

# **climate change & net zero**

---

FAQs for busy people

**Paul Cook  
Shawna McKinley**

# Contents

<a href="#"><u>Introduction</u></a>	<a href="#"><u>3</u></a>
<a href="#"><u>The Frustration of Not Quite Understanding</u></a>	<a href="#"><u>4</u></a>
<a href="#"><u>Questions &amp; Answers</u></a>	<a href="#"><u>6</u></a>
<a href="#"><u>Finding Climate Hope When Things Look Hopeless</u></a>	<a href="#"><u>31</u></a>
<a href="#"><u>About the Authors</u></a>	<a href="#"><u>33</u></a>
<a href="#"><u>References</u></a>	<a href="#"><u>36</u></a>

# Introduction

Having conversations about complex topics like climate change can be hard. What information can we trust? Do we know enough to express an opinion, or make a good decision? Do we even feel safe to talk about it? Will we be judged for what we don't know or what we're not doing to protect the planet, even if we care very much and want to contribute to solutions?

With times as polarised as they are, it's easy to see why not talking about climate change might seem easier. But, if we're to protect ourselves from the effects of increasing carbon emissions, talking to each other is exactly what we need to do.

This book is designed to provide basic information about climate change to help you feel more comfortable talking about it. And by talking, we hope you will find support and feel empowered to take action based on your roles and your communities.

In fact, this book was created as the unexpected result of two friends chatting about a frustrating climate-related situation you may be able to relate to.

Paul Cook explains...



## The Frustration of Not Quite Understanding

Do people understand climate change? What impact do political leaders have? How do we know if any of the sustainability initiatives are working?

These were my initial questions. I had many more. I had been watching media, viewing presentations and listening to podcasts. But I was frustrated. I felt I didn't understand enough. There were so many climate-related terms it was hard to know exactly what they meant. Take for example, "net zero" and "absolute zero". I knew they were different but how? I was uncertain where to find answers.

If I went to specialists, I found myself getting sucked into rabbit holes of information, often getting more confused. Their in-depth knowledge went way beyond what I needed. Honest answers in plain language was all I wanted.

I didn't want to give up. Climate change issues are significant not just for us but for future generations.

I explained all of this to my good friend, Shawna McKinley, who works as an environmental educator. Every time I asked a question she patiently and calmly responded. I like to know how things work, which led to more questions for Shawna, and many breakthroughs in my understanding.



Reflecting on our exchange I wondered: surely, I couldn't be the only person not understanding, could I? Would other people benefit from what I was learning through our discussions?

In the end (or beginning, depending on how you look at it) we decided to capture our conversations in this eBook. In the following pages you'll find the questions I posed to Shawna, and the answers she provided. We hope this summary of our dialogue might help you cut through the jargon, if you are struggling like I was.

We are not telling you what to do with this information. But our hope is it makes you think, and feel more confident and prepared to have conversations with your own friends, family and colleagues. Through those connections we hope you can find the support and the solutions that help you act in ways that are within your means.

- **Paul Cook** (Ever questioning!)



*Let's not overlook an obvious question to begin with.*

### **1. What is climate change and how is it connected to carbon emissions?**

The United Nations describes climate change as long-term shifts in temperature and weather patterns. While natural forces can contribute to climate change, in our era human activity plays the dominant role. Human-caused climate change increases the concentration of greenhouse gases, such as carbon dioxide (CO<sub>2</sub>), methane and nitrous oxide, in the atmosphere. These gases trap heat at the earth's surface, leading to global warming.



Almost one-quarter of emissions are caused by burning fossil fuels like coal, oil and natural gas, but agriculture, forestry, land use and waste also contribute.

For much of the past 800,000 years atmospheric CO<sub>2</sub> did not rise above 300 parts per million (PPM). Since industrialization there has been a rapid rise in CO<sub>2</sub> emissions to the point that they are now over 400 PPM. This increase has been enough to destabilise the earth's systems, increasing hazards for humans and those we share the planet with.

#### **Atmospheric Concentrations of Carbon Dioxide: A Timeline**

Neil Armstrong lands on the moon (1969)	325.88 PPM
Berlin Wall falls (1989)	351.55 PPM
iPhone launches (2007)	386.33 PPM
Paris Agreement on Climate Change (2015)	402.06 PPM
WHO declares COVID-19 a Pandemic (2020)	414.74 PPM



*Almost daily we hear warnings about how human-caused emissions are adversely impacting the planet and the people living on it. I keep hearing that we need to reduce emissions on a global scale. This leads to my second question.*

## **2. Are there any activities where carbon emissions are not created?**











Most activities generate carbon emissions because of how much we rely on fossil fuels for energy in everyday life — especially when it comes to mobility and electricity. In addition, products we use can generate waste, which creates emissions.



Progress is being made to transition to low-carbon energy sources and design products that generate less waste, but we are not there yet.

That said, there are a few examples of things we can do to sequester, or remove, emissions from the atmosphere.

Protecting peatlands, planting trees and restoring soil contribute to healthy ecosystems that can capture carbon emissions, rather than create them.

