The 2024
Happy Planet Index

HAPPY
PLANET
INDEX

Hotor**Cool**

Contents

Executive Summary

The Happy Planet Index (HPI) measures how well nations are doing at achieving sustainable wellbeing. In other words, how successful they are at supporting their inhabitants to live good lives now, while ensuring that others can do the same in the future. It is based on a simple idea: The ultimate outcome for societies should be sustainable wellbeing for all. And the fundamental input is environmental resources. If we want one single indicator to get an overall sense of how we are doing, that indicator should be a measure of how much wellbeing is achieved per unit of environmental resources, in effect a measure of socio-ecological efficiency.

The HPI operationalises wellbeing as adjusted happy life years – life expectancy combined with self-reported wellbeing. It then divides this by a consumption-based carbon footprint. It uses the latest UN Environment Programme estimates for necessary global greenhouse gas emission reductions and defines a fair maximum level of emissions of 3.17 tonnes CO_2e per capita – ceiling for a fair consumption space.

Latest Results

The data released in this year's report goes up until 2021. In that year, no country achieved sustainable wellbeing – i.e. high levels of life expectancy and self-reported wellbeing within a fair consumption space. However, some countries come closer than others, suggesting that good lives that don't cost the Earth are within reach.

The country with the best score is Vanuatu, an island nation in the South Pacific. It achieves a life expectancy of 70.4 years and a self-reported wellbeing score of 7.1 out of 10, all with a carbon footprint that is well below the globally fair share of 3.17 tonnes CO_2e per capita.

Second place goes to Sweden. Life expectancy and self-reported well-being are much higher in high income Sweden (83.0 years and 7.4 out of 10 respectively). But its per capita carbon footprint is more than three times bigger. Having said that, Sweden's carbon footprint is still lower than most other similarly wealthy countries.

Costa Rica, which has topped the HPI since 2009, has fallen to fourth place, partly due to the harsh impact of the COVID-19 pandemic. Nevertheless, it is worth noting that it achieves some of the highest levels of wellbeing in the world despite a carbon footprint that, at 4.4 tonnes CO_2e per capita, is only a little above a fair consumption level.

These countries have all to some extent consciously and intentionally prioritised the sustainable wellbeing of their citizens over crude economic growth, for example by phasing out fossil fuels in electricity production or by investing in public services more than neighbouring countries. This suggests that sustainable wellbeing is achievable – if societies put their minds to it.

GDP is leading us astray

Critiques of Gross Domestic Product (GDP) are well established, and yet it, alongside the economic growth it measures, still defines policy and politics. This narrow focus is misguided. We have a formidable task to reduce our emissions to prevent the most horrific climate chaos, and we have to achieve this in the face of deepening inequality and growing dissatisfaction. The evidence is that growth does not make this task any easier. If anything, for those countries that already have high levels of GDP, it makes it *harder*. Of the ten countries with the highest per capita

GDP, six have below average HPI scores. Countries that seek to maximise GDP do not, as a rule, do particularly well at achieving what matters: wellbeing within environmental limits. In that sense **GDP does not measure what matters.**

Changes over time

This year's HPI presents the first opportunity to have a clear overview of the impact of the COVID-19 pandemic. Although carbon emissions did decrease worldwide between 2019 and 2021, the concomitant falls in life expectancy and self-reported wellbeing across the world led to an overall decrease in HPI. In other words, a decrease in the socio-ecological efficiency with which wellbeing is achieved. But the pandemic affected different regions in different ways. Latin America was worst affected, suffering big falls in life expectancy (a fall of 2.9 years) and self-reported wellbeing (a fall of 0.4 points out of 10). As a result, it is no longer the region with the highest average HPI score in the world. Meanwhile East Asia's HPI score actually increased slightly owing to increases in self-reported wellbeing without much increase in carbon footprint.

Whilst the pandemic years represent a backslide, HPI scores had been on an upward trend before that (between 2006 and 2019). In sub-Saharan Africa, this was due to life expectancy increasing steadily (from 54.3 years in 2006 to 61.3 in 2019) without substantial increases in carbon footprint. Meanwhile in Western Europe, carbon footprint fell from 13.9 tonnes CO_2e per capita to 10.1 tonnes. Both these trends can be understood as an increase in efficiency. However, the trends are not nearly fast enough to avoid the worst impacts of climate change.

Photo by Jaddy Liu on Unsplash

Inequalities in HPI within countries

For the first time, we have been able to disaggregate HPI scores *within* countries, specifically comparing the scores of different income deciles. This data reveals a stark pattern. Within most countries for which we have data, which are mostly in Northern Europe and Latin America, the lowest HPI scores are to be found right at the top of the income distribution. In particular, the top 10 per cent of earners have a much lower HPI than people with lower incomes. This is not surprising: while higher income categories do tend to have ever-so-slightly higher life expectancies and self-reported wellbeing than middle income groups, these gains are minuscule in relation to the huge differences in the sizes of their carbon footprints compared to middle income groups. For example, in the USA, the top 10 per cent of earners have an average carbon footprint of 68.7 tonnes CO_2e per capita, compared to 23.6 tonnes for the eighth income decile. What is the corresponding benefit in wellbeing? An increase in life expectancy by 2.4 years and a 0.1 increase in self-reported wellbeing.

These top income groups can make the difference between sustainable wellbeing and socio-ecological inefficiency. For example, Mexico would have an average carbon footprint within fair consumption limits if it weren't for its top 10 per cent of earners. In the case of Costa Rica, the HPI score for the 'bottom' 80 per cent (in other words, everyone except for the 20 per cent richest in the country) is 66.0, which would put the country clean in first place in the HPI and score the country well on all three components. All this highlights how **inequality contributes to wasteful inefficiency.**

Lessons from the HPI

Based on these results, we put forward four key lessons:

- **Take alternative indicators seriously.** It's time to move beyond the critiques of GDP and begin using alternative indicators.

- **Create *people's* measures of national success.** Citizens should be involved in defining the priorities that new indicators measure. We call for citizen's assemblies to identify small sets of headline indicators that politicians are genuinely held account to.

- **Communicate a positive vision.** It's true that no country achieves good lives within environmental limits. But some come close, and that's great news. It means that with perseverance and intentionality, we can live good lives that don't cost the Earth.

- **Focus on overconsumption and inequality.** Economic inequalities are inefficient. Not only do they keep the wellbeing of the poorest suppressed, they also bring the overall HPIs of countries down. The lifestyles of the wealthiest contribute disproportionately to carbon emissions, but they make little positive contribution to their wellbeing. It's a waste, and in a world of limited resources, it's a waste that hurts us all.

Who cares about indicators?

"Improving the quality of our lives should be the ultimate target of public policies. But public policies can only deliver best fruit if they are based on reliable tools to measure the improvement they seek to produce in our lives."

—*Angel Gurría,[1] then Secretary General of the OECD, May 2011*

In a world facing devastating climate destruction, rising inequalities, spreading conflict and deepening polarisation, arguing about indicators might seem a bit like rearranging the deckchairs on the Titanic. Who cares what statisticians and economists are counting when our economic and political systems seem bent on self-destruction?

It turns out, however, that what we measure matters. When hospital waiting times were measured from the moment a patient enters a hospital, patients were kept in ambulances in the car park until they could be seen. Debates about the effectiveness of national COVID responses have hung on whether one counts cases, deaths associated with COVID, or excess mortality. Policy, practice and public debate are shaped by the information relayed by indicators.

And the indicator that has shaped our world the most is GDP – Gross Domestic Product (Fioramonti 2013; Philipsen 2015). Developed during the Great Depression in the USA to help manage and stabilise the economy, GDP measures the total market value of all economic activity within a country or region in a given year. It has emerged as the central indicator in policy decisions and the ultimate yardstick of national success (Fioramonti 2013). Government economists constantly estimate the impact of policies on GDP (Hirschman and Berman 2014). A 'starter pack' for new British civil servants tells them that they should ensure that every policy meets their department's goals as well as supporting the *'Government's broader objectives to support business and growth'* (Policy Profession Support Unit n.d.). The EU limits member states' government borrowing to a fixed percentage of GDP. At the International Monetary Fund, voting power is determined by a formula that gives the greatest weight to GDP.

But perhaps the most powerful impact of GDP has been its capacity to crystalise economic growth as a measurable political goal without regard for the impact or cost of that growth (Hirschman and Berman 2014). Politicians stand or fall based on their track record of delivering economic growth. Elections are fought on the promises they make. Politicians across the political spectrum and world make speeches stressing the importance of economic growth. In the UK, in 2022, then Prime Minister Liz Truss famously said she had three priorities for the UK economy "growth, growth and growth." Only three months earlier her main rival, the Labour leader Keir Starmer had said something almost identical: "We need three things: Growth, growth and growth". In the same

year, in Germany, the new Green Minister for Economic Affairs and Climate Action Robert Habeck argued that "[to] forego the idea of growth would mean that we forego the idea of progress", in effect equating the two phenomena.

Statements such as "Our national challenge is to continue to drive sustained economic growth" (Australian PM Anthony Albanese, back in 2018) or "What I want to achieve is economic growth: three times more than what we've had so far" (Enrique Peña Nieto, President of Mexico, 2012) are par for the course.

Focussing so narrowly on one policy priority would be reckless at the best of times. But GDP growth is a particularly problematic single-minded goal because it seems to almost be inextricably linked with the very thing we need to be reducing now: environmental damage (Dietz and O'Neill 2013; Jackson 2016). Whilst renewable energy technologies and circular economy practices are helping us decouple growth from environmental destruction, a recent European Environmental Bureau report concluded that *"there is no empirical evidence supporting the existence of a decoupling of economic growth from environmental pressure on anywhere near the scale needed ... and ... such decoupling appears unlikely to happen in the future."* (Parrique et al. 2019, p.), a position that has been confirmed by subsequent academic studies (Haberl et al. 2020; Wiedenhofer et al. 2020).
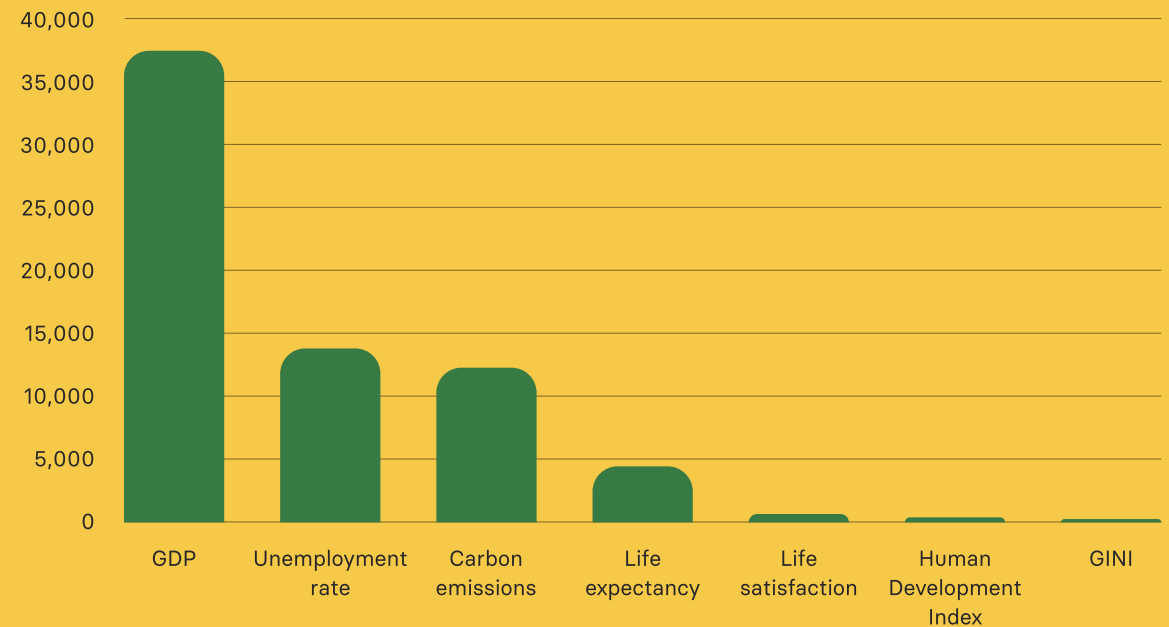

