No more GUILT TRIPS

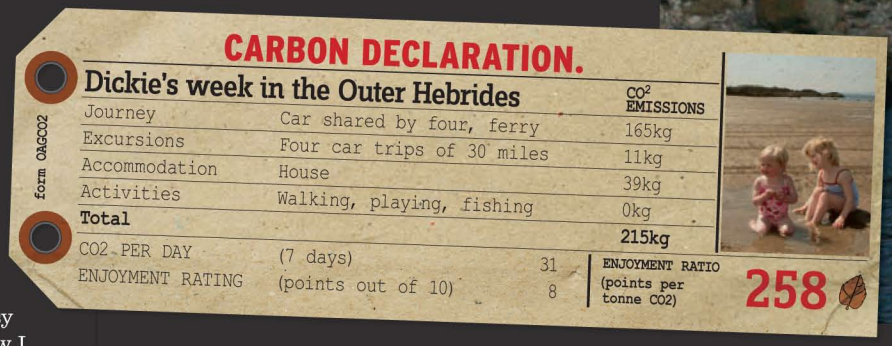
Stop reading this! Get on your bike-powered computer and try our **brand new holiday carbon calculator** on www.outdooradventureguide.co.uk It'll tell you the big stuff about your transport and accommodation choices, but it'll also compare activities - which is better, for example, out of hangliding and wakeboarding? How much CO2 does trampolining generate?

So now you want to know some background to the project, right? Read on to find out about the calculator's designer, Mukti Mitchell: whether he thinks we can ever give up our addiction to exotic long haul adventures, what he discovered when he analysed the OAG staff holidays, and - best of all - how it's possible to do it all, guilt free

WORDS BY HANNAH

ABOUT THE MAN

Mukti Mitchell is a carpenter, sailor and author who lives by the sea in North Devon. He designed the Explorer zero-emission microyacht and sailed around Britain in 2007 to promote low carbon lifestyles. www.lowcarbonlifestyle.org To calculate your whole lifestyle carbon footprint, see Mukti's calculator at www.resurgence.org/energy - rated the most accurate and user friendly carbon calculator online.



"If the earth was a metre in diameter, the atmosphere would be just a millimetre around it; that gives you an idea how precious it is," says Mukti Mitchell, a jovial man, despite dealing with the uncertain fate of the planet every day. He lives and breathes the stats and conundrums of climate change, but is so positive about the U-turn we can achieve that it's easy to forget how serious it all is. "Now I don't get crazy; I've observed that no one likes anyone shouting at them. I'm more detached; it's an interesting experiment in species survival," he says during our interview.

I agree enthusiastically and say **'what's the point in saving the world if you make yourself miserable in the process?'** "Oh no," says Mukti firmly. "If I could save the world by making myself miserable, I would."

Essentially Mukti believes in making yourself knowledgeable. He makes calculators concentrating on all sorts of areas, and was very keen to make us one specifically for holidays. Leisure time comes under more scrutiny than ordinary life, I think – maybe because it's an area of life we have more control over. I ask him, **why do people feel particularly guilty about the leisure side of their lives?**

"When you have to save, the first thing to go is the luxuries. But they should be the last! If you generate a tonne of CO2 but really enjoy it, at least there was some good. Keep your holiday and cut your commuting. Get the train and read a book – that could be an extra hour of recreation a day. Most of the things we most enjoy – singing, dancing, making love, watching TV – are all very low carbon. Heating things up and moving them around, those are the big energy users."

For Mukti Mitchell sailing is perfect proof that a low-carbon lifestyle doesn't have to be less enjoyable PHOTO THOMAS LAY

I manage not to snigger something about making love actually involving quite a lot of heating stuff up and moving it around; Mukti is talking about the standby mode. "A lot of things are wasteful with no benefit. The standby? Turn it off! Just changing all of your bulbs to low energy ones will cut your carbon by four per cent. That's your first year's reduction done! First of all, cut the things that are stressful, and the things that you won't feel."

SAIL POWERED TRAVEL

Mukti Mitchell's own engagement with the carbon question began with thinking about his holiday time. He grew up in an environmentally aware household – his parents ran Resurgence, the environmental magazine of forty years' standing – but it wasn't until he was in uni that carbon dioxide began to become the buzzword. Taking an interest, he scrutinised his own life, and love of travel, and discovered that you can crew yachts all over the world. Taking off for 18 months, he saw the Caribbean, South and North America, all by sail, and the passion – both for sailing and for prioritising his life by environmental standards – was sealed: "It was CO2 that made me decide to take the trip, and I discovered the most exciting way to travel!"