The Climate Impact of Common Choices				
	<b>Apple</b> 0.03 kg CO2e	vs	<b>Dark Chocolate Bar</b> 1.5 kg CO2e	
	<b>Cup of Coffee</b> 0.4 kg CO2e	vs	<b>Cup of Tea</b> 0.04 kg CO2e	
	<b>Chicken Breast</b> 1.4 kg CO2e	vs	<b>Hamburger</b> 7.7 kg CO2e	
	<b>Driving 100 km (Petrol SUV)</b> 21.66 kg CO2e (per trip)	vs	<b>Driving 100 km (Battery Electric SUV)</b> 6.82 kg CO2e (per trip)	
	<b>1,000 km Return Flight</b> 302.04 kg CO2e (per passenger)	vs	<b>1,000 km Return Train Trip</b> 8.92 kg CO2e (per passenger)	



*It seems that we will continue to create carbon emissions and we are not in a position to stop them. I know I can play my part as an individual with my life choices: using less water, gas and electricity for example. I can limit my air travel; I can attend events virtually. I guess the point is, I am conscious that I have a role to play. And to be fair, the majority of people reading this eBook understand they have a part to play as well.*

*But what isn't as easy to understand is whether the impact we have as individuals makes a lot of difference. It is obvious that large organisations and country leaders have a bigger influence. And from what I understand they are pulling together to meet a target of 1.5°C.*

### **3. Can you explain what the 1.5°C figure is? What it means and how it was calculated?**

In the 1970's and 1980's climate scientists began using thresholds of one to two degrees Celsius of global warming as a basis to model what might constitute "catastrophic climate change". This influences the work of the Intergovernmental Panel on Climate Change (IPCC), which provides climate science to help governments develop international climate treaty targets today.



The IPCC has established that post-industrial greenhouse gases from human activity have already produced approximately 1.2°C of warming. This means it is more than one degree hotter on average today than it would have been, had humans not been adding emissions to the atmosphere after 1850.

One degree may not sound like a lot, but even this small amount has a big impact if you look at the increasing frequency and severity of storms, flooding, drought, heat waves and wildfires many of us have experienced directly. For example, at 1.5°C, 14% of the world's population will face extreme heat

waves once every five years. If warming climbs to 2.0°C, the world population affected would be 37%, or nearly three billion. Just think of that: almost four in 10 people affected!

Climate change also presents financial risks to businesses. Swiss Re, one of the world's largest providers of insurance to insurance companies, projects that under the current trajectory, global GDP could be 11–14% less by mid-century than in a world without climate change. That amounts to \$23 trillion in reduced annual global economic output worldwide.

However, if targets under the Paris Agreement are met losses are projected to be significantly less (around 4%).



*In other words, the figure has been put forward to make sure that as far as possible we don't destroy the planet. Can we circle back for a moment as you mentioned the Paris Agreement.*

#### ***4. In simple terms, what is the Paris Agreement?***

The Paris Agreement on Climate Change commits governments to develop action plans that limit global average temperature rise to well below 2.0°C while aiming for 1.5°C. The agreement is named in honour of the city that hosted the UN Climate Change Conference (COP21) where it was adopted in 2015.



As of 2022, 193 parties, including all G20 countries and the European Union, have signed on. Signatory countries commit to reduce emissions, adapt to the impacts of climate change and strengthen commitments over time. The Agreement also provides mechanisms for developed nations to assist developing nations in the process, although rich countries have missed deadlines to fund efforts.



### **5. Are there any major emitters not signed up to the Paris Agreement?**

As of 2022, Iran, Libya, Yemen and Eritrea remain outside of the Agreement.

While businesses are not able to sign the Paris Agreement, policies created under the Agreement impact their activities. Organisations – private, public, or not-for-profit – can show leadership by joining voluntary campaigns that contribute to Paris targets. One such campaign is the Race to Zero.



*To summarise then, country leaders declare their intentions through the Paris Agreement and organisations play their part through campaigns.*

*This is where the climate related jargon becomes even more interesting and challenging. For example, you have mentioned the Race to Zero, but I also have come across the terms net zero and absolute zero. Can we shed some light on what they are?*

### **6. What is the Race to Zero and what is net zero?**

The Race to Zero is a global campaign to mobilize businesses, cities, regions, investors, higher education institutions and others to set and meet carbon emission reduction targets in-line with the Paris Agreement.



Organisations can join the Race to Zero through official partners. For example, small and medium-sized enterprises join through the SME Climate Hub, while cities connect through Cities Race to Zero.

Partnership organisations have established processes and criteria that represent the “starting line” for each participant. This generally includes the expectation of a pledge, plan, action and public reporting.

The Race to Zero employs the concept of net zero. But net zero is a generic term, and can be used by anyone outside of the campaign.

**Net zero** implies a balancing of carbon emissions released into the atmosphere with carbon removals, but goes farther than simply being carbon neutral. Net zero implies that emissions are measured and reduced, and not just offset.

Typically, campaigns target to achieve net zero by 2050, and halve emissions before 2030. Those working on net zero standards try to set an expectation that organisations will change operations to reduce emissions as their first priority and that carbon offsets will only be used as a last resort, delivering no more than 10% of progress toward the goal. However, compliance with this expectation varies greatly.



*It looks like organisations can use offsets as a small part of their drive to get to net zero. Onto my next zero.*

## **7. What is absolute zero?**



**Absolute zero** implies a state where no carbon is emitted at all. No offsetting of residual emissions is needed because none are released.



Needless to say, absolute zero is a high aspiration where humans stop adding carbon to the atmosphere.



*Unless I am missing something, it doesn't sound as though absolute zero is likely. But I guess the point is if an organisation claims to be on a road to absolute zero, you might want them to explain how they are getting there. It's likely to make an interesting conversation.*

*And with talking points in mind, I hear some companies claim to be carbon neutral. Is this possible?*

## **8. What does it mean to be carbon neutral?**

Many businesses claim to be carbon neutral.

**Carbon neutral** implies that any emissions released into the atmosphere by an activity are balanced by an equal number being removed. Removals are typically achieved by carbon offsets.



As an example, a flight might cause one tonne of carbon emissions per passenger. To make the trip carbon neutral a traveler may purchase an offset to plant trees to absorb emissions equal to the impact caused by their individual ticket.