Figure 1: References to different indicators in the media

Source: Nexis Uni database, newspapers only, English language only, between 23rd Nov 2023 and 21st Feb 2024

Contrary to the idea that we can continuously grow the global economic pie, ecological economists such as Herman Daly have long highlighted that there are natural limits to our resource use (Daly and Cobb 1994). Recognising the existence of these limits means that we also need to acknowledge that the consumption of those resources and the pollution it causes need to be divided fairly between nations and between people. This requires defining the boundaries of a 'fair consumption space'

conceived as "an ecologically healthy perimeter that supports within it an equitable distribution of resources and opportunities for individuals and societies to fulfil their needs and achieve wellbeing." (Akenji et al. 2021, p. 25). For example, using the IPCC targets for CO_2e reductions as a benchmark, the Hot or Cool Institute calculated annual equitable per capita CO_2e budgets which can be applied globally (Akenji et al. 2021).

Input

Planetary Resources

→

Means

Social Relations
Technology
Formal Economy
Informal Economy
Domestic Care and Labour
Governance
Culture
Education
Rights and Laws

→

Ends

Human Wellbeing
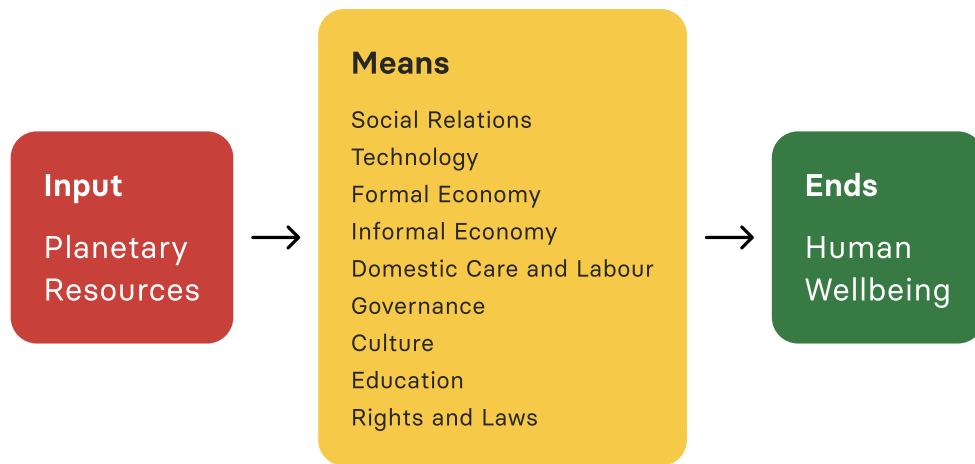
Figure 2: Inputs, means and ends of human society

Photo by Thiago Cerqueira on Unsplash

If economic growth has ecological limits and implies a degree of zero-sum competition between countries and individuals, it cannot be the North Star for guiding policy, as it has been for most nations since the 1950s. But if maximising economic growth is no longer our goal, what should guide us instead? Minimising global environmental impact is paramount, but it has so far been ineffective at moving large segments of the public to support particular politicians or policies. After all, that only defines what we need to limit, it doesn't define what we *want* to achieve. What is necessary is a new vision of what matters to us, what we think of as good lives, and what we expect governments to deliver or support. A new North Star (or, for many, a new Southern Cross).

Of course, there are many aspects of human society that are important and contribute to a good life: good governance, social cohesion, education, to name but a few. Good measurement is needed to monitor progress on all these fronts. But all these systems are there to serve a purpose, and that is to improve human wellbeing. In other words, they can be understood, alongside the formal economy, as means to an end (as shown in Figure 2) or as provisioning systems as they sometimes called (O'Neill et al. 2018).[2] And if we want to try and identify one single indicator that captures an overall sense of how well society is doing, we need to focus on that end, rather than the means.

Introducing the Happy Planet Index

The Happy Planet Index (HPI) is one attempt to measure the big picture. Inspired by surveys (Diener and Scollon 2003)[3] that find that the most important things to people around the world are health and happiness, the HPI operationalises the 'ends' of society in terms of life expectancy and self-reported wellbeing. These two indicators are combined into a measure called adjusted happy life years.

It then considers the environmental cost associated with a country's wellbeing, in the form of its carbon footprint.[4] The countries that score best achieve relatively high life expectancy and wellbeing with a relatively small carbon footprint. In other words, it measures how close countries are to achieving high wellbeing and life expectancy within a fair consumption space. It measures not just wellbeing, but sustainable wellbeing.

HAPPY PLANET INDEX ≈ $\dfrac{\text{Life expectancy} \times \text{Self-reported wellbeing}}{\text{Carbon footprint}}$
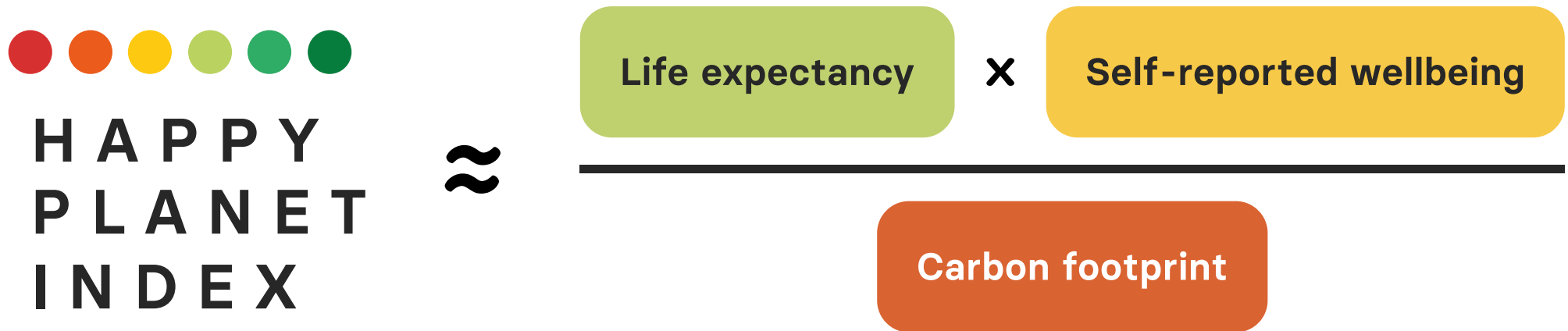
3   See also the user weightings of dimensions in the OECD's Better Life Index.

4   Previous editions of the Happy Planet Index used the Global Footprint Network's ecological footprint rather than the carbon footprint. The ecological footprint has the advantage of including more than just carbon emissions, for example also considering land use associated with agriculture and forestry. However, given some concerns about the data from a few countries, we have chosen to use the simpler carbon footprint instead. More on this decision can be found in the methodology.

"The Happy Planet Index and others like it are ... encouraging a wider debate about the sum purpose of all humankind's efforts on Earth."

—*Sir David Attenborough,[5] (Attenborough 2020)*

We should make one thing clear – the HPI should not replace GDP in policy-making. Economists should not create models to determine the policies that would maximise the HPI with disregard for other variables. We do not think that any single indicator should ever have as much power as GDP has had over the last 80 years. Rather the HPI is intended to open up the conversation about measuring progress and highlight just how badly GDP has misled us. Ultimately, as we have argued elsewhere (Abdallah 2023), what is needed is a small suite of headline indicators that can provide a snapshot of how nations are doing (see also Colebrook 2018; Jeffrey and Michaelson 2015; Terzi 2021; Vladimirov et al. 2023).

One way to interpret the HPI is as a measure of resource efficiency or a carbon intensity indicator, similar to SDG indicator 9.4.1 (CO_2 emissions per unit of GDP) or 12.2.1 (material footprint per unit of GDP). But rather than GDP per capita being the variable to be maximised, happy life years is prioritised as a proxy for society's ultimate goal. This reflects a call for such an indicator from the IUCN (World Conservation Union).[6]

The Happy Planet Index was first created in 2006. This report presents the results from the latest (sixth) edition of the Index, with data from 2006 to 2021. For the first time, we have been able to chart the impact of the COVID-19 pandemic on the nations' abilities to achieve sustainable wellbeing. We have also for the first time gone beyond national averages and looked at how different income groups within selected countries fare.

How is the HPI calculated?

The HPI brings together data from three global sources. Life expectancy (the average length of life a person can expect within a country) comes from the UN Population Division. Self-reported wellbeing reflects average scores in response to the following question:

"Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top. Suppose we say that the top of the ladder represents the best possible life for you; and the bottom of the ladder represents the worst possible life for you. On which step of the ladder do you feel you personally stand at the present time, assuming that the higher the step the better you feel about your life, and the lower the step the worse you feel about it? Which step comes closest to the way you feel?"

The question is fielded regularly in the Gallup World Poll, which covers representative samples of at least 1000 people in almost all countries across the world. The data we use is also used in the World Happiness Report.[7]

The carbon footprint is an estimate of the per capita greenhouse gas emissions associated with consumption and economic activity within a country. We have used the data from the World Inequality Database, which in turn is based on the Global Carbon Atlas, and supplemented by data from the EORA Global Supply Chain Database. The final data includes greenhouse gases produced directly within a country, for example for heating, electricity production or transport. But it also includes the greenhouse gases emitted in the production of goods and services consumed within that country, regardless of where they were produced. It includes emissions associated with individual consumption, but also emissions associated with the activities of government and business investment. Typically, the carbon footprints of wealthy countries are higher than their 'geographical' emissions, because they tend to import more carbon-intensive goods from other countries than they export.

