another international diplomatic incident, so when they say things like ‘catastrophic’ and ‘urgent’, it’s usually a good idea to take them seriously.**

**It’s probably worth just touching on the current global weather situation. I’m sure you’re aware of the extra warming that El Nino has been pumping into our atmosphere in recent months. The authors of this latest report remind us that twenty-twenty-three was the warmest year on record, with the average global temperature in the twelve- month period between February twenty-twenty-three and January twenty-twenty-four exceeding pre-industrial levels by one point five degrees Celsius. Average temperatures in February twenty-twenty-four actually reached one-point-seven-seven degrees above pre-industrial levels, so you might be forgiven for thinking we’ve finally stumbled over the metaphorical cliff of doom that some observers have been warning us about for years and years. I’ll be examining the veracity of that suggestion in a future video, so I won’t dwell on it here, but nevertheless, it’s still probably fair to say that in any analysis the current situation is not brilliant, is it?**

1. **This chart shows us how average temperatures across Europe have changed since the middle of the last century. The black line is what the models predicted, and the blue line represents the actual observed temperatures over that period. So, Europe has gone from about half a degree Celsius above pre-industrial levels in nineteen-fifty, to about two-point-five degrees Celsius above pre-industrial today. But buckle up folks because here’s what the models project for Europe throughout the rest of this century.**

**If our glorious and noble and not at all pre-occupied world leaders actually manage to enact some sort of globally co-ordinated climate policy that results in extremely LOW emissions in the very near future, in the scenario the IPCC call SSP1 – 2.6, then we Europeans might just limit ourselves to only a modestly disruptive and uncomfortable level of warming. If, however, the world only manages to reduce emissions to medium levels in the scenario, then the continent is likely to experience average temperatures that will be nudging up to four degrees Celsius above eighteen-fifty to nineteen-hundred levels. That’s roughly the trajectory that current human activity is following at the moment. And if we really mess up and allow high or even very high emissions to waft up into our global atmosphere, then, well, the upper limit of the upper projection doesn’t really bear thinking about to be honest.**

**So, what happens then? I mean what are the consequences that we Europeans should be bracing ourselves for, and are we currently doing any bracing?**

**Well, the nice folks at the EEA start us off with a quick overview of trends from North to South and East to West.**

**Even in the low emissions scenario, all the unwanted stuff gets progressively worse, with the notable exception of a bit less drought in Northern Europe. Mean land and sea temperatures increase in all regions, as do the number of heatwave days and the level of extreme rain and flooding events. There’s also an unwelcome paradox for Western and Southern Europe in the high emissions scenario where overall annual precipitation decreases, but damage to lives and infrastructure actually gets worse, because when the rain does come it comes with a vengeance, which is of course something we’re already starting to witness. In twenty-twenty-one, extreme flooding in Germany and Belgium caused forty-four billion Euros of damage and claimed more than two hundred lives. Floods in Slovenia two years later caused damage estimated to be worth about sixteen percent of that country’s total GDP and in that same year the breadbasket food growing region of Greece was completely submerged.**

**The report outlines one possible rather pessimistic scenario without additional policy action that suggests economic damages related to coastal floods alone could exceed a TRILLION Euros EVERY YEAR by the end of the century across EU member states.**

**At the other end of the scale, extreme heat and record levels of prolonged drought like those suffered in twenty-twenty-two have caused severe direct impacts on ecosystems, forestry, agriculture, water supply and human health. That record hot summer has been linked to between sixty and seventy thousand premature deaths in Europe, as well as major impacts to energy security, transport services, tourism and the wider economy. Tinder dry conditions are making wildfires much more common and much more aggressive and dangerous, releasing untold amounts of carbon dioxide into the atmosphere, and the rapidly warming temperatures are enabling the northward movement of disease carrying insects like mosquitoes, transmitting tropical diseases previously unseen on the continent.**