Sounds easy, right? It can be, but there are also major flaws. Not the least of which is that carbon neutral claims don't mean emissions are actually being reduced. In fact, some organisations can use carbon neutral claims to greenwash the fact their emissions are increasing.



## ***9. In simple terms what is offsetting?***

As you've likely intuited by the previous answer, carbon offsets are probably one of the best known and most controversial ways of dealing with climate change.

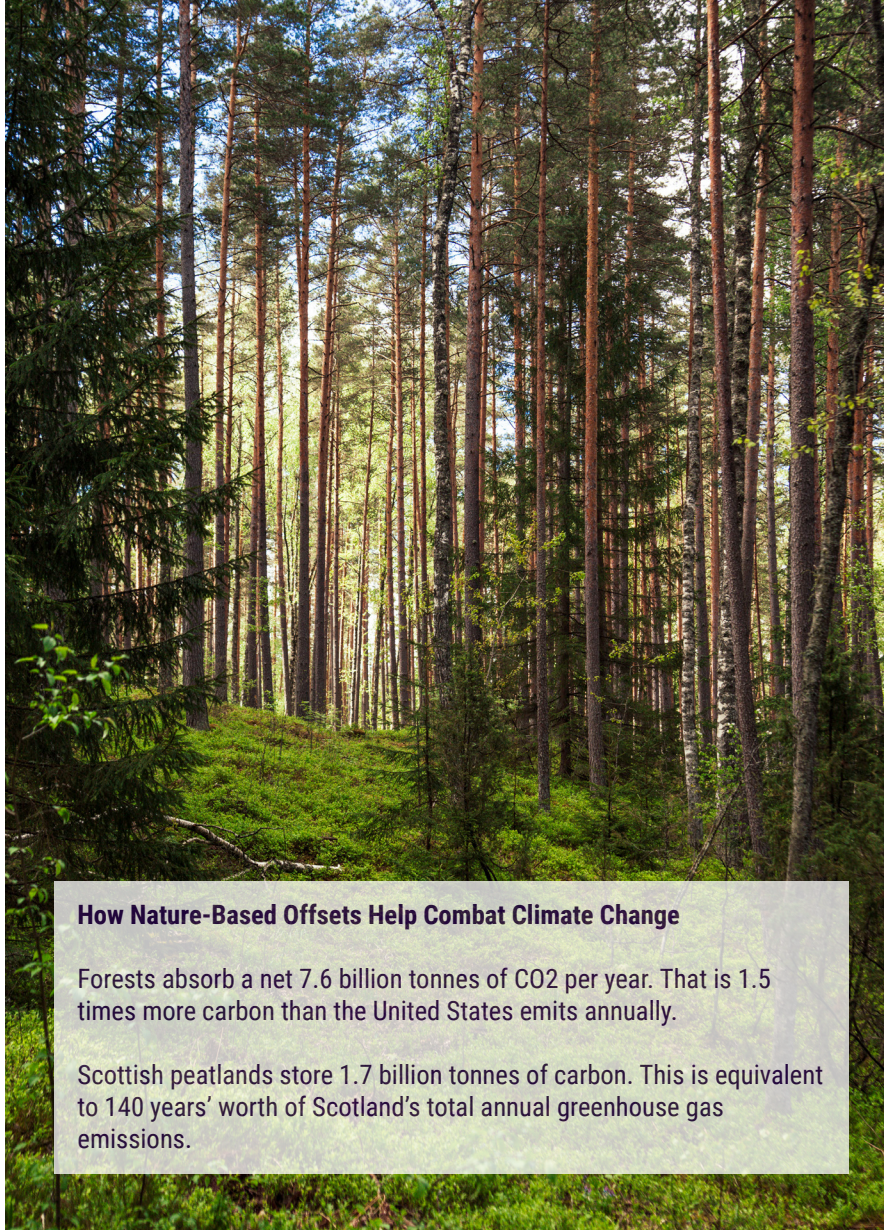


**Carbon offsetting** involves estimating the climate impact caused by an activity and paying to support a project that removes emissions impacts somewhere else. Carbon offsets can be used to help fund a wide array of renewable energy projects, nature restoration, carbon capture technology and energy efficiency projects.

Now that might sound like an ideal bargain that is designed to do good, but the reality is more complicated. A carbon offset is only legitimate if it's permanent, verifiable, and "additional"—meaning that the carbon reduction wouldn't have happened without the money paid for the offset. And it must not contribute to other social or environmental harms.

Checking all of these boxes can be difficult and costly. And with timelines that can stretch for decades, there are no guarantees that project benefits will be fully achieved, and won't be undone.

Further, because we need to remove carbon from the atmosphere and reduce emissions to stay within Paris targets, offsets can't be used as way to apologise for increasing emissions. To act with integrity – and avoid greenwashing – organisations must put reduction at the centre of their net zero strategy.



### **How Nature-Based Offsets Help Combat Climate Change**

Forests absorb a net 7.6 billion tonnes of CO<sub>2</sub> per year. That is 1.5 times more carbon than the United States emits annually.

Scottish peatlands store 1.7 billion tonnes of carbon. This is equivalent to 140 years' worth of Scotland's total annual greenhouse gas emissions.



*You have talked about purchasing carbon offsets and this feels like the perfect time to look at budgets and how they can be used.*

### **10. What is a carbon budget?**

Much like financial budgets stipulate limits on what you can spend, carbon budgets place a limit on how much carbon can be emitted before global warming crosses the threshold of 1.5°C.