To calculate the HPI, we multiply life expectancy by self-reported wellbeing to calculate a measure of happiness-adjusted life expectancy, and then divide that by carbon footprint. At its simplest, this can be understood as a measure of 'wellbeing per tonne of CO_2 emissions'. However, we conduct several statistical adjustments ensuring that no single component dominates the calculations, and we scale the index to range from 0 to 100.

Further details on the calculation of the HPI can be found in the methodology paper.

---

7   It should be noted that the question we have used has been found to bias respondents to think about wealth and status in a way that other questions on subjective wellbeing don't (Nilsson et al. 2024), including the standard life satisfaction question recommended by the OECD for measuring subjective wellbeing. If we had been able to use the standard life satisfaction question, we expect that wealthier countries would not have scored as well.

The Hot or Cool Institute – A new home for the HPI

The HPI was first created in 2006 at the New Economics Foundation, an independent think tank in London. As of this year, however, it has a new home at the Hot or Cool Institute, a public-interest think tank based in Berlin. The Hot or Cool Institute has distinguished itself through analyses of consumption-based measures of carbon emissions in a way that translates policy goals into equity-based targets for envisioning sustainable lifestyle change pathways (Akenji et al. 2021). Hot or Cool generates policy ideas at the intersection between sustainability and society, examples of which include universal basic services (Coote 2023) and the supply chains behind consumer goods, such as fashion (Coscieme et al. 2022).

The Happy Planet Index's new home means three things:

1. We have given a greater focus to inequality by calculating differences in HPI scores between income groups within countries, rather than just between countries.

2. We are linking the HPI to a growing bank of ideas to achieve sustainable lifestyles, directing a focus towards societal solutions, rather than individual ones.

3. We have taken advantage of recent technical advances in carbon footprinting and switched from using the ecological footprint to the carbon footprint as the Index's measure of environmental impact.

"A map of the world that does not include Utopia is not worth even glancing at."

—Oscar Wilde[8]

8 Photo: "Oscar Wilde by Napoleon Sarony, 1882" by trialsanderrors, CC BY 2.0

Results

We will walk through the HPI's results in three stages. First, we will look at the overall national scores for the latest available data, in 2021. Then we will look at the trends over the 15 years from 2006-2021. Then we will introduce new data, looking at how HPI varies between income groups within countries.

2021: The latest results

The best way to understand the HPI is to first look at the results for its constituent components – life expectancy, self-reported wellbeing and carbon footprint.

Life expectancy

Life expectancy (at birth) is the number of years a person born in a country in a given year can be expected to live given prevailing mortality rates.
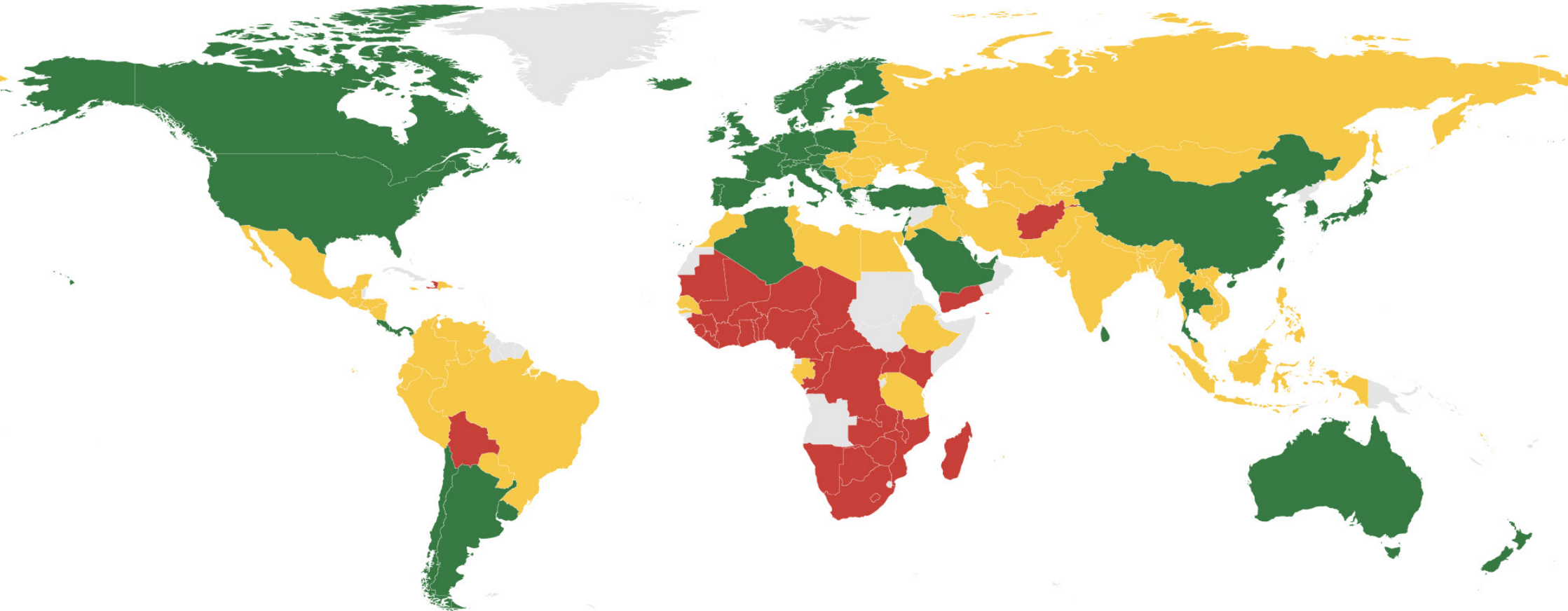
Source: United Nations, Department of Economic and Social Affairs, Population Division (2022). World Population Prospects 2022, Online Edition. Life expectancy at birth, both sexes, 2021.

45-65 years   **75+ years**

This map is colour-coded such that countries with high life expectancy (75 years or more) are green, low life expectancy (less than 65 years are red), and those in the middle are yellow. Unsurprisingly, the countries with the highest life expectancies are mostly wealthy nations. Hong Kong, with a GDP per capita of $60,037, tops the list with an average life expectancy in 2021 of 85.5 years. Japan, Australia, Switzerland and Malta complete the top five (all with per capita GDP's of over $40,000), followed by other wealthier Asian and European countries. But there are countries with considerably lower income and life expectancies over 75 years. For example, Algeria and Sri Lanka achieve average life expectancies of 76.4 years with GDP's per capita of only $11,029 and $13,251 respectively. Thailand has a life expectancy of 78.7 years with a GDP per capita of $17,087, and Greece tops the 80-year mark with a GDP per capita of just under $30,000.[9]

At the other end of the table, 28 out of the bottom 30 countries are in Sub-Saharan Africa, with the lowest life expectancy in 2021 being in Chad at 52.5 years. Botswana, with a GDP per capita higher than Sri Lanka's, nevertheless has a life expectancy some 15.3 years lower (61.1 years).

〜〜〜〜〜〜〜〜

9   Throughout this report, GDP per capita is reported at purchasing power parity (PPP), with constant 2017 international $ prices. Data from World Bank Databank, World Development Indicators, downloaded in September 2023.

Photo by Mark Hang Fung So on Unsplash

Self-reported wellbeing
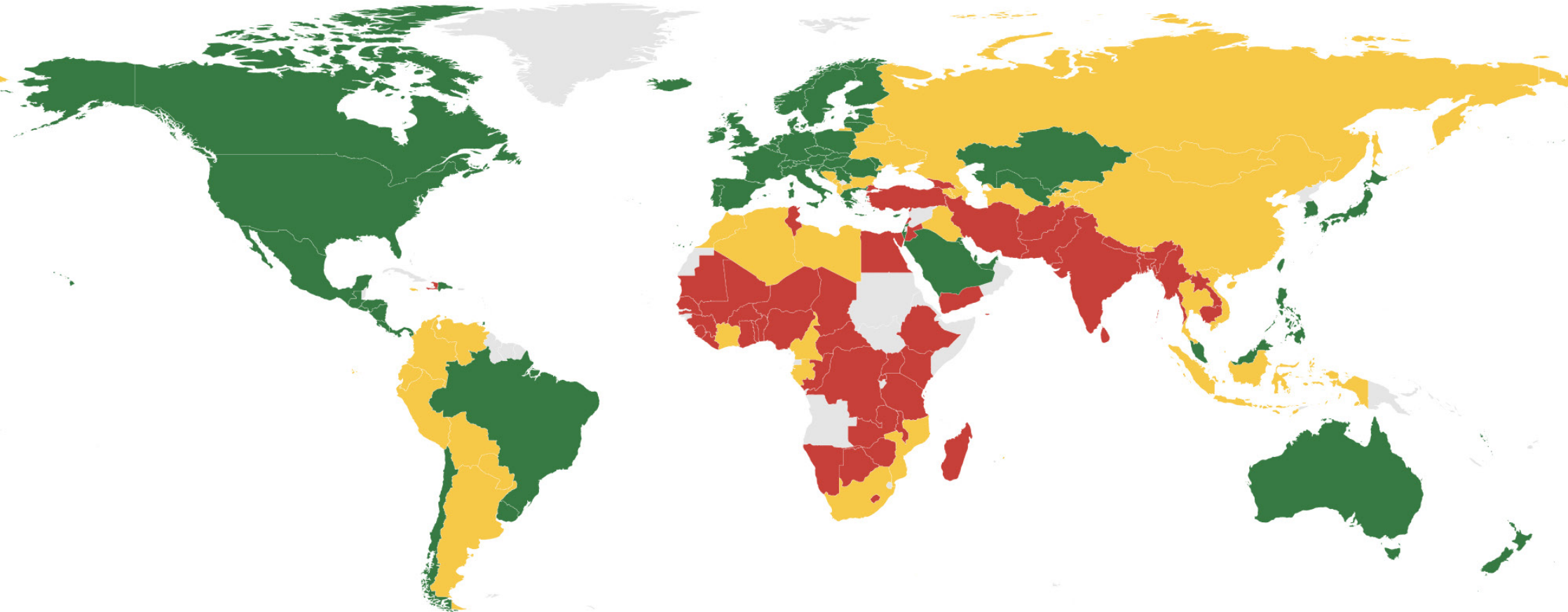
Source: World Happiness Report 2023, based on Gallup World Poll. Data downloaded in April 2023.

< 5   6   > 6

While Asian countries do well on life expectancy, they do not score highly in terms of self-reported wellbeing. Here, the top of the table is dominated by the Nordic countries, with all five landing in the top six. Israel nestles amongst them in third place overall. Other wealthy countries follow, including New Zealand and Australia. The stand-out country at the top of the table is Vanuatu in 10th place, with an average self-reported wellbeing of 7.1 out of 10 – astounding given that its GDP per capita is only $2,800. Another surprise this time is a large number of Central European countries, with both the Czech Republic and Lithuania posting self-reported wellbeing of 6.9. Meanwhile, Latin American countries, which have typically scored very high in terms of self-reported wellbeing, no longer make it to the top of the table. The highest ranking Latin American country in 2021 was Panama, only 27th place, with a score of 6.6.