**So, how prepared are we Europeans to handle what appears to be inevitably coming our way at increasing velocity?**

1. **Well, the report suggests that EU governments are very much aware of the risks, and they have drafted some policy, including National climate risk assessments that are increasingly being used to inform adaptation policy development.**
2. **The trouble is though, say the authors of THIS report, the average Joe in the street hasn’t got the slightest notion that these policies exist or that the risks to them and their friends and family are growing ever more grave as every month passes. And that’s because the policies are simply not being implemented at anything like the speed and urgency required to actually keep up with the changing climate.**
3. **This is a rather busy chart, I grant you, and it’s probably one that’s better suited to being scrutinised for half an hour or so with a cup of strong coffee, or perhaps something even stronger than that. I’ve left a link to the report in the description section below, so you can do that if you feel the urge, but nevertheless, I think it’s worth a quick scoot around this graphic to get an idea of where the really wobbly bits are. Clearly the darker the colour and the further out from the centre a segment is, the greater the existential risk it poses. So, let’s work clockwise around this board of doom, shall we? Starting with Ecosystems. The enormous purple segment of calamity here represents Coastal and Marine Ecosystems, and Biodiversity and carbon sinks wrecked by wild fires. Moving down to the food section, crop production gets a general red segment and purple for hotspots in southern Europe, where an awful lot of Europe’s food is grown. Purple in the health section represents heat stress in the general population and threats from wildfire to people living in built environments. Coastal flooding features heavily in the infrastructure section, beaten only by pluvial flooding, which is when extreme rainfall generates runoff that overwhelms the drainage capacity of a given area, and fluvial flooding, which is when rivers and streams overflow. But perhaps one of the most terrifying of all consequences requiring urgent action is this purple segment in the economy and finance section, which represents the breakdown of so-called ‘European Solidarity Mechanisms’. These are frameworks and initiatives designed to facilitate mutual support among member states during crises, emergencies, or situations where a member state is overwhelmed by circumstances requiring special assistance.**
4. **As nationalism, protectionism and isolationism have been rearing their ugly heads in recent years, there’s a very real risk that those solidarity mechanisms go belly up as nation states become more short-sighted and knee-jerk in their reactions to the climate disasters coming our way.**

**So, what do we need to do then?**

**Well, the authors of this report point out that most EU adaptation policies have been based on straight line linear projections drawn onto timeline graphs by people with rulers. Those policies are therefore designed to come to fruition in the long term and have long execution lead times. But the real-world lines aren’t straight, are they? They’re increasingly becoming exponential as feedback loops accelerate climate consequences far faster than existing legislation can cope with. The paper’s conclusion is that politicians need to tear up quite a lot of existing thinking and start taking urgent action to reform crucial sectors like land-use and infrastructure. And at the heart of any urgent new action plan, say this paper’s authors, must be a rapid, fully legislated reduction in global greenhouse gas emissions, which means a much faster move away from the combustion of fossil fuels.**

**There’s forty odd pages of further detail just in the Executive Summary alone, and hundreds more in the full report, so let’s hope our policy makers have got the kettle on, eh? And if you’ve got your own thoughts and opinions on the subject then, as always, the place to leave them is in the comments section below, and I’ll see you down there shortly, but that’s it for this week. A massive thank you to our Patreon supporters, who keep these videos free from ads and sponsorship messages and without whom this channel quite simply would not exist. I must just give a quick shout to a couple of folks who’ve joined recently with support of ten dollars or more a month. They are**

**Roger Cuthbert, Joe Beggs, Guillaume Bohr, and Peter Fisher.**

**And of course, a big thank you to everyone else whose joined since last too. If you fancy getting exclusive early access to all my videos AND having YOUR say on the direction of the channel’s content, then why not jump over to patreon.dot.com forward slash just have a think to find out to get involved.**

**And if you don’t want to miss out on notifications of new videos each week, then make sure you click on that subscribe button. It won’t cost you a penny to do that, and it’s just a simple click away either down there somewhere or on that icon there.**

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

**See you next week.**

Europe is now the fastest warming continent on the planet. The European Environment Agency has just published it's first ever Climate Risk Assessment, which finds that EU polices are nothing like robust enough to cope with what's coming our way. So...what's the plan??