The global carbon budget is based on probabilities and estimated through climate modeling. Based on the latest IPCC assessment AR6, the remaining global carbon budget is 390 billion tonnes of CO<sub>2</sub> from September 2022. To have a 50/50 chance of limiting warming to 1.5°C humanity should not overspend this budget.

To put this in context, in 2020 during the peak of the COVID-19 pandemic, the world emitted 34 billion tonnes of CO<sub>2</sub>. If we continue to emit at this rate the carbon budget for 1.5°C will be surpassed in less than 12 years.

It is possible to extend the timeframe or stretch the carbon budget by reducing emissions. This doesn't reverse climate change but can slow the pace of warming, buying us time to draw down emissions and adapt to impacts.



### **11. How can an organisation use a carbon budget?**

Organisations can use carbon budgeting as a tool to reduce emissions.



The first step is to measure a baseline emissions footprint. Small- and medium-size organisations can do this through the free SME Climate Hub calculator.

Let's imagine that a business of 200 employees discovers its total impact is 2,000 tonnes of carbon dioxide equivalent emissions and that more than 50%, or 1,000 tonnes, comes from business travel.

That amounts to an average travel footprint of five tonnes per employee.

If the company wants to reduce emissions from travel by 20%, it could establish an annual carbon budget for travel of no more than 4 metric tonnes per employee, the equivalent of reducing travel by approximately one international trip per person.

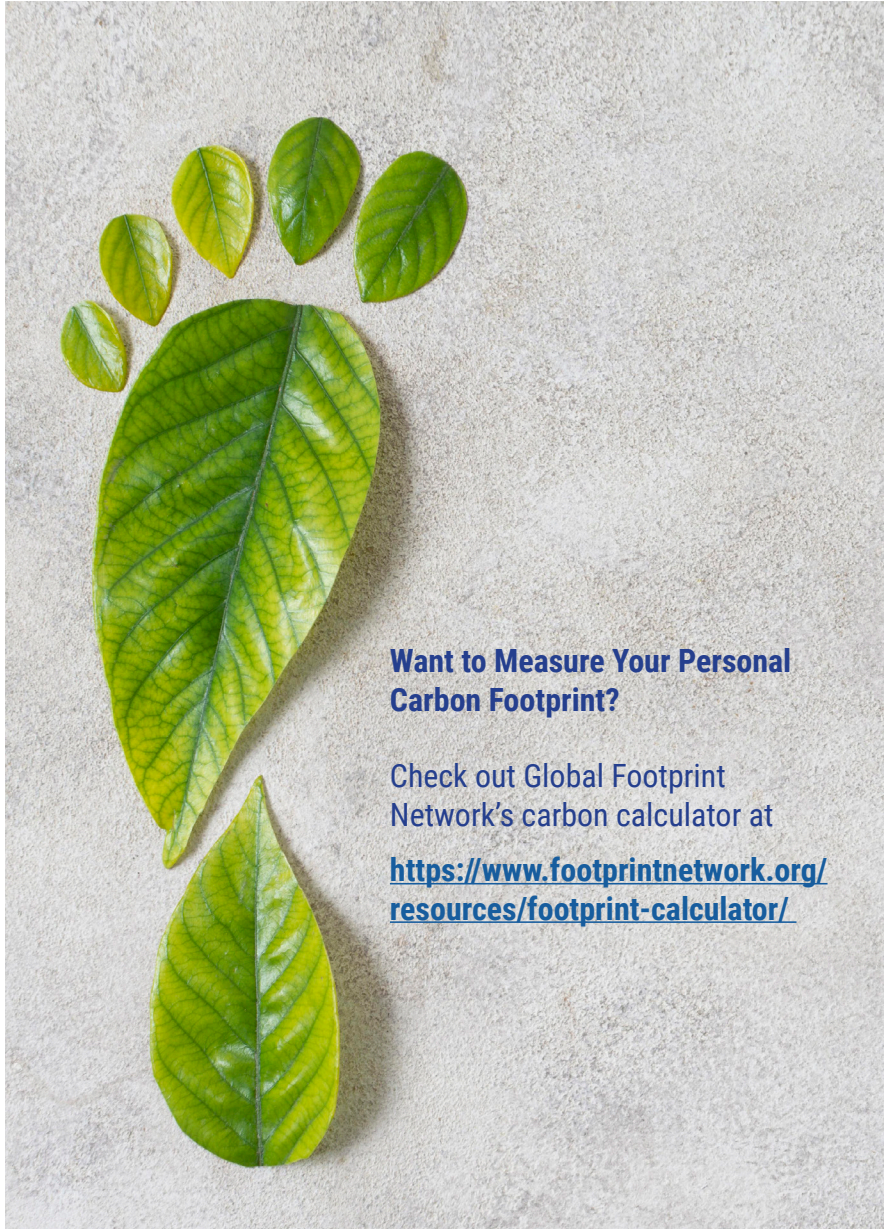
It might further incentivize action by rewarding employees for using lower-carbon transport, like trains, when they take business trips. Incentives might include time off, or a financial bonus based on emissions saved.

Carbon budgets can also be used for individual lifestyle choices. The Hot or Cool Institute reported that in order to reach the 1.5°C target of the Paris Agreement, lifestyle carbon footprints must drop to 2.5 tonnes CO<sub>2</sub>e per capita by 2030 and 0.7 tonnes by 2050.

Now in Canada, where I live, the average lifestyle carbon footprint is 14.2 tonnes per person. Paul, you live in the UK where it is 8.5 tonnes.

So, depending on where and how you live, there may be a wide gap to close to stay within a 1.5°C-compatible personal carbon budget.