The lowest self-reported wellbeing score in 2021 was Lebanon, with an average of 2.2 out of 10. Afghanistan comes next at 2.4. The world's most populous country, India, is also the 8th least happy, with an average of 3.6. Another country worth noting is Turkey – despite having a GDP per capita somewhat higher than Panama or Romania (which have similar wellbeing scores), Turkey's average wellbeing is 4.4.

Photo by Loren Joseph on Unsplash
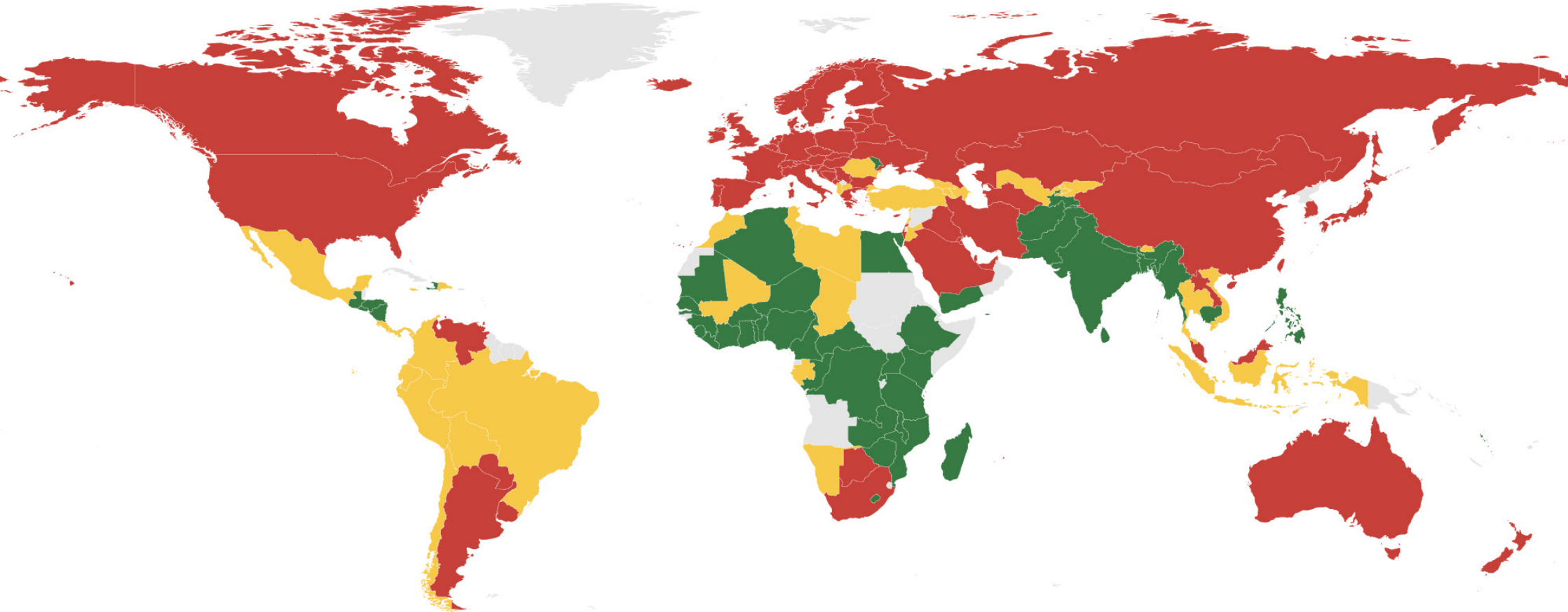
Carbon footprint

Source: World Inequality Database. National carbon footprint per capita. Data downloaded in September 2023. Indicator knfghg_999_i

> 3.5		< 1.7

The map is somewhat reversed when we look at carbon footprint. Based on the principle that everyone on the planet should be entitled to a fair share of consumption, and using the latest UNEP Emissions Gap report's targets for global emissions reduction, we have calculated that countries with an average level of CO_2e emissions of 3.17 tonnes per capita or lower are living within a fair consumption space.[10,11] These 49 countries are coloured green in the map above. Meanwhile, countries that are using two or more times this amount are coded red. The top 30 countries in terms of life expectancy all have per capita carbon footprints that are over twice their fair share. The largest per capita carbon footprint belongs to Qatar, where the average person emits 42.2 tCO_2e per year – 13 times more than the fair share. A further 14 countries have footprints that are over 15 tonnes per capita, including the USA, Saudi Arabia, Canada and Australia. But not all countries with large carbon footprints are necessarily wealthy or have good wellbeing outcomes. Mongolia stands out: despite having a low GDP per capita, low life expectancy (71 years) and low self-reported wellbeing (5.7), it has a carbon footprint of 24.7 tCO_2e per capita.[12]
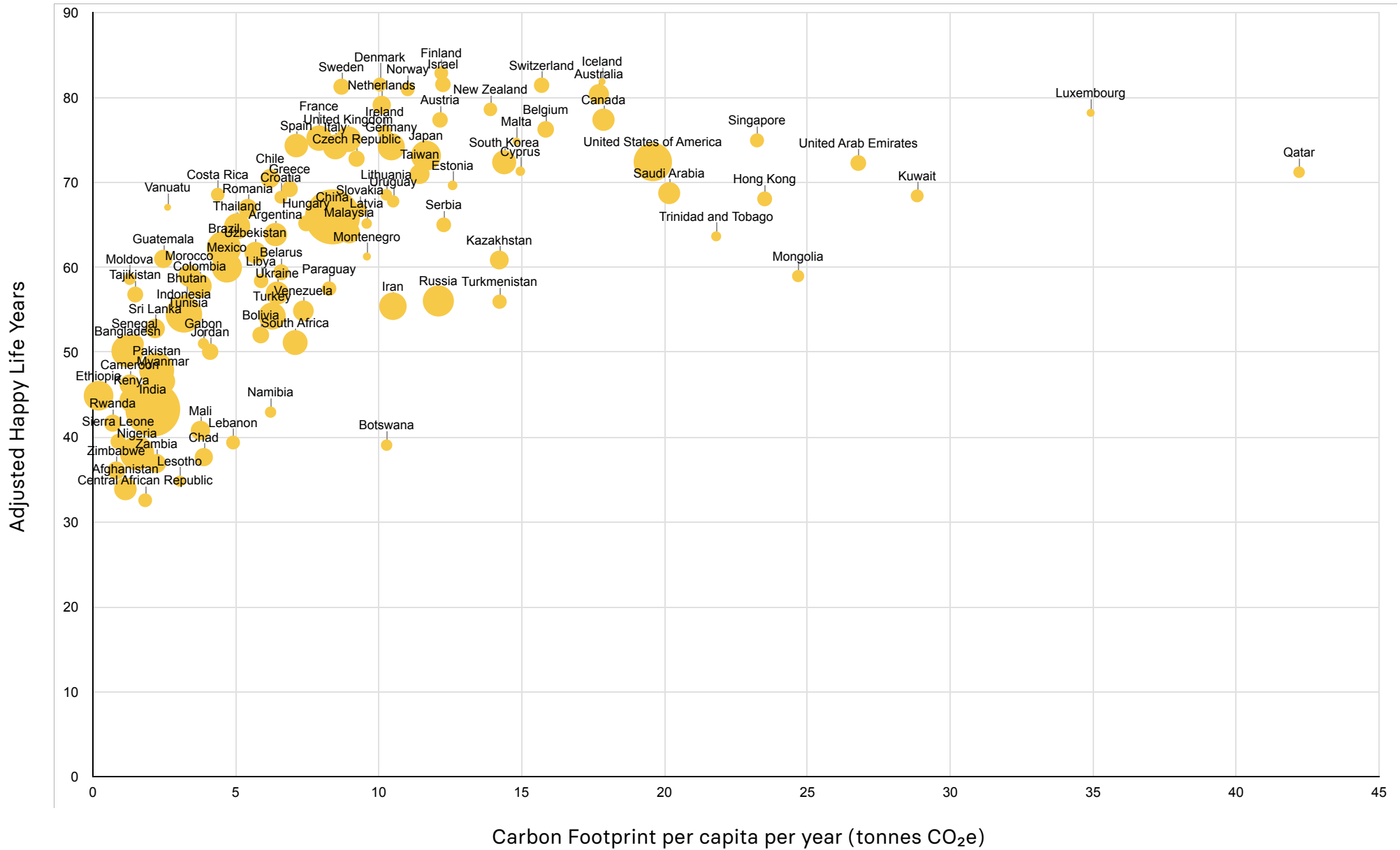
Whilst there is a tight correlation between life expectancy and carbon footprint, there are also some positive exceptions – i.e. countries with footprints that are relatively small given their life expectancy. Chile is the country with the longest life expectancy (78.9 years) that does not have a 'red' carbon footprint. Sri Lanka and Algeria both achieve life expectancies above 75 years within a fair consumption space.

The correlation is somewhat looser when looking at self-reported wellbeing. Vanuatu has a self-reported wellbeing score of 7.1, despite having a fair share average carbon footprint. Four Central American countries (El Salvador, Guatemala, Honduras and Nicaragua) join Vanuatu in being able to achieve a good wellbeing score within a fair consumption space.

Unsurprisingly the bottom end of the footprint table is dominated by low-income Sub-Saharan African countries with poor wellbeing outcomes. The country with the smallest carbon footprint that avoids scoring red on both life expectancy and self-reported wellbeing is Moldova – it has a footprint of 1.3 tonnes per capita (41% of a fair share), but achieves a reasonable self-reported wellbeing (6.0), although life expectancy is mediocre (68.8 years). Bangladesh achieves a higher life expectancy (72.4 years) with an even smaller carbon footprint, but self-reported wellbeing is considerably lower (4.1).

---

10 Tonnes of all greenhouse gas emissions. The 'e' stands for equivalised. Before amounts of other greenhouse gases (such as methane and N2O) are added to the amount of CO_2e, quantities are equivalised in terms of their warming potential.

11 Note that this is different from the target set in our 1.5 Lifestyles Report (Akenji et al. 2021) because that target focussed only on emissions associated with individual consumption. Here, we are including within the limit emissions associated with government activities and business investment.

12 Mongolia's apparently very high consumption-based emissions are likely a mixture of on the ground realities and measurement challenges. According to Our World in Data, the country has one of the highest per capita territorial-based GHG emissions in the world (27.9 tCO_2e), only outdone by small oil states like Qatar or Brunei. Unlike the oil states, a huge proportion of Mongolia's emissions come from agriculture, the country being home to 70 million head of livestock. Whilst its consumption-based emissions are a little bit lower, it seems that Mongolia does not export that much of its meat products.

Patterns and outliers

Scatter plot. X-axis: Carbon Footprint per capita per year (tonnes CO_2e), ranging from 0 to 45. Y-axis: Adjusted Happy Life Years, ranging from 0 to 90.

