**Hello and welcome to Just Have Another Think, our monthly look at the ecological, environmental, and social consequences of our twenty first century climate emergency.**

**I talk quite a lot on this channel about big industrial polluters and how they’re impacting the atmosphere by emitting huge quantities of greenhouse gas emissions. It’s enough to make you think it’s all a bit hopeless. In fact, I often receive comments like**

**“Why should I change my lifestyle to save a few kilograms of CO2 when China is opening the equivalent of a new coal mine every single week? What’s the point?”**

**And, of course, that state of mind is like manna from heaven for our good friends in the propaganda and PR departments of industries like fossil fuel, big pharma and agribusiness. Persuading you and me to change precisely nothing at all is very much a core goal of their communication efforts.**

**But actually there’s quite a lot you can do..**

**So, let’s have a look at what your individual efforts can achieve if you are a fairly average consumer living in the USA or Europe. And if you’re not from those parts of the world, then there’s a good chance that you can use the numbers in this video as a pretty good approximation for your own country.**

**Top of the pile is TRANSPORT.**

**This study from the Centre for Research into Energy Demand Solutions was published in Environmental Research Letters in August 2020. It found that the most impactful action an individual in a rich western nation can take to reduce their carbon footprint is to ditch the car completely. Doing that here in Europe would save just over two tons of CO2 equivalent per person each year. That’s a pretty big slug off your overall total.**

**If you absolutely need a car then buying an electric vehicle could save just under 2 tons of CO2 equivalent per year over it’s lifetime. That will vary depending on how your electricity grid is powered of course. In the UK and many parts of Europe it’s possible to recharge your EV battery using a hundred percent renewable power, but other countries and states may still depend heavily on fossil fuels. Even in those parts of the world though, the efficiency of EVs translates into a tangible reduction in overall emissions, and if you’re able to put solar panels on your home then you can charge up your car with free energy, direct from the sun, with no emissions at all at the point of use.**

**And whatever kind of vehicle you drive, you can still drastically minimise the number of journeys you use it for. Don’t take the car a mile down the road to do a bit of shopping. Walk there instead or go by bicycle. You’ll be much fitter as a result, and the chances are you’ll buy fewer items as well, focussing only on the essentials. If you’re going further afield then consider the bus or train. Using public transport for commuting and longer distance travel saves almost a ton of CO2 equivalent per person per year.**

**Then there’s flying. Avoiding a single long-haul flight per year save between one and three tons of CO2 equivalent per person. Avoiding flights is one of the most effective things you can do to reduce your emissions total. As an example, taking the Eurostar from London to Paris emits around six grams of CO2 for every kilometre travelled. Making that journey by plane produces a hundred and thirty-three grams of CO2, plus a hundred and twenty-one grams of other emissions.**

**If you’re planning your next vacation, why not take the opportunity to discover some of the beauty spots in your own country instead of jetting off abroad. And if you’re in a job that involves attending a lot of long-distance business meetings, then the lockdowns of 2020 showed us that the majority of them can be just as effective over Zoom or Teams.**

**Next up is Home ENERGY**

**A full, energy efficiency retrofit on an average European home would save nearly a ton of CO2 equivalent per person per year. That’s a massive saving, but if you can’t afford that kind of upfront cost then there are still really useful things you can do.**

**Insulating your home’s loft space and cavity walls is perhaps the most important step. It’ll help keep your home warm during the winter and cool in summer, and you’ll use far less energy as a result, reducing your CO2 emissions and your household bills.**

**Turning down the heating thermostat by a couple of degrees during the day and right down during the night time can make a big difference to your energy costs. The same goes for AC if you’ve got it. Using these devices in a smart way could save as much as ten percent on your energy bill**

**Check whether there’s a one hundred percent renewable energy provider in your country or state. I know that can be tricky in certain US states where power companies still enjoy a legally enforced, and completely unfair monopoly, but things are changing fast, even in America. Energy providers in many parts of the world are now offering greener tariffs. We’ve got several here in the UK. By switching to a company that provides electricity from renewables, you’ll almost certainly find that you save money and of course you’ll be drastically reducing your carbon dioxide emissions a result.**

**Whenever your looking for a new appliance, keep energy efficiency top of mind. The first question should be ‘do I really need this appliance at all’ – but you know, if it’s a fridge or a washing machine then the answer may well be ‘yes’, in which case make sure you check the energy efficiency rating of the appliance before you buy it.**