**Want to Measure Your Personal  
Carbon Footprint?**

Check out Global Footprint  
Network's carbon calculator at

[https://www.footprintnetwork.org/  
resources/footprint-calculator/](https://www.footprintnetwork.org/resources/footprint-calculator/)



*I have to say, Shawna, that this is an interesting journey of discovery for me. Every time I ask a question your answer leads to another aspect of climate change terminology. I appreciate you taking the time to go through this with me.*

*My questions come from just wanting to understand more. If I can get to grips with the basic language then I will be better equipped to engage in more meaningful conversations. Until now it's been very confusing. Your clarity is making everything a lot easier.*

*I want to change tack now and look at what nations pledge and how politics comes into the climate change equation.*

## **12. What is the relationship between political intentions and the Race to Zero initiative? How are commitments monitored?**

Countries who join the Paris Agreement must disclose updated climate action plans and progress reports to the United Nations Framework on the Convention of Climate Change (UNFCCC) Secretariat every five years.



These are referred to as Nationally Determined Contributions (NDCs) and should demonstrate increased ambition and positive progress to reduce emissions at each reporting interval.

Data is prepared by each country using guidelines provided by the UNFCCC and methods developed by the IPCC. Inventories must ensure UNFCCC criteria for transparency, consistency, completeness and accuracy are met.

Businesses in certain economic sectors, like steel, cement, and oil and gas, may provide data to assist with national greenhouse gas inventories. National inventories measure carbon impacts aggregately across sectors, so individual business contributions are not transparent.

The Race to Zero provides an opportunity for businesses to disclose and be acknowledged for individual contributions. This can be important for companies that are reducing emissions, especially where national inventories show that impacts are increasing overall in their sector.

It is important to note that not all business activities are accounted for in national inventories. For example, while government NDCs may include emissions from domestic aviation, international traffic is not typically included. Nor is international shipping. Again, the Race to Zero can provide a mechanism to encourage reporting of activities that might not be disclosed in NDCs.

It is also important to note that national greenhouse gas inventories are based on production emissions generated from the domestic production of goods and services, regardless of whether those goods and services are exported or used by the country's citizens.

The production method of accounting for emissions is different from the consumption-based method, which considers trade.

For some countries the gap between production and consumption emissions can be notable. Take the United States, for example, where consumption emissions are 8% higher than production emissions.

The reverse is true for China, where consumption emissions are 14% lower. This is because China is a large exporter of goods. These examples expose a potential shortcoming of NDCs as declining production emissions in one country may drive up emissions in another.

It also shows how one country's emissions can increase as a result of rising demand for goods from consumers in other countries.





*It is interesting to me that emissions are either classed as production or consumption. If all countries are playing their part in reducing emissions, then globally there should be no big issue if everyone is working towards the same goal.*

### **13. Do individual country consumption and production emissions matter?**

While it can theoretically balance out, consumption emissions become important when we consider who bears responsibility for action, and how policies that reduce emissions can create political challenges for governments.



Research suggests that 10% of global citizens, who live in the world's richest nations, are responsible for 50% of emissions.

The actions of those consumers can play a role in influencing global companies to take climate action. But changing consumer behaviour is difficult, and most politicians have a low appetite to introduce regulations, like carbon tariffs on imported goods, if it annoys the voting public by increasing prices and restricting consumer freedom.

There is even less incentive to act because those consumption emissions don't show up on the carbon balance sheet of those rich nations.

They're borne by the nations producing the goods. This can create inequity and result in low climate ambition by politicians in richer nations.



*All of this makes sense and I want to go back to something else you mentioned: that international aviation emissions are not included in country reporting.*

#### **14. If international aviation emissions aren't reported by countries, who is measuring them?**

Air travel between countries falls under the authority of the International Civil Aviation Organization (ICAO). ICAO does measure emissions. However, ICAO's measurement has some limitations.



Most notably, it doesn't include emissions multipliers that reflect the additional warming caused by non-carbon dioxide emissions released during flights. By ignoring these, ICAO measurements can under-estimate the warming potential of aviation.

For example, let's say I'm coming to visit you. If I calculate the carbon impact of my seat on a flight using the ICAO calculator it tells me my impact is 798 kg of CO<sub>2</sub>. If I calculate using UK government carbon factors that include non-CO<sub>2</sub>, I learn the full warming impact could be 2,110 kg of CO<sub>2</sub>e. That's over twice as much! Equal to burning three more barrels of oil.

Also, until recently, much of ICAO's measurement has been in service of offsetting international aviation emissions. In October 2022, ICAO took a step forward by committing to net zero carbon dioxide for international aviation by 2050. However, because ICAO has very little implementation authority it remains to be seen if or how ICAO member states may start to regulate and report on international aviation emissions reduction.

If you're feeling like aviation emissions may be falling through the cracks, it's fair to feel that way. Businesses and individuals can help bridge the gap by seeking sustainable travel alternatives and, ideally, avoiding international long-haul flights.



*Sounds like we all need to stay tuned. But there's also a sense of urgency.*

**15. How concerned should we be that aviation emissions reduction just seems to be getting started?**

Up until now, aviation has been responsible for 4% of the 1.2°C rise in temperature since industrialization. That might not seem like a lot, but if aviation rebounds and continues to grow as it has, flights could consume 17% of the remaining carbon budget left in the 1.5°C target.



That's a cause for concern, especially when you consider just one percent of the world's population accounts for more than half of the carbon dioxide emissions from passenger air travel. And prior to the pandemic, only 2-3% of the global population flew.

So it is a relatively small number of people, particularly frequent and premium class fliers, who have an outsized impact.

Some companies are concerned enough to adopt sustainable business travel policies that curtail flights. However, most governments have been reluctant to restrict or tax flying.