After that Mukti made a few more changes in his life, and discovered a correlation between his own enjoyment and his carbon use. First he scheduled in car-free days, and

found that he preferred the days that didn't involve spending any time, "sitting in a metal box." So he cut down his car use, and got rid of it when he found a car share scheme.

"I made a deal with myself never to feel disadvantaged, so if I occasionally want to visit a friend 20 miles away, and there isn't a bus, I get a taxi. It might cost £50; my friends are shocked! But I save £2500 a year from not having a car. And two tonnes of CO2."

Mukti believes so firmly in going through this process without being motivated by guilt that he seems to forget what the rest of us are going through with our complicated lives and tortured consciences. Living in Mukti's world for a while is so reassuring that I let the interview go on and on. It's part confession (I can't help but let on that although the holiday I submitted for his carbon-use analysis was my UK cycling trip, I also flew to Laos for a fortnight's whistlestop bus tourism), and part explanation of all the 'science' bandied about.

"We are so lucky that we have the science to detect a problem. You can't see, smell, touch, taste CO2, so we must be appreciative and grateful that we have the science we have. Civilised peoples have wiped themselves out by not knowing what they were doing – the Easter Islanders, for example, by cutting down all of their trees.

"But we're not advanced enough to have conclusive proof of what will happen, and if we wait it might be too late. We need to act on the worst case. There are no real reports to say global warming is not happening – when you hear claims like this in the media it is people exploiting the lack of solid proof."

Mukti takes his data from reports compiled by the Intergovernmental Panel on Climate Change, who use information produced by many different bodies, most importantly Exeter's Hadley Centre and NASA.

NUMBER CRUNCHING

The average per-person-per-year carbon dioxide consumption for a person in the UK is ten tonnes. This is generated in five areas of around two tonnes each: heating homes; transporting ourselves around; food production, distribution and storage; holidays; and product manufacture (the stuff we have).

Mukti advises a four per cent reduction in our current carbon use, per year. If we manage this for 20 years, that will equate to an 80 per cent reduction, which is what scientists estimate to be the amount needed to avert catastrophe. Mukti is keen to talk about the yearly four per cent as an easy-to-reach target, rather than the discouraging end targets.

All this talk of targets and tonnes turns me right off – carbon to me is an idea so intangible that the bandying about of big numbers doesn't illustrate anything much to me, in fact it's a fast track to apathy. So I ask Mukti what 10 tonnes of CO2 is like. He's good with numbers, and even better with explaining the subject of his passion to recalcitrant minds. "Well! We can work this out!" he enthuses. "An average house is what? Say 200m3? And one tonne of CO2 takes up a space 500m3. So per year each person is making 25 houses full of CO2."

I put the phone down and think a bit. My actions create 25 houses full of CO2, every year. I picture the rooms full of clear, smell-less, tasteless gas released into the air… "Mukti?" I've called him back again, and ask sheepishly, **"What's actually so bad about CO2? What does it do?"** He explains that the CO2 creates a kind of blanket around the world. Light and warmth from the sun, coming at the earth in direct rays, can get in, but after being bounced off the ground and clouds, hitting the layer of CO2 at angles, the light and heat can't get out again, and the earth warms up. A greenhouse is a good analogy. Ah yes, the greenhouse effect. I was probably more clued up when I was ten.

But back to holidays. **Does Mukti really think people will start 'budgeting' carbon emissions like money when they are planning trips?** Is this the best way to visualise carbon? "My carbon calculators give a clear picture and are a good way to get in; I haven't found a clearer way. After all, we manage our financial lives and keep millions of costs in our heads. We just need to acquaint ourselves with the facts of it, bit by bit."

GETTING THERE

The OAG holiday carbon calculator takes into account journey transport, excursion transport, accommodation and activities. At first Mukti wasn't even going to include activities – the transport is so big a part of it that anything else is almost negligible. The way we like to read this is that, if you stay in the UK, you are in so much credit from not flying that you can do whatever you like!

Where do the figures come from? Shouldn't it depend if the train, ferry or plane is full or empty? "A new government department, the Department for Energy and Climate Change (DECC) has been formed. They ask all of the transport companies for the amount of CO2 emitted, and the passenger figures, and come up with UK average passenger occupancy levels. It's very fair."