**The simplest home energy efficiency improvement you can make, if you haven’t done it already, is to replace all your incandescent light bulbs with LEDs. Old fashioned light bulbs are breathtakingly bad at using energy to produce light. Ninety percent of the electricity that flows into them just produces heat. LED lamps instantly eliminate more than seventy five percent of this unnecessary energy waste. And they last twenty-five times longer too, so while they may be a bit more expensive to buy, you will actually save money in the long run. According to the U.S. Department of Energy, by 2027, the widespread use of LED lighting in the United States could save thirty billion dollars in energy costs and reduce the use of electricity by the equivalent of forty-four large power plants.**

**And then there’s all those electronic devices we use these days. Leaving them on standby uses energy and costs you money. Even your phone charger continues to draw power if it’s left plugged in after you’ve used it. The energy industry calls it vampire power or phantom power. According to the Office of Sustainability at Harvard University, the total electricity consumed by idle electronics in America equates to the total annual output of twelve power plants. Games consoles are the worst culprit, using power to constantly look for software updates even when they’re asleep. Leaving stuff on standby can cost an average UK household about thirty-five pounds per year, and of course it increases those carbon emissions too. That might not sound like a huge chunk of change, but multiply that by two hundred and forty million homes here in Europe, another two hundred and forty million in North America, six hundred and fifty million in China, and all the households of other developed nations around the world, and it starts to add up to a pretty scary number. So, every time you finish using a device, including your computer and TV, don’t leave them on standby - switch them off at the plug socket.**

**Electric tumble dryers are one of the largest energy consumers in a home, emitting over a ton of carbon dioxide equivalent from an average US household. So, if you have outdoor space then put a line or rotary dryer up whenever the weather allows it. And if you’re in an apartment, then invest in a good quality drying rack to dry your clothes indoors.**

**If you’re lucky enough to own your own home and you can afford the initial outlay, then rooftop solar panels are a great way to reduce your carbon emissions. You may even choose to couple them with battery storage, so that you can make use of the solar energy your panels collect during the daytime to run your home during the evening. Costs are tumbling, and if you go online, you’ll find no shortage of information and advice on how to get started in your part of the world.**

**The same goes for air source and ground source heat pumps. Again, it depends on how much outside space you have, but these installations can remove the need for a fossil fuel boiler in your home. Instead, they use the energy in the air and the ground to run heat exchangers that provide hot water for your home.**

**Next on our list is work and study.**

**If you’ve got kids at school then why not get involved with the school administrators and PTAs to find out how they propose to reduce their CO2 emissions through initiatives like architectural design, waste management, food options and energy conservation. Ask your kids if they’re involved in any green programs at school – things like maintained gardens and growing vegetables, composting food waste, and dealing with waste paper – these sorts of things can be fun for kids and of course they’re learning about climate and environmental issues while they’re doing it.**

**In your own workplace, ask your employer if they’ve set up an environmental committee to assess the CO2 emissions from the company’s everyday operations. It’ll probably be quite surprising how much low hanging fruit there is to go at. Reducing paper and ink waste is a good start. This can be achieved by double sided printing and printing in black and white instead of colour and not allowing everyone in a meeting to print off exactly the same 50-page report before they arrive. Minimise single use plastic by providing glasses and tap water in meetings instead of bottled water. There are now green renewable energy tariffs available for businesses in many countries too. Switching the office, factory or store over to one of those providers could result in a nice saving for the bottom line. Designate someone to turn off electronics, lights, and heat in the evening and encourage the proliferation of green plants to improve air quality. And then there’s remote working. The lockdowns have shown us that many people can work just as well from home as they can from the office – working out a proper rota system for this activity will keep travel emissions to a minimum.**

**If your company is fully engaged in reducing their carbon emissions then you might be able to convince them to change their corporate banking facility to a green ethical bank like Triodos, and move their pension provider to one that doesn’t invest in fossil fuels.**

**And if you’ve personally really got the bit between your teeth, then have a look to see if you can join a volunteer program with an environmental group, many of whom have land conservancies and other environmental stewardship programs going on. It’s a great way to meet other like-minded folks, keep up with the latest issues, and do some tangible good in your community.**

**Food is another biggy on the list.**

**Our global food systems account for about a third of all greenhouse gas emissions, so what you and your family consume can make a big difference here. According to the CREDS study, an average European resident moving to a fully plant-based diet would save eight hundred kilograms of CO2 per year, that’s about the same CO2 reduction as you would get by completely retrofitting your home with eco friendly solutions. But you don’t necessarily have to go the full vegan. In the States, according to the Center for Sustainable Systems at Michigan University, eating chicken instead of beef for one year would reduce the carbon dioxide emissions of an average American by four hundred kilograms. Even if you just have one vegetarian meal a week you could still reduce your emissions by an amount equal to driving a car for nearly twelve hundred miles.**