Airports like Schiphol are imposing eco-fees and flight caps for climate reasons, while countries like France are banning short-haul trips where rail alternatives exist.

Of course, technological solutions that could reduce emissions from aviation—like sustainable aviation fuel (SAF)—are in the works, but will be slow and costly to roll out. So the questions of who pays, how much, and when is of concern.



*It's definitely going to be important to think about the role of travel in net zero pledges. Let's shift our focus back to pledging.*

## **16. What is involved in making a pledge?**

When organisations sign a net zero pledge they are making a public statement of intention. Think of it like a New Year's resolution, except to cut carbon, not calories. Public disclosure is important because it increases the odds we'll stick to our goal, and that others will hold us accountable.



However, what matters most is progress toward the goal. Effectiveness must be measured in terms of the actions that follow. Pledges without action are greenwashing.



*I was going to ask about greenwashing. It's a term I have come across on numerous occasions but it still holds some mystery.*

## **17. What is greenwashing?**

Companies that make false or misleading environmental claims may be accused of greenwashing. Greenwashing can take a variety of forms: vague language, lying, or marketing claims without proof.



Some greenwashing is deliberately deceptive. As we discussed earlier companies that only rely on carbon offsets to meet net zero commitments might be accused of greenwashing if they use them to kick the can down the road and avoid making any meaningful carbon reductions, or worse: allow emissions to increase. However, it's also possible to greenwash unintentionally. This usually happens where companies have good intentions, but through lack of understanding make claims they don't understand, or can't back up. External validation of efforts by a knowledgeable third party can reduce the risk of greenwashing.



*I have often wondered if big organisations subject to being audited are keen to make sure they are not found to be greenwashing. I guess because of the spotlight on their environmental, social and governance (ESG) activities they are super mindful of their impact, and how it could affect their stakeholders. As well as their impact on the planet, of course.*

### **18. How does ESG impact on carbon commitments for organisations?**

ESG criteria are playing an increasing role in helping investors assess risk.



The basic premise of ESG is that investors will positively respond to companies that share their values and are working to reduce financial risks related to issues like climate change, health and human rights.

Generally speaking, ESG criteria are broader than, but complimentary to, climate action. Reporting criteria may advance the disclosure of steps companies are taking to reduce climate risks and emissions.

While ESG can help companies progress against climate targets when implemented with integrity, it can also be vulnerable to greenwashing.



### **19. What happens if an organisation is failing in its climate change activities?**

Rules have been, or are in the process of being, finalized across multiple jurisdictions (i.e., the EU, UK, US) requiring companies to disclose ESG information in annual reports and regulatory filings.



This is an important development because it has the potential to improve transparency about how companies are acting to reduce financial and other risks associated with climate change. Organisations seen to be acting without ambition or integrity may face investigations, enforcement and litigation in the jurisdictions where such rules exist.

Outside of the legal risks, however, ESG requirements underline the need for companies to pursue high-quality and verifiable reporting. Anything less escalates the financial risk that investors will take their money elsewhere.



*One of the key influencing bodies we haven't talked about yet is the United Nations. They have a significant voice and purpose.*

## ***20. How do the UN Sustainable Development Goals play a role?***

The United Nations Sustainable Development Goals (UNSDGs) are a global call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.



They were adopted by the UN General Assembly in 2015 and create an expectation that national governments will adopt the goals through legislation, plans of action and budgeting.

The UNSDGs identify 17 priorities for action, accompanied by targets and indicators that help governments and businesses measure progress toward each goal.

The UNSDGs are separate from but compliment the Paris Agreement in that they include an express intention for Climate Action (UNSDG #13).

In addition, emissions reduction is enabled through related goals that promote Affordable and Clean Energy (#7), Sustainable Cities and Communities (#11), Responsible Production and Consumption (#12) and other aims.



## ***21. How many countries are signed up to the UN Goals and how are they measured on their progress?***

The UNSDGs have been endorsed by all 193 member countries of the United Nations.



It is not a legally binding treaty, but a soft agreement designed to promote coordinated action on critical sustainability goals.

Targets and indicators are stipulated for each. For example, Goal #13: Climate Action outlines five structured targets, each with its own indicators. The UN provides guidance to countries reporting action on the UNSDGs and hosts a database that discloses progress against established targets and indicators.



*Someone somewhere must be collecting and collating a lot of data.*

## **22. Where does the data go?**

All NDCs submitted under the Paris Agreement are recorded and maintained in a public registry on the UN Framework Convention on Climate Change website.



Following the latest update to NDCs in November 2021, the UN determined Parties were not on-track to achieve commitments, and planned to take stock of Agreement progress again in 2023.

In the meantime, tools like Climate Action Tracker help to research and assess country and sector progress to holding warming well below 2°C, and pursuing efforts to limit warming to 1.5°C.

Countries and sectors like aviation and shipping are assessed on a five-point scale between “Paris Agreement compatible” and “Critically Insufficient”



*Shawna, my last few questions and then I will let you go.*

## **23. Is there any chance of staying below 1.5°C?**

Progress is being made, however, current commitments under the Paris Agreement on Climate Change are falling short. And action by sectors like aviation are assessed as critically insufficient.



The IPCC states there is still a chance to limit global warming to 1.5°C, but it will require very rapid and deep transformations in how we live and work. All parties, government, business and individuals have a role to play in making this possible.





**24. Do you have any suggestions about what I can do next to keep 1.5°C possible?**

Everyone is different, so I'll answer by sharing what has helped me in my journey. I've found ways to act individually. For example, I live in a place where I can easily option transit instead of driving.