Countries plotted: Vanuatu, Costa Rica, Chile, Greece, Croatia, Romania, Thailand, Hungary, China, Slovakia, Latvia, Malaysia, Montenegro, Brazil, Uzbekistan, Argentina, Mexico, Belarus, Libya, Ukraine, Paraguay, Venezuela, Guatemala, Moldova, Morocco, Colombia, Bhutan, Tajikistan, Indonesia, Tunisia, Sri Lanka, Senegal, Bangladesh, Gabon, Jordan, Bolivia, South Africa, Pakistan, Myanmar, Cameroon, Kenya, Ethiopia, India, Rwanda, Sierra Leone, Nigeria, Zambia, Mali, Lebanon, Namibia, Zimbabwe, Chad, Afghanistan, Lesotho, Central African Republic, Botswana, Iran, Russia, Turkmenistan, Serbia, Kazakhstan, Sweden, Denmark, Norway, Finland, Israel, Netherlands, New Zealand, France, Ireland, United Kingdom, Germany, Austria, Spain, Italy, Czech Republic, Japan, Taiwan, Lithuania, Uruguay, Estonia, South Korea, Cyprus, Malta, Switzerland, Iceland, Australia, Canada, Belgium, United States of America, Saudi Arabia, Singapore, Trinidad and Tobago, Hong Kong, Mongolia, United Arab Emirates, Kuwait, Luxembourg, Qatar.

The maps on the preceding pages have considered each indicator in isolation. What happens when you bring them together? The scatter plot above reveals the relationship between carbon footprint and what we call 'adjusted happy life years', which is a metric combining life expectancy and self-reported wellbeing. There is clearly a relationship: countries with higher carbon footprints achieve higher adjusted happy life years. But the relationship is not linear – by the time you get to between 10 and 15 tonnes per capita, there does not appear to be any gain in terms of adjusted happy life years. Sweden, with a carbon footprint of 8.7 tonnes per capita achieves better adjusted life happy years than nearly any other country in the world. If anything, many of the countries with the biggest carbon footprints (Qatar, Kuwait, the UAE and Mongolia) have poorer outcomes.

As well as not being linear, the relationship is also not tight. Countries with similar carbon footprints can have very different outcomes. Compare for example Botswana and the Netherlands (both with footprints of about 10.2 tonnes) but adjusted happy life years of 39.1 and 79.2 years respectively or Lebanon and Panama (both around the 5 tonne mark) with adjusted happy life years of 39.4 and 68.8 respectively.

Obviously, the goal is to reach the top left-hand corner: with a small carbon footprint, below the fair share of 3.17, and high wellbeing (which based on the thresholds defined in the previous sections is about 64 adjusted happy life years). In 2021, the only country that achieved that is Vanuatu (though, as we have seen, actual life expectancy is not that high there at 70.4 years). More generally though, the plot gives an indication of which countries are closer to achieving good lives within environmental limits.

The overall HPI

This balancing act between health, happiness, and sustainability is exactly what the overall HPI score seeks to capture.

38

< 20   > 50

Photo by Asso Myron on Unsplash
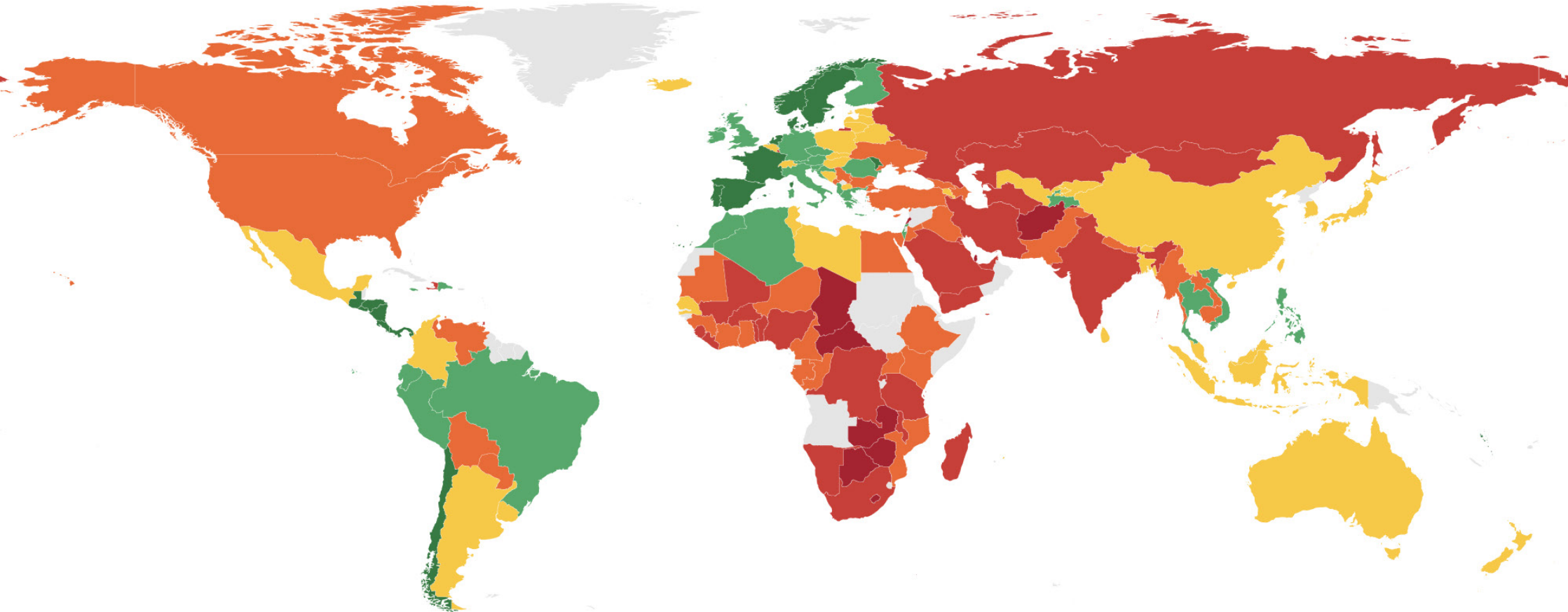
As with previous years, Latin America is well represented at the top of the HPI ranking, with half the top 10 being in that region. However, in 2021, the highest scoring country is Vanuatu – an honour it earned back in 2006, albeit with estimated data. Furthermore, unlike previous years, European countries also do very well, with Sweden in second place, Denmark in sixth, Spain in seventh and France in ninth. Indeed, when we look at regional averages, Western Europe is the highest scoring region in 2021, ahead of Latin America. We will look at this in more detail when we examine trends over time.

Vanuatu

People in Vanuatu are not the happiest in the world. Their self-reported wellbeing score of 7.1 out of 10 in 2021 is comparable to scores in Australia and the USA, but not quite as high as scores in Nordic countries. But what is notable is the fact that high self-reported wellbeing and moderate life expectancy (70.4 years) are achieved within a fair consumption space (2.6 tCO$_2$e per capita per year). So, a country like Lithuania may indeed achieve similar wellbeing and slightly higher life expectancy (3.3 years more), but it uses almost four times as much natural resources to achieve that.

Vanuatu's tropical climate likely contributes to this high efficiency (heating bills are low in the country). But obviously that is not enough to explain the results. Local experts we interviewed spoke about the importance of tight-knit communities and the continuation of island traditions as being important to the nation's high wellbeing. This has been meshed with a

modern democratic system that has enjoyed peace since independence in 1980. In recent years, Vanuatu has taken environmental issues much more seriously than most countries with similar income levels. Single use plastic bags and other items were banned in 2018, and the percentage of energy produced from renewable sources is on a par with much wealthier countries such as Switzerland.[13]

Sadly, Vanuatu has also ranked top of another index in recent years – the World Risk Report. Nearby Pacific islands also rank high in this report, due to their vulnerability to sea rises and the increased risks of cyclones caused by climate change. It is poignant to note that the country that is most efficient at achieving wellbeing with low carbon emissions is amongst those that stand to lose the most as a result of climate change.

13   World Bank Databank, Renewable energy consumption (% of total final energy consumption), downloaded on 19.03.2024.

Sweden

European nations have risen up the rankings of the HPI in recent years, and Sweden has led the charge. That the nation has excellent average wellbeing outcomes (life expectancy of 83 years and average self-reported wellbeing of 7.4 out of 10, even during the COVID-19 pandemic) is no surprise. What is worth noting, however, is that, in 2021, it achieved these outcomes with a carbon footprint of 8.7 tCO₂e per capita – which is 16% less than Germany and less than half the per capita footprint of the USA.

This is no accident. Sweden was the first country in the world to implement carbon pricing, and today less than 1% of electricity in the country is produced from fossil fuels. While income inequality is rising, Sweden still remains amongst the most equal OECD countries. The country is famous for investing in public services such as health and education.

But it must be made clear: 8.7 tonnes is not in line with fair emission reduction pathways. Electricity might come from renewable sources, but Sweden still relies on a large fleet of petrol cars, and high consumption levels mean that many of the emissions associated with Sweden's rich lifestyles take place elsewhere in the world. At the current rate of reduction, Sweden's carbon footprint would only shrink to a fair share by 2043. The planet cannot wait that long.
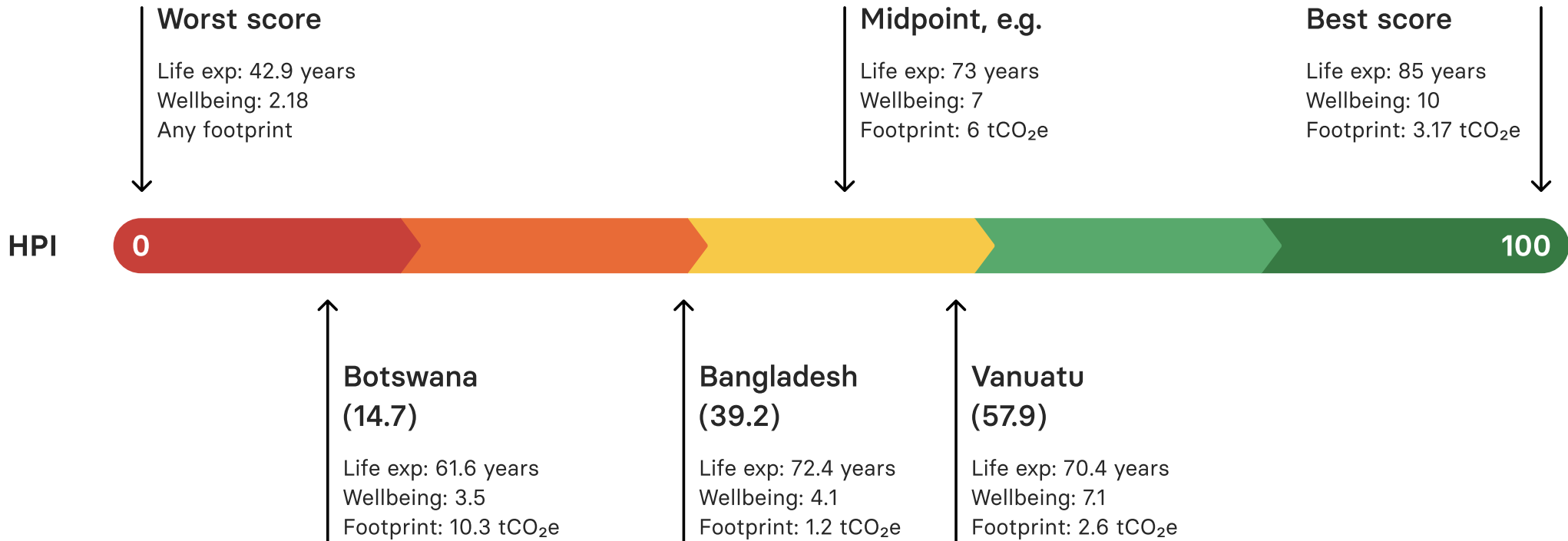
Photo by Janko Ferlič on Unsplash