**If you’ve got the space then why not have go at growing your own fruit and vegetables – it’s pretty labour intensive, but it’s great fun for kids and it’ll save you a lot of money too.**

**When you do buy food from the store though, make sure it’s locally-grown, so that you avoid all those transport costs and emissions. The Michigan study found that eating all locally-grown food for one year could reduce each persons greenhouse gas emissions by an amount equivalent to driving a car a thousand miles.**

**Arguably the biggest food problem we have in our modern world is waste. People in rich industrial nations throw away thirty percent of all the food they buy. That’s just mindless destruction of a precious resource. It adds needless greenhouse gas emissions to our atmosphere, dumps hundreds of millions of tonnes of useable food into landfills or incinerators and worsens the divide between the have’s and the have nots. And it’s costing a typical American family of four as much as three thousand dollars every year. So, plan ahead when you’re doing a food shop. Don’t wander aimlessly around a supermarket, picking up things you like the look of. Plan the meals you’re going to make for a week or even a month, write a list of the ingredients that you need for those meals, and stick to that list when you’re shopping. It’s even a good idea to set yourself a budget for each shop and then keep a tally of what you’ve spent as you’re walking around. If you do have left-overs, don’t throw them away – find a way to add them in with other ingredients to make a new meal for another day. You might surprise yourself with how creative you can be when you put your mind to it!**

**For anything that really does constitute unusable waste, get yourself your own composting system. Composting food scraps and organic household and yard waste is an easy way to lower your carbon footprint and get yourself some nice healthy, nutrient-rich soil. It’s not difficult to set up a system at home, but if you’re in a flat or apartment and you’re really pushed for space, then find out if your village, town or city offers a community composting program.**

**Water is another precious resource that many of us take for granted in rich western nations. An average European person uses about two hundred and fifty litres a day, and in the States, that number is about five hundred and seventy-five litres. Just pick up a litre or quart bottle of water and then imagine trying to fit nearly six-hundred of them in your living room – that’s your daily water consumption right there, and it’s a lot!!**

**According to the US Environmental Protection Agency, the average US family wastes a hundred and eighty gallons of water per week just from household leaks. That’s enough water to do three hundred loads of laundry a year. So, find the leaks and fix them – apart from anything else, if you’re on a water meter, as most people in Europe are nowadays, then it’ll save you money on your water bill.**

**And when it comes to your own water use, then just a small amount of planning and discipline can really cut down on wastewater. If you’ve got a dishwasher – make sure you wait until it’s completely full before you run it – a full dishwasher is actually far more water efficient than washing up in the sink.**

**If you do have to hand wash something, then don’t leave the tap or faucet running while you’re doing it. And the same goes for cleaning your teeth – keep the tap off and only use what you absolutely need to rinse your mouth and toothbrush at the end. It’s a good habit that you can easily get into. After a few repeats, it just becomes second nature. Take shorter showers too, and stick a housebrick or a water saver pouch into the cistern of your toilet. That simple act can reduce the water used in each flush by more than twenty percent. And while we’re on the delicate subject toilet habits, frankly, there’s no need to flush every time you pee either. Just flush fluids once or twice a day or each time you’ve done…you know..the other one.**

**And, oh my goodness, STOP buying bottled water! The EPA found that Americans consumed nearly sixty-four billion litres of bottled water in 2017. And we weren’t far behind here in Europe either, at about fifty-seven billion litres. Even though European and American tap water is generally safe and meets all the health requirements of the EPA and EU, grabbing a bottle while you’re on the go is just a bit too convenient isn’t it? It’s another case of getting organised and planning ahead. Buy yourself a re-usable water bottle or foldable pouch and fill it up from the tap before you go out. It’s as easy as that. No excuses. According to researchers from the Pacific Institute in Oakland, California, the energy used to produce, transport, and chill bottled water is two thousand times more than the energy required to produce tap water. And plastic bottles can take hundreds of years to decompose too. So, using less water saves energy and infrastructure costs and also means less water is lost to contamination. And while we’re on the subject of plastics, lets talk about plastics – and specifically single use plastics. You’ve probably already had it drilled into your psyche just how harmful single use plastics are, so I won’t labour the point here – suffice to say, never use single use plastic bags for shopping, avoid buying food in flimsy plastic bags or containers – try to buy fresh loose produce wherever possible. Your store may even let you bring your own containers to put food directly into. Look for alternatives to shrink wrap for keeping your food fresh at home, and buy drinks and other consumables in glass containers instead of plastic. There are a million other ways to remove plastic from your life if you really want to pursue that mission (and good for you if you do by the way) – I’ll leave some links in the description section to sites that can advise you on how to get started.**