I also talk to friends and family, and see how I can involve them in things we can do together. Experimenting with plant-based eating and swapping recipes has been fun.

I also know that my friends, family and I can't solve things on our own, so I look for ways I can use my voice beyond my closest circle. Finding green teams at work and networks in my community gets me active and makes me feel connected. As does learning how I can use my vote to support changes I'd like to see.



**Want to learn more about solutions that can help reduce emissions?**

Project Drawdown has researched and assessed many solutions that help us act on climate change, including reducing food waste, restoring nature, advancing clean energy and improving insulation.

(Learn more: <https://drawdown.org>)



***25. Is the Race to Zero a misleading term? These climate change issues are here forever, but a race (unless it's never ending) will finish.***

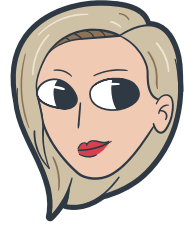
The impacts of climate change are already being felt and will continue to be. But we still have many choices we can make starting today that can stop the harm from escalating. By zeroing our emissions as fast as possible — as part of the Race to Zero or not — the hope is temperatures will remain flat. And if we combine emissions reduction with efforts to restore nature, we have a chance for a safe future.



But we have to act urgently and ambitiously. No time for delay.

So rather than misleading, I think the idea of a “race” to save our future is energizing, exciting and hopeful. It gives us all something clear and concrete to strive for. And unlike the races I ran in school, it relies on each of us helping all of us get to the goal.

The beauty of this race is if we run it well, we all win.



# Finding Climate Hope When Things Look Hopeless

After nearly three decades of work as an environmental educator and consultant, I've helped answer many questions about climate change for organisations and individuals.

In doing so, I'm finding one question is being asked more and more frequently: "Can we stop climate change?"

In truth, a few days before the dialogue on these pages started, I was feeling pretty bleak about our prospects. I'd just read that in spite of all the difficult measures adopted during the COVID-19 lockdown that emissions still rose at a pace that would see us blow past the Paris climate budget within 12 years.

So, while Paul was feeling frustrated at not understanding some aspects of climate change, I was feeling frustrated that emissions are not being reduced fast enough.

I was at a pretty low point when Paul started asking questions.

I've known Paul for several years and look to him for expert advice on virtual and hybrid events. But until recently he's not someone I've "talked climate" with very often. Paul's unexpected curiosity about deeper aspects of the issue we'd never discussed was exactly what I needed: proof that

people do care about climate change. And not only care, but want to talk about solutions.

His interest and intention were a balm to my bleak outlook, restoring hope and giving me faith that we do have a good shot. But only if we start to connect, and talk about how it impacts us, and how we can deploy solutions we already have and are yet to create.

We hope our dialogue helps you to feel comfortable to start your own conversations, and would love to hear what comes next for you in your own climate action journey.

- **Shawna McKinley** (Practically optimistic!)



The authors acknowledge that learning about and/or experiencing the effects of climate change may leave readers feeling on edge.



We encourage anyone processing climate emotions to take time to care for their well-being. If you find yourself in need of support and healing, please refer to the All We Can Save Project and Gen Dread:

<https://www.allwecansave.earth/emotions>

# About the Authors

## Paul Cook

Paul Cook is a content specialist. He has been immersed in business events for more than 20 years as a content writer, speaker, facilitator, event producer and educator. His work enables individuals and organisations to stand out through their content.

His path into creative content can be traced back to his risk management roots and to the time he worked at Pinewood Film Studios. He was fascinated by seeing how films were made. And he has taken some of the insights gained there into the world of virtual and hybrid events.

In fact, he has been an advocate of virtual and hybrid events for more than a decade. To Paul, these event formats open the door to an increased depth of conversation for organisations. They enable greater diversity and inclusion. And of course, there are the environmental benefits as well.

Paul has been engaged on numerous speaking gigs and whilst he still loves speaking at events, he has turned his attention to helping other presenters shine. As such he provides virtual speaker mentoring enabling speakers to perform at their very best, from wherever they are in the world.

He is the author of three books: *Supercharge Your Virtual Speaking*, *Remotely Engaging* and *Risk It!*

His insights and experience are added to by his volunteer leadership in organisations such as Junior Chamber International (JCI), Professional Speaking Association UK, Meeting Professionals International (MPI) and the Events Industry Council (EIC).

You can contact Paul via [paul@planetplanit.biz](mailto:paul@planetplanit.biz)

## Shawna McKinley

Shawna McKinley has spent more than 25 years furthering environmental management strategies for business. She specializes in data analysis and planning for zero waste and net zero emissions with a particular focus on events, tourism and travel activities.

As an Instructor at the British Columbia Institute of Technology, she teaches and mentors students in sustainable event logistics, ethics and corporate social responsibility.

Shawna holds a Master of Arts, Environmental Education and Communication from Royal Roads University (Victoria, BC) and a Bachelor of Tourism Management from Toi Ohomai Institute of Technology, (Rotorua, New Zealand). She is an Accredited Professional of the Sustainable Event Alliance and frequently contributes environmental expertise to publications and panels.

She has created public domain tools to assist event professionals to practice sustainability, including Skift Meetings' *Guide to Better Green Meetings*, *Meet Better - 167 Easy Ways to Make Your Events More Environmentally and Socially Responsible*, the *Digital Event Carbon Calculator* and the *Event Food Carbon Calculator*.

Shawna lives with her family on the traditional, ancestral and unceded territory of the Tsleil-Waututh (səlilwətaʔt), Squamish (Skwxwú7mesh Úxwumixw) and Musqueam (xʷməθkʷəy̓əm) Nations, also referred to as North Vancouver, British Columbia.