Central America

Four out of the top 10 countries in the HPI in 2021 were in Central America – El Salvador, Costa Rica, Nicaragua and Panama. These four countries all achieved self-reported wellbeing scores between 6.1 and 6.6 out of 10 and life expectancies between 70.7 and 77.0 years, with average carbon footprints of between 2.0 and 5.2 tCO₂e. There is variation within this region – Panama's GDP per capita is more than five times higher than Nicaragua's. The fact that they nevertheless all do well (and their regional neighbours are not far behind), suggests that there is something going in the region that consistently leads to high efficiency in terms of achieving wellbeing.

The stand-out country in the region is Costa Rica. It has been top of the HPI for the last four editions, and based on this year's calculations (bearing in mind we are using carbon footprint instead of the ecological footprint used in previous editions), it had the highest HPI score in every year from 2006 to 2019 inclusive. The slightly lower score in 2021 can be partially attributed to the COVID-19 pandemic, which hit Latin America particularly badly. In Costa Rica, life expectancy fell from 79.4 years in 2019 to 77.0 years in 2021. Rising unemployment and growing poverty rates resulting from the pandemic no doubt also contributed to a sharp fall in self-reported wellbeing, from 7.0 out of 10 in 2019, to 6.4 in 2021.

Nevertheless, more recent data suggests that self-reported wellbeing has begun to increase again in the country, and its strong social and environmental history should help it bounce back. In terms of renewable energy it is still a world leader, producing a mere 0.02% of electricity from fossil fuels in 2022.
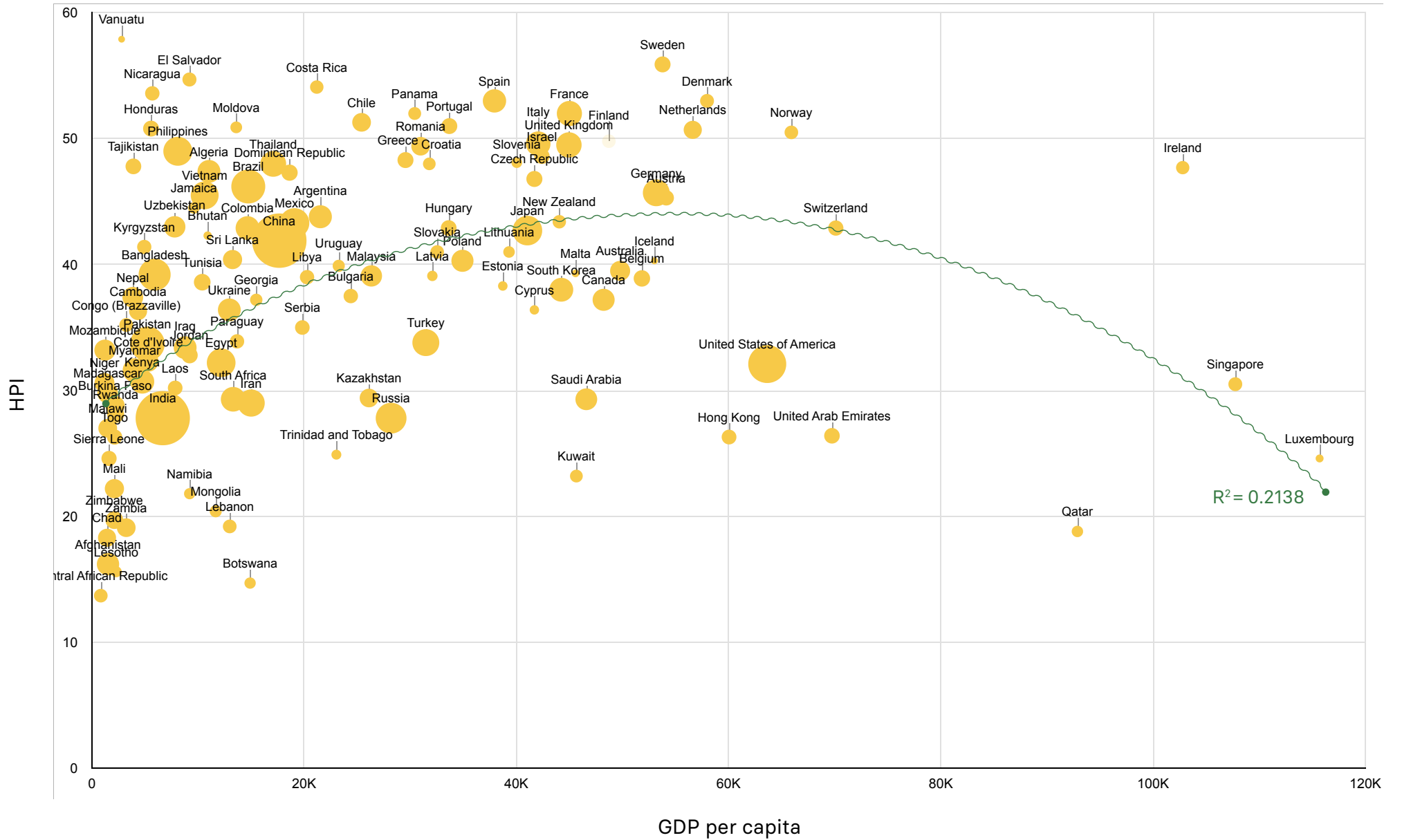
El Salvador pips Costa Rica to third place this time. A much poorer country with a troubled history, it nevertheless achieves an average self-reported wellbeing score of 6.4 out of 10 (the same as Saudi Arabia or Slovakia) and a life expectancy of 70.7 years with a carbon footprint of 2.0 tonnes CO₂e per capita (less than half Costa Rica's). It is possible that El Salvador's relatively high self-reported wellbeing in 2021 is the result of recent developments in the country. In 2015, the country had one of the highest homicide rates in the world, at 107 murders per 100,000 people. Since then, rates have fallen considerably, down to 18 per 100,000 in 2021. The current president has been praised in the country for this huge improvement in safety, and recently won landslide re-election. On the other hand, this increase in safety has come at the cost of an extreme crackdown on gangs and 2% of the adult population was incarcerated in 2023. Aside from the human rights issues involved, we can be fairly sure that these 2% were not included in the self-reported wellbeing data.

Photo by Katie Chen on Unsplash

Worst score

Life exp: 42.9 years
Wellbeing: 2.18
Any footprint

Midpoint, e.g.

Life exp: 73 years
Wellbeing: 7
Footprint: 6 tCO_2e

Best score

Life exp: 85 years
Wellbeing: 10
Footprint: 3.17 tCO_2e

HPI 0 ════════════════════ 100

**Botswana
(14.7)**

Life exp: 61.6 years
Wellbeing: 3.5
Footprint: 10.3 tCO_2e

**Bangladesh
(39.2)**

Life exp: 72.4 years
Wellbeing: 4.1
Footprint: 1.2 tCO_2e

**Vanuatu
(57.9)**

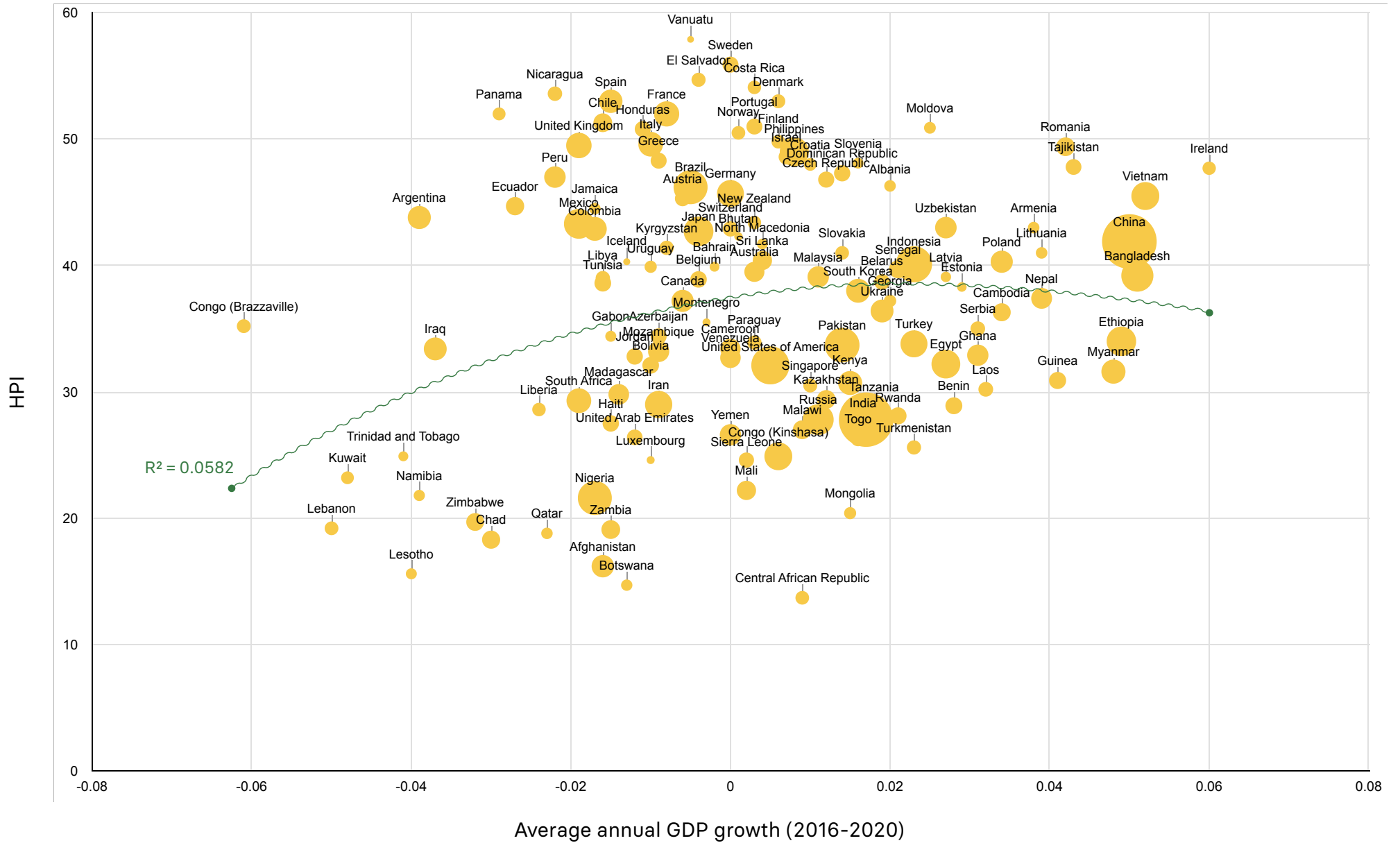Life exp: 70.4 years
Wellbeing: 7.1
Footprint: 2.6 tCO_2e

It is important not to get carried away in celebrating the countries that score the best on the HPI. The Index has been calculated such that a score of 50 is halfway between a country with dismal wellbeing and life expectancy and one achieving maximum wellbeing within environmental limits. But even highest-ranking Vanuatu only scores just above this midway point (57.9), and only 15 other countries have scores above 50. Importantly, in 2021, no country achieves a good score on all three components (although there have been a few moments over the last 15 years where a couple of countries have achieved this honour, the most recent being Algeria in 2014).