**Next up is clothing. Our modern throw away culture is perfectly suited to fast fashion and it can be tempting to buy new clothes all the time, after all they’re so cheap now that we’re getting them all made in sweat shops out in Asia aren’t they?**

**But making all those garments takes materials, energy, and other precious resources, not least of which is, yet again, water. So have a think about buying clothes from charity or thrift stores, or get into the rapidly expanding online second-hand clothing market – many of those sites let you sell as well as buy, so you can make good use of the clothes you no longer want as well as saving money on new items. You just need to take care that you’re not doing a good thing by buying a second-hand clothing item only to have it shipped from the other side of the world. Try to minimise the distance between you and the seller. And whatever you do, don’t throw old clothes away – if you do, they’ll just end up as yet more landfill. Donate them to charity shops, or if you’re handy with a needle and thread, maybe rework them into something completely new. And if they’re really really old and beyond redemption then you can always cut them up and use them as cleaning cloths around the house.**

**If you have to shop for a brand-new garment then do some research on the retailer beforehand. Find out what they’re doing to reduce their environmental impact and offset their carbon dioxide emissions, and only buy from companies that are taking genuine steps to improve.**

**Whether its food or clothes, or bulkier items like furnishings, recreational equipment, electronics or even vehicles, shopping in general has become a bit of a religion in western society. We all buy far more than we really need, and that excessive personal consumption of goods all adds to energy use, environmental pollution and greenhouse gas emissions, not just in the extraction of natural resources, and in the manufacturing process, but in transportation, disposal of packaging and all sorts of other activities.**

**So, avoid making impulse purchases. Ask yourself whether the item you’re looking at is something you really need or something you just want at that moment in time, and if you know you’re just buying on a whim, then walk away.**

**And when it comes to the point when you no longer use an existing item in your home, then get your recycling head on. We all know that recycling conserves natural resources, reduces pollution and saves energy. Materials like glass, paper, metal and plastic can all be recycled for use in new products. Before you toss anything away, consider repurposing it in some way if it still has life in it. Upcycling is a growing movement now too. The internet is full of sites with ideas for reusing waste materials, from high concept artistic statements to simple DIY projects like turning plastic bottles into planters. It’s a bit of a niche, but that ‘make do and mend’ or re-use and reinvent’ attitude is just a generally good mindset to get into.**

**And all those old mobile phones and other electronic devices that you’ve got hiding in the bottom of drawers and cupboards all over the house – they can be repurposed too.**

**According to this report** [**new international report**](http://www.globalewaste.org/)**. 2019 set a record for the largest amount of e-waste ever generated worldwide: almost fifty four million metric tons of discarded phones, computers, appliances, and other gadgets. That’s more than the combined weight of all the adults in Europe. It’s also a twenty-one percent increase since 2014,**

**So, if your TV, computer, mobile phone or electronic device still works, give it to someone who can use it. There are plenty of charities and non-profits that specialize in the redistribution of computers to less well-off families, and there are companies that refurbish electronics for resale. And even if your device doesn’t work anymore, you may still be able take it to specialist recyclers who are interested in the valuable metals they contain.**

**If you’re keen to quantify how much carbon dioxide and other greenhouse gases your actions are avoiding, then you can use an online calculator like this one from the World Wildlife Fund. It asks a set of fairly straightforward questions, and then tells you the current size of your carbon footprint compared to the average. It’s dead easy to do, and it’s great for identifying the areas where you can make the most difference.**

**Or if you want to have a bit of fun, and perhaps get your kids more involved, then this new app called the Climate Game is a great option. You get a similar questionnaire to start with, but you also get your very own virtual island to look after from day to day. The app will ask you a few questions each evening about your activities during that day and your answers will determine the health and prosperity of your island – a bit like a tamogotchi for climate change! It’s completely free and you can download it on all platforms.**

**Lastly, but by no means least, you can get involved in some form of activism to get the message of climate change to more and more people and put pressure on companies and politicians to get their act together and start making the kind of rapid and radical changes that the world so desperately needs. The number of environmental and climate activist groups now operating globally is mind blowing, and far too numerous to try and list here, but a simple search online will get you to a group in your part of the world.**

**It’s a sobering thought that just one hundred companies are responsible for seventy one percent of all global greenhouse gas emissions. But that doesn’t mean that our own actions and choices are irrelevant. So, don’t let the naysayers dissuade you from making positive changes in your own lifestyle. Get together with other like-minded folks and share your successes. Consumer action really does make a difference, and if enough of us do it, then real change will happen.**

**Thanks for watching, and I’ll see you next time.**