Looking at the OAG staff holidays, James's ferry stats weren't significantly lower than Georgie's flight. How come? "Ferries emit 0.19kg of CO2 per person, per mile, and a long haul flight emits 0.43kg per person per mile. Ferries aren't wildly efficient. It's all those cars they're carrying – you don't take

CARBON DECLARATION.

form OAGCO2

James goes to Norway by ferry

		CO^2 EMISSIONS
Journey	Car shared by four, ferry	493kg
Excursions	Six car trips of 30 miles	63kg
Accommodation	Apartment	10kg
Activities	Snowboarding, Sauna, drinking	48kg
Total		**614kg**
CO2 PER DAY	(10 days)	61
ENJOYMENT RATING	(points out of 10)	9

ENJOYMENT RATIO (points per tonne CO2) **147**

CARBON DECLARATION.

form OAGCO2

Georgie goes surfing in Spain

		CO^2 EMISSIONS
Journey	Car, plane, train and bus	560kg
Excursions	Cycling, surfing, walking	0kg
Accommodation	Catered surf house	5kg
Activities	Sunbathing, surfing, dining	0kg
Total		**565kg**
CO2 PER DAY	(5 days)	113
ENJOYMENT RATING	(points out of 10)	9

ENJOYMENT RATIO (points per tonne CO2) **80**

CARBON DECLARATION.

form OAGCO2

Mark flies to Cornwall

		CO^2 EMISSIONS
Journey	Car, plane	312kg
Excursions	Foot	0kg
Accommodation	House	20kg
Activities	Painting, beach, seeing friends	0kg
Total		**332kg**
CO2 PER DAY	(5 days)	66
ENJOYMENT RATING	(points out of 10)	9

ENJOYMENT RATIO (points per tonne CO2) **136**

a car on a plane! DECC don't take into account foot passengers in their figures though." Mukti reels through the figures for transport per person per mile: train 0.07kg, bus 0.12kg, motorbike 0.15kg, ferry 0.19kg, car 0.35kg, plane 0.43kg.

On Mark's holiday he flew to Cornwall. How do short flights compare to long ones? "Purely in terms of emissions, flights need to be less than 300 miles to be any better. This is because the higher a plane flies, the more damage its emissions do to the atmosphere. Short haul flights cruise at a lower altitude than long haul flights. A kilogram of CO2 emitted at short haul altitude is twice as damaging as a kilogram emitted on the ground, and at long haul altitude it's three times as damaging. So a kilogram of carbon counts as two or three, and the calculator takes this into account."

And what about train travel? I guess I consider it carbon neutral because I want to support the trains, make them better, and make more people use them. **Is it fair to consider trains on the same scale as thirstier, individual travel? Shouldn't they be part of the solution?** "No," Mukti bursts my bubble. "Any sort of cutting down is good – it's species thinking, that we can only do what everyone can do. But train travel is much better than going by car, so don't feel guilty about it. Don't feel guilty about carbon."

I do feel guilty, or I swing the other way and feel defiant: 'Sod the planet, I need a holiday!' I don't really understand how carbon counting can avoid being lead by guilt. Sure, we may be able to come to understand carbon in the same way as we can understand other invented constructs like money or calories, but then they don't bode very well either – how much more guilt-associated can you get than buying things you can't afford, or eating things that you know are bad for you?

Mukti, with his characteristic sunniness, seems not to understand this guilt hang-up. ('Maybe,' I wonder to myself, 'through engaging with the issue he has attained some sort of zen calm?') Then suddenly he strikes psychological gold. Although we're talking on the phone I wonder if I should find a couch to lie down on. "Don't look at specifics. Look at patterns and trends, and then if something is a regular occurrence, look at how its effects can be lessened. But if you want to do something, do it. The carbon calculator saves people from the daily decisions, and guilt and panic, and finally apathy. Occasionally I'll drive off to a gig on my own, and I don't feel remotely guilty!" He delivers his piece de resistance and I remember he does a fair bit of public speaking on the subject: "Never feel restricted by a low carbon lifestyle! There is a way to achieve it all!"

STAYING THERE

For our calculator, Mukti has worked out some ballpark figures for accommodation, based on figures from EDF Energy. In CO2 emissions per person per day it uses 8kg to run a house in winter, 2kg in summer, and 5kg in spring or autumn. This is mostly heating, but also electricity for other things – hence why there is still 2kg in summer.