HPI vs GDP per capita scatter plot

$R^2 = 0.2138$

Countries plotted (selected labels): Vanuatu, El Salvador, Nicaragua, Costa Rica, Sweden, Denmark, Honduras, Moldova, Spain, France, Finland, Netherlands, Norway, Ireland, Philippines, Chile, Panama, Portugal, Italy, United Kingdom, Tajikistan, Algeria, Thailand, Dominican Republic, Greece, Romania, Croatia, Slovenia, Israel, Czech Republic, Germany, Austria, Brazil, Vietnam, Jamaica, Argentina, Uzbekistan, Colombia, Mexico, New Zealand, Switzerland, Bhutan, China, Japan, Kyrgyzstan, Sri Lanka, Hungary, Lithuania, Iceland, Bangladesh, Uruguay, Slovakia, Poland, Malta, Australia, Tunisia, Libya, Malaysia, Latvia, Belgium, Nepal, Georgia, Bulgaria, Estonia, South Korea, Canada, Cambodia, Ukraine, Cyprus, Congo (Brazzaville), Serbia, Mozambique, Pakistan, Iraq, Paraguay, Turkey, United States of America, Cote d'Ivoire, Jordan, Egypt, Niger, Kenya, Laos, Saudi Arabia, Singapore, Madagascar, Myanmar, South Africa, Iran, Kazakhstan, Hong Kong, United Arab Emirates, Burkina Faso, Rwanda, Malawi, India, Russia, Togo, Sierra Leone, Trinidad and Tobago, Kuwait, Luxembourg, Mali, Namibia, Zimbabwe, Mongolia, Zambia, Lebanon, Chad, Qatar, Afghanistan, Lesotho, Botswana, Central African Republic

Y-axis: HPI (0 to 60)
X-axis: GDP per capita (0 to 120K)

The important thing to note is that countries that have high GDP per capita (e.g. the USA) do not do particularly well on the HPI. The top five countries include three lower middle income, one upper middle income and one high income country. Only low-income countries are unable to score a high HPI. Average HPI does increase somewhat with GDP up to a certain point but then falls again. But this pattern is very weak, with GDP only explaining 21% of the variation in HPI. Another way to interpret the data is to divide countries into three income bands and look at the correlation between GDP and HPI in the different bands. There is a strong positive correlation between GDP per capita and HPI in the lowest income band (up to $20,000): R = 0.41. Between $20,000 and $50,000, there is almost no correlation (R = 0.06). Beyond $50,000 the correlation is strong and negative (R = -0.51).


Photo by Kiana Bosman on Unsplash

HPI

60

50

40

30

20

10

0

Vanuatu
Sweden
El Salvador
Costa Rica
Denmark
Nicaragua
Spain
France
Portugal
Moldova
Panama
Chile
Honduras
Italy
Norway
Finland
Romania
United Kingdom
Greece
Philippines
Israel
Tajikistan
Croatia Slovenia
Ireland
Peru
Brazil
Dominican Republic
Albania
Vietnam
Ecuador
Austria
Germany
Czech Republic
Argentina
Jamaica
New Zealand
Uzbekistan
Armenia
Mexico
Switzerland
Bhutan
China
Colombia
Japan
North Macedonia
Lithuania
Kyrgyzstan
Sri Lanka
Slovakia
Poland
Bangladesh
Iceland
Belarus
Indonesia
Uruguay
Bahrain
Senegal
Latvia
Libya
Australia
Malaysia
Estonia
Nepal
Tunisia
Belgium
South Korea
Cambodia
Canada
Georgia
Ukraine
Serbia
Montenegro
Ethiopia
Congo (Brazzaville)
Gabon Azerbaijan
Paraguay
Pakistan
Turkey
Iraq
Mozambique
Cameroon
Ghana
Jordan
Venezuela
United States of America
Egypt
Myanmar
Bolivia
Madagascar
Singapore
Kenya
Laos
Guinea
South Africa
Iran
Kazakhstan
Benin
Liberia
Tanzania
Haiti
Russia
India
Rwanda
Yemen
Malawi
Togo
United Arab Emirates
Turkmenistan
Luxembourg
Congo (Kinshasa)
Sierra Leone
Trinidad and Tobago
Mali
R² = 0.0582
Kuwait
Namibia
Nigeria
Mongolia
Lebanon
Zimbabwe
Zambia
Chad
Qatar
Afghanistan
Lesotho
Botswana
Central African Republic

-0.08   -0.06   -0.04   -0.02   0   0.02   0.04   0.06   0.08

Average annual GDP growth (2016-2020)

There is an even weaker association with GDP growth rate (which explains less than 6% of the variation in HPI). While a free-falling economy (for example as in Lebanon, Zimbabwe and Iraq) does tend to be associated with a low HPI, there is little association between the two indicators aside from that. Amongst the top 10 countries in terms of HPI, average GDP growth in the four years leading up to the pandemic (from 2016 to 2019) was only 1.3%. Fast growth does not lead to a high HPI.

The HPI over time

Consistent data collection techniques now mean we can look at the trends in HPI over time.
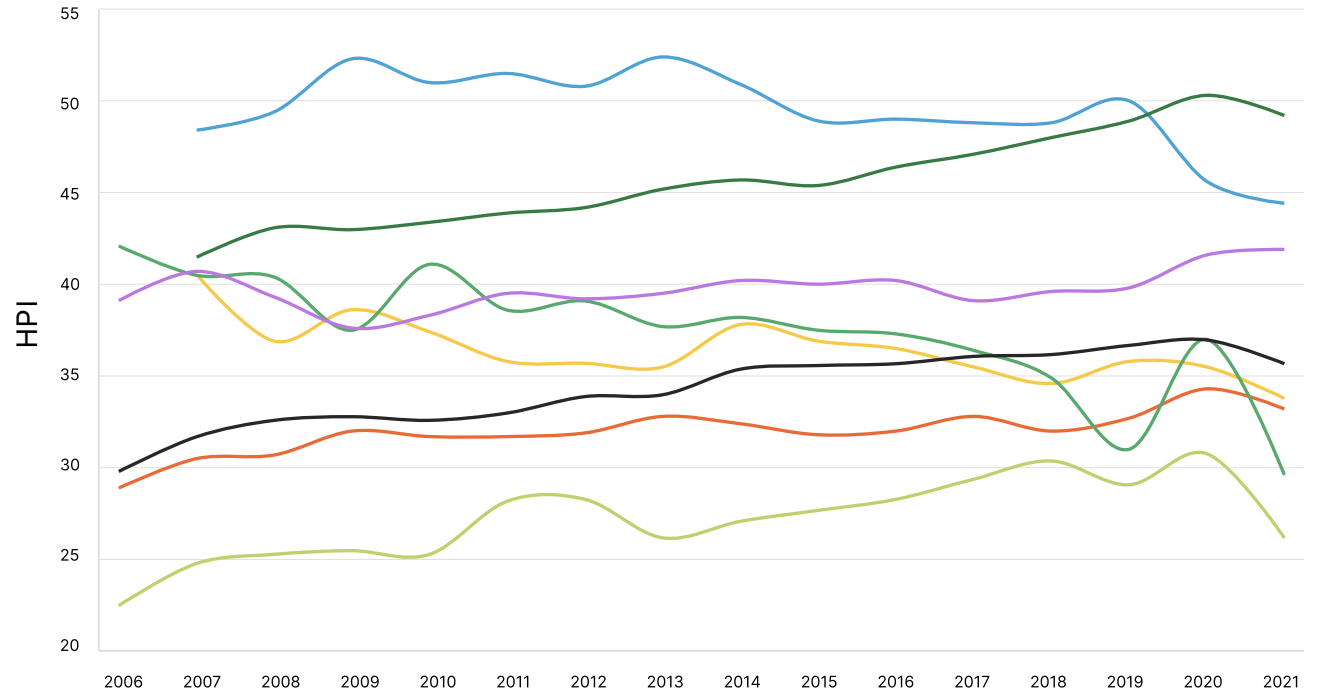
Regions used in this report
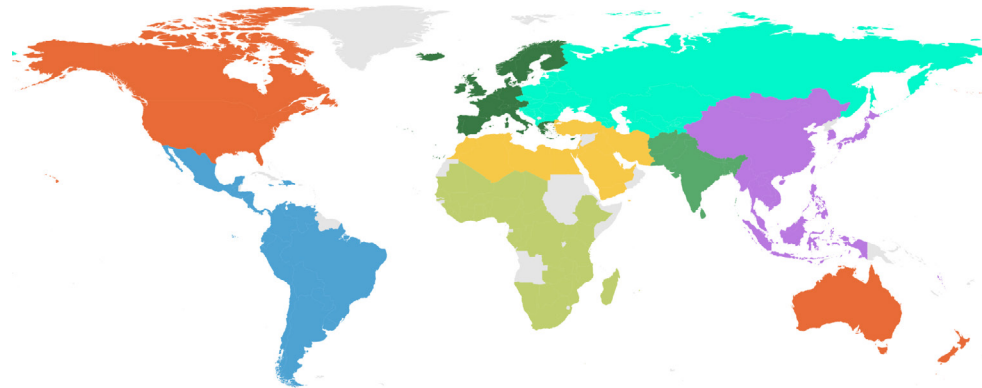
● Latin America ● N. America & Oceania ● Western Europe ● Middle East & N. Africa ● Sub-Saharan Africa ● South Asia ● Eastern Europe & Central Asia ● East Asia

Pandemic hit some regions harder than others

The chart above shows how HPI has changed for the eight regions we use in the HPI. The first thing to note is the impact of the COVID-19 pandemic. Most regions saw a drop in HPI from 2020 to 2021 (particularly Sub-Saharan Africa and South Asia)[14], while Latin America already saw a big drop from 2019 to 2020. Globally, average HPI fell by 1 point as a result from 2019 to 2021. For Latin America and South Asia, these falls can be clearly linked to a dramatic fall in life expectancy – people in both regions lost 2.9 years of life expectancy between 2019 and 2021. Falls in life expectancy can be seen in all regions, but some are much less dramatic – for example only 0.6 years in Western Europe or 0.4 in East Asia. Meanwhile, Latin America saw a dramatic fall in self-reported wellbeing already from 2019 to 2020. Broadly speaking, where the pandemic hit hardest, it not only had a negative impact on life expectancy, but also self-reported wellbeing.