You can contact Shawna via [clearcurrentconsulting@gmail.com](mailto:clearcurrentconsulting@gmail.com)

# References

Akenji, L., Bengtsson, M., Toivio, V., & Lettenmeier, M. (2021). 1.5-Degree Lifestyles: Towards A Fair Consumption Space for All: Summary for Policy Makers. Hot or Cool Institute, Berlin. <https://hotorcool.org/1-5-degree-lifestyles/>

BBC. (9 August 2019). Climate change food calculator: What's your diet's carbon footprint? <https://www.bbc.com/news/science-environment-46459714>

Climate Action Tracker. (November 2021). 2100 Warming Projections. <https://climateactiontracker.org/global/temperatures/>

Department for Business, Energy & Industrial Strategy. (2022). Government conversion factors for company reporting of greenhouse gas emissions. <https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting>

Dosio, A., Mentaschi, L., Fischer, E.M., & Wyser, K. (2018). Extreme heat waves under 1.5°C and 2°C global warming. Environmental Research Letters. 13(5). <https://iopscience.iop.org/article/10.1088/1748-9326/aab827>

Fendt, L. (22 June 2021). Why did the IPCC choose 2° C as the goal for limiting global warming? MIT Climate Portal. <https://climate.mit.edu/ask-mit/why-did-ipcc-choose-2deg-c-goal-limiting-global-warming>

Gössling, S., & Andreas Humpe (2020). The global scale, distribution and growth of aviation: Implications for climate change. Global Environmental Change. 65. <https://www.sciencedirect.com/science/article/pii/S0959378020307779>

Graver, B., Zheng, S., Rutherford, D., Mukhodpathaya, J., & Pronk, E. (9 June 2022). Vision 2050: Aligning Aviation with The Paris Agreement. International Council for Clean Transportation. <https://theicct.org/publication/global-aviation-vision-2050-align-aviation-paris-jun22/>

Harris, N., & Gibbs, D. (21 January 2021). Forests Absorb Twice As Much Carbon As They Emit Each Year. World Resources Institute. <https://www.wri.org/insights/forests-absorb-twice-much-carbon-they-emit-each-year>

Hausfather, Z. (29 April 2021). Explainer: Will global warming 'stop' as soon as net-zero emissions are reached? Carbon Brief. <https://www.carbonbrief.org/explainer-will-global->



[warming-stop-as-soon-as-net-zero-emissions-are-reached/](#)

Intergovernmental Panel on Climate Change. (2021). Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L.Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. <https://www.ipcc.ch/assessment-report/ar6/>

Intergovernmental Panel on Climate Change. (2014). Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151. <https://www.ipcc.ch/report/ar5/syr/>

International Council on Clean Transportation (7 October 2022). The UN's Net Zero Aviation Goal is a Welcome Starting Gun in the Race to Decarbonize Flight. <https://theicct.org/icao-climate-goal-oct22/>

Klöwer, M. (5 November 2021). Reducing air travel by small amounts each year could level off the climate impact. The Conversation. <https://theconversation.com/reducing-air-travel-by-small-amounts-each-year-could-level-off-the-climate-impact-171184>

National Oceanic & Atmospheric Administration. (22 July 2022). Trends in Atmospheric Carbon Dioxide. <https://gml.noaa.gov/ccgg/trends/mlo.html>

Nature Scot. (2020). Peatland ACTION case study: What's the connection between peat and carbon storage? <https://www.nature.scot/doc/peatland-action-case-study-whats-connection-between-peat-and-carbon-storage>

Our World in Data. (n.d.). Atmospheric concentrations of CO<sub>2</sub> continue to rise. <https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions#atmospheric-concentrations-of-co2-continue-to-rise>

Oxfam (21 September 2020). Confronting Carbon Inequality. Oxfam Media Briefing <https://oxfamlibrary.openrepository.com/bitstream/handle/10546/621052/mb-confronting-carbon-inequality-210920-en.pdf>

Ritchie, H. (07 October 2019). How do CO<sub>2</sub> emissions compare when we adjust for trade? OurWorldInData.org. <https://ourworldindata.org/consumption-based-co2>

Ritchie, H., Roser, M., & Rosado, P. (2020). CO<sub>2</sub> and Greenhouse Gas Emissions. OurWorldInData.org. <https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions>.

Rogelj, J., D. Shindell, K. Jiang, S. Fifita, P. Forster, V. Ginzburg, C. Handa, H. Khesghi, S. Kobayashi, E. Kriegler, L. Mundaca, R. Séférian, and M.V. Vilariño, 2018: Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-

industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 93-174, doi:10.1017/9781009157940.004. <https://www.ipcc.ch/sr15/chapter/chapter-2/>

Swiss Re. (April 2021). The economics of climate change: no action not an option. <https://www.swissre.com/dam/jcr:e73ee7c3-7f83-4c17-a2b8-8ef23a8d3312/swiss-re-institute-expertise-publication-economics-of-climate-change.pdf>

United Nations. (n.d.). What is climate change? <https://www.un.org/en/climatechange/what-is-climate-change>

United Nations. (n.d.). All about the NDCs. <https://www.un.org/en/climatechange/all-about-ndcs>

Vagenheim, A., & Mundi, J. (4 February 2022). Environmental Court Cases on the Rise. ESG Investor. <https://www.esginvestor.net/environmental-court-cases-on-the-rise/>

Zheng, S. & Rutherford, D. (28 September 2022). Aviation Climate Finance Using a Global Frequent Flying Levy. The International Council on Clean Transportation. <https://theicct.org/publication/global-aviation-frequent-flying-levy-sep22/>