Suddenly I think I've spied a loophole in the logic. **"Georgie flew to Spain and Andy flew to South Africa – obviously plane journeys, but don't they get any credit for not having to heat houses?"** No, says Mukti; cooling a house can be as energy-hungry as heating. Damn.

Mark's house heating is higher than Rachel's hotel heating because any building with more people in it is more efficient. An apartment block or terraced house is better than a detached house because it only has one exterior wall, and a house built in the last five years will be better as building regs are better now. But, "I wouldn't even advise people to take this into account. Compared to the journey these are the finer details. And you'd be heating your own house if you were at home anyway. The journey is 90 per cent."

ACTIVITIES

As I write, Mukti and the OAG staff are busy figuring out the list of activities that will be on our calculator by the time you read this.

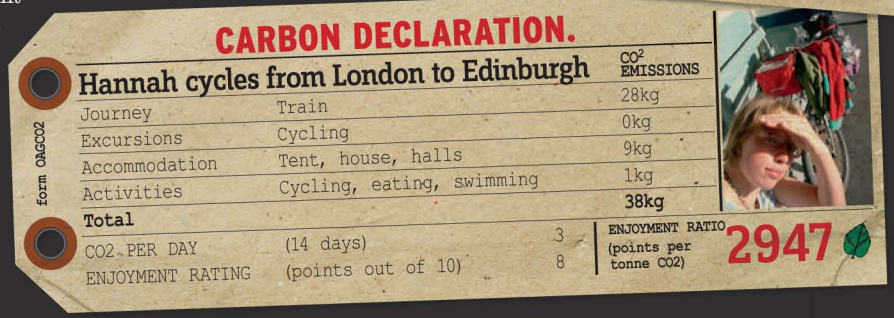
My trip to Laos, embarrassing in all the transport carbon costs, is nice and light on activities – all I did was walk and eat and look around. Rachel and James, who both went snowboarding, were clocking up 1kg of carbon per hour on the slopes – their share of the energy used to power the lifts. James's saunas were around 1kg an hour too.

"Don't we generate some CO2 whatever we do? Doesn't self propulsion – cycling, surfing, walking – create CO2 too?" Yes, says Mukti, and reads out another list, this time of the CO2 made per hour of the activity: Driving a car 12kg, flying in a plane 400kg, having an electric radiator on 1kg, cycling 0.075kg, walking 0.036kg, sleeping 0.016kg.

"You're going to make a couple of hundred kilograms of CO2 a year by breathing, but you have to do it. That doesn't have any place in our calculations."

And then we hit an interesting one. "It'll be 1kg per visit for going to the theatre" says Mukti. How come, I ask? "Transport for the performers," he says. Apparently, in Mukti's scheme of things, their transport carbon costs are only partly to be taken as their own commuting-to-work amount – some of it is passed on as we, the consumers of their product, are necessitating their travel. Supply and demand.

So begins a whole distraction in which Mukti declares that you, dear reader, share some of the OAG's carbon costs, by virtue of having bought the mag. Well, rest assured they are low. Give yourselves a pat on the back for buying this and not Top Gear magazine. Oh yeah, and the Laos trip was a holiday, so it's not your problem at all…



VALUE FOR TONNES

Talking about Laos, or Andy's South African safari, we clearly had a great time doing things you just couldn't replicate closer to home. **Isn't there a case to be made for wanting to see the world?** "Question the effect it's really having on your quality of life," says Mukti. "Andy saw some animals, but maybe his experience was shallower than watching David Attenborough? Question if the effect is going deep enough – basically are you getting value for the tonnes?"

In the analysis he did of the OAG staff's holidays, he made us rate our enjoyment of our trips out of 10. After he worked out the overall carbon emissions of each trip, he worked out how much enjoyment we were getting per tonne of CO2 generated. My squeaky-clean cycling trip across the UK gave me 2947 enjoyment points per tonne, compared to Laos, with 25 points.

CARBON DECLARATION.

form OAGCO2

Andy goes on a South African safari

		CO^2 EMISSIONS
Journey	Plane, car, domestic flight	6700kg
Excursions	Car	20kg
Accommodation	B&B, cabins, house	18kg
Activities	Barbeque, hiking, sightseeing	8kg
Total		**6746kg**
CO^2 PER DAY	(15 days) 450	ENJOYMENT RATIO (points per tonne CO^2)
ENJOYMENT RATING	(points out of 10) 10	**22**

CARBON DECLARATION.

form OAGCO2

Hannah backpacks around Laos

		CO^2 EMISSIONS
Journey	Plane	5102kg
Excursions	Coaches, train	140kg
Accommodation	Guesthouse, ecolodge	25kg
Activities	Kayaking, walking, writing	1kg
Total		**5268kg**
CO^2 PER DAY	(13 days) 405	ENJOYMENT RATIO (points per tonne CO^2)
ENJOYMENT RATING	(points out of 10) 10	**25**

I can see what he's getting at, but it all depends on people being willing to forego their expectations to factor in climate change. Does he really think it is possible to go back? **Won't it always feel like deprivation to not be able to have what 'freedom' we once had?** Mukti declares fiercely that he doesn't feel deprived: "I genuinely believe that adopting low carbon lifestyles will improve that quality of our lives. I don't want a cheap life – I want the best!"

He says he's decided to go everywhere, at some point in his life, taking one long trip every seven years, to Australia, India, everywhere. The length of the trip is important too: "If you fly 12,000 miles return you need to stay six months to bring the daily CO2 down to 27kg, the current UK average. This means you need to stay one month for every thousand miles flown, if you are leading a virtually zero-emission lifestyle while you are away."

This sentiment I like – the make-it-count idea. The one inspiring guy I met in Laos was an American entomologist (bug-fancier!) who was there for a while, had taught himself Lao, had a bathroom full of jars of bugs he was studying, and was making podcasts as he went along. Laos through his eyes was a whole different country, as he spoke to the people and played with the children. I could only speak to the bikinied GAP-yearers or the Lao who worked in tourism.

"You'll see more of France in two weeks than Thailand – it's very hard to break out of the tourist trail. You don't walk off a plane, go down a back street and start drinking with the locals," Mukti puts in the boot. "This is the beauty of slow travel – it gives you time to reach across the gap. On my Low Carbon Lifestyle tour, on the yacht, there was time to meet the locals. It was Britain, but it was still a cultural exchange."

It's a nice ideal, but **surely the reality for most people is that they have to shoehorn holidays into hectic work lives?** Flying off for a weekend might be all they can manage. Mukti is at pains to remind me not to get hung up on changing a whole lifestyle all at once. "Remember that it's about cutting by four per cent. If you fly four times a year at the moment, fly three times instead. Also, really think what it is that you are looking for – can you have the experience of Thailand in Greece? The sun in the south of France can be like Africa."

I feel a bit like I'm betraying the OAG, but I have to ask: if you go to other countries you can spend all your time looking around, but **if you are staying in the UK, don't you have to compensate for the lack of travel by doing a lot of activities?** Mukti's yacht tour and my cycling trip were the low carbon options, but the holidays were all about the mode of transport. What if you don't have the energy? "Center Parcs?" he suggests. "I've never been, but all that lounging around – it looks a bit like a beach holiday!"

I've been, and it is fun, but it's still all about the activities. Ah well, it's probably no surprise we've got so many things to do in the UK – please see rest of mag for serving suggestions! And while you're reaping the rewards of holidays in the UK, as Mukti is keen to point out, "Most importantly, by your actions you'll influence other people."

MUKTI'S TOP 5 CARBON-CUTTING TIPS

1. **WHAT DO YOU WANT?** Work out exactly what you want from a holiday first, then look at how to get it
2. **HOLIDAY IN BRITAIN** ... and you can do high carbon activities and still have lower CO2 emissions than if you fly abroad
3. **MAKE THE JOURNEY COUNT** Make good use of fuel: if you fly a long way, stay a long while
4. **GET THE SLEEPER** Overnight ground-level travel in trains, boats or buses saves on accommodation costs
5. **ONE YEAR AT A TIME** Calculate your current annual holiday emissions and aim to reduce them by 4% per year – you'll find it easy

PHOTO THOMAS LAY

coming soon:
the outdoor adventure guide holiday carbon calculator!

how will you be travelling?



what will you spend your time doing?



what will you be staying in?



Planning your holidays this summer? Want to know what you can do to reduce your impact? It's easy to make simple changes and we're making it even easier to work out what these can be.

Launching on June 16th, the fantastic OAG holiday carbon calculator will be online at www.outdooradventureguide.co.uk with every activity we can think of rated for its impact, plus accommodation, travel and even sleeping!

So, log onto **www.outdooradventureguide.co.uk** from June 16th and keep your carbon footprint shrinking!