In contrast, in East Asia where the pandemic proved less deadly, self-reported wellbeing rose dramatically. However, in general, the overall pattern is of a pandemic that had a global impact, but differential regional impacts. In doing so, it shook up the overall rankings of the HPI, taking Latin America out of the top spot, with Western Europe taking its place. Only two regions had a higher HPI in 2021 than in 2019, albeit for very different reasons. On the one hand, East Asia appeared to be little affected by the pandemic. On the other, a large fall in life expectancy in the USA (-1.9 years), lead to an overall fall in life expectancy for the North

America & Oceania region), but this was compensated for by a decrease in carbon footprint.[15]

Gradual improvement before the pandemic

COVID-19 still looms large in our minds in 2024, but the pattern before then is also important. Whilst the HPI had increased for some regions, including both Western and Eastern Europe and Sub-Saharan Africa, it had fallen for South Asia and the Middle East and North Africa. Again, looking at the components help us understand these different trends. The reasons for these changes are different for different regions. For Western Europe, the driving factors are steadily falling carbon footprints and increasing life expectancy. Between 2006 and 2019, the average footprint for Western Europe fell from 13.9 tonnes per capita to 10.1 tonnes per capita; whilst life expectancy increased by 2.2 years. For Eastern Europe, there was no decrease in carbon footprint over this time period, but life expectancy increased even more dramatically (from 69.7 to 74.5 years), and self-reported wellbeing also rose. For Sub-Saharan Africa the only component that has consistently changed has been life expectancy. In all cases, these positive trends can be understood as improving efficiency in converting carbon resources into wellbeing. In the wealthiest of these regions, efficiency has meant an absolute reduction in carbon footprint. Whilst this is good news, this absolute reduction, which can be considered absolute decoupling, is not at the speed

---

14   The spike upwards in South Asia in 2020 is entirely driven by an increase in self-reported wellbeing in India, and we suspect it may have been the result of an anomaly of the data.

15   Of course this hides important difference between North America and Oceania.

required to avoid the worst impact of climate change. Furthermore, as a recent review has noted (Haberl et al. 2020), countries seem to be more successful in decoupling carbon emissions from positive outcomes, than they are in decoupling other resource uses and environmental impacts.

Meanwhile, for lower income regions, socio-ecological efficiency has led to improvements in living conditions (in terms of life expectancy, or in terms of both self-reported wellbeing and life expectancy), without any concomitant increase in carbon footprint.

Declining HPI in South Asia and North Africa and the Middle East can both be explained predominantly through decreases in self-reported wellbeing. Having started with a relatively average self-reported wellbeing in 2006, South Asia is now (and was in 2019) the least happy region in the world, with self-reported wellbeing even lower than in sub-Saharan Africa. India, the most populous country in the region (and in 2023 the world) has a particularly low score (3.6 in 2021), but only one country in the region has a self-reported wellbeing score above the halfway mark – Bhutan. Declines in self-reported wellbeing have also been felt in North Africa and the Middle East, with conflict-stricken countries such as Lebanon, Yemen and Palestine registering very low scores. But relatively stable countries such as Jordan and Turkey also have a very low self-reported wellbeing.

These findings will come as no surprise to anyone who has paid attention to the increase in internal conflicts and democratic backsliding in many countries across the region. But it is worth highlighting that GDP has not done a good job in capturing these negative trends. Whilst HPI has fallen, overall GDP has risen by 83% in South Asia and 15% in the Middle East &

North Africa. The findings also highlight the importance of considering self-reported wellbeing, and not just objective indicators – bearing in mind that life expectancy continued to rise (at least until 2019) in most countries in these regions despite their turbulent events.
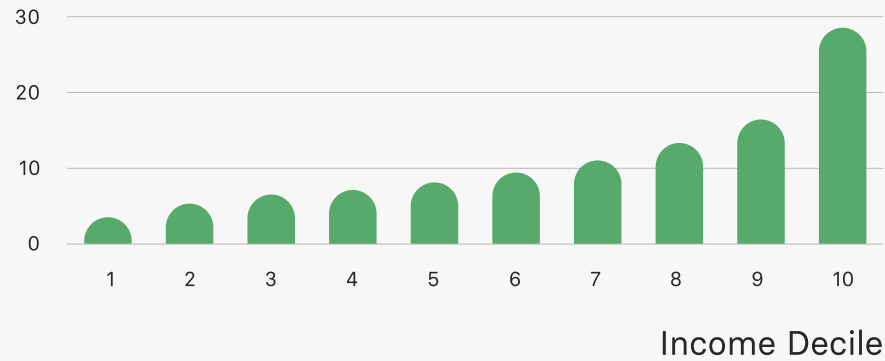
HPI by income group

Since around the beginning of the 21st century, economic inequalities within countries have become bigger than economic inequalities *between* countries (Chancel and Piketty 2021). This observation inspired us to look at differences in HPI within countries: Are some population groups within a country more efficient at converting ecological resources into wellbeing than others? Looking at differences between income groups, it is clear that the wealthiest within any country are responsible for the greatest emissions – both due to their consumption habits and their investments. Do they enjoy higher wellbeing and longer lives as a result?
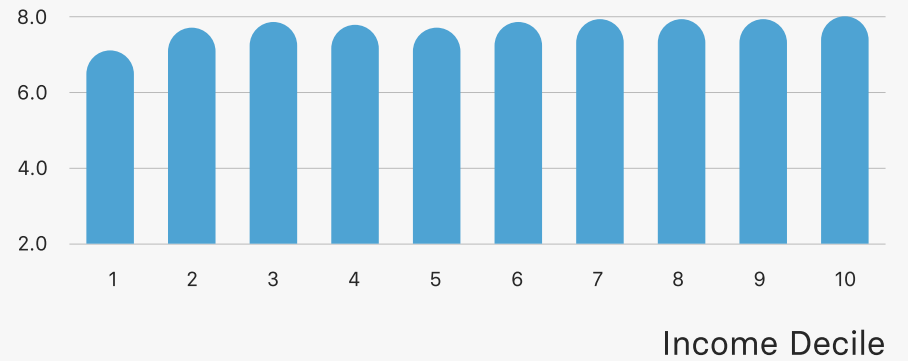
Surprisingly, the indicator for which sub-national data was hardest to find was life expectancy. There is no standardised set of data on differences in life expectancy by income. Instead, we compiled data from multiple studies and estimated life expectancy by income decile for 15 countries – mostly in Western Europe (specifically Scandinavia) and Latin America. We then sourced data on differences in self-reported wellbeing and carbon footprint between income groups for those countries (details in the methodology paper).
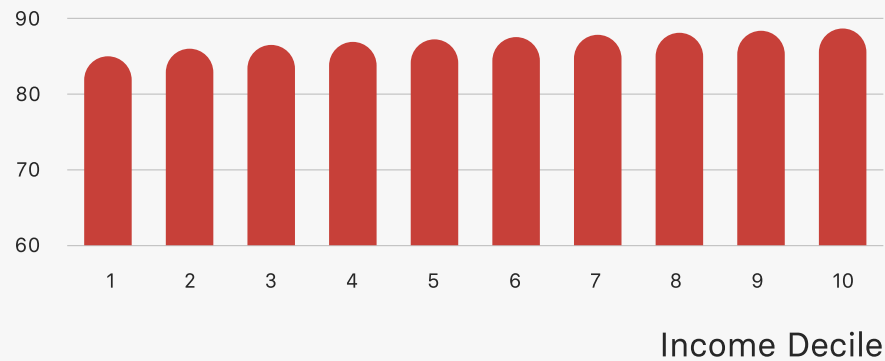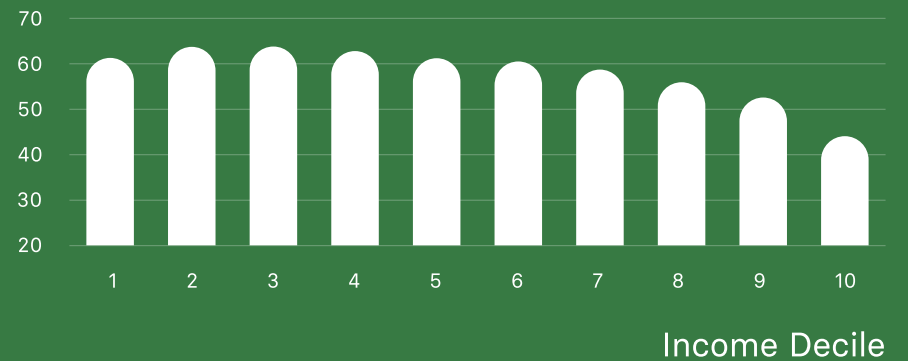
Denmark

Carbon footprint

Income Decile

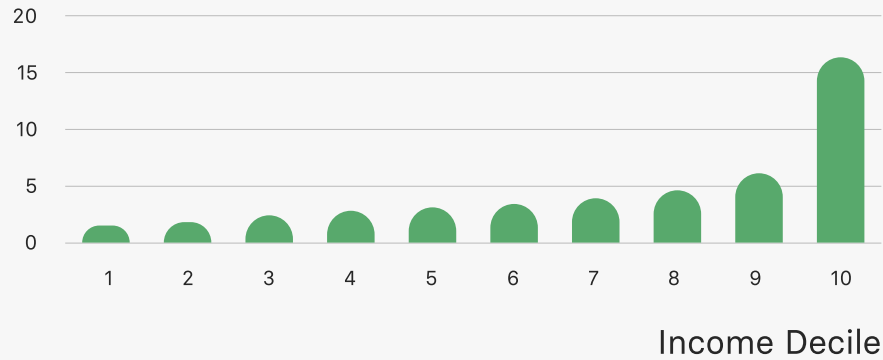### Life Satisfaction

Income Decile

Life Expectancy

Income Decile

HPI

Income Decile

Brazil

Carbon footprint

Income Decile

Life Satisfaction

Income Decile

Life Expectancy

Income Decile

HPI

Income Decile

USA

Carbon footprint

Income Decile

Life Satisfaction

Income Decile

Life Expectancy

Income Decile

HPI

Income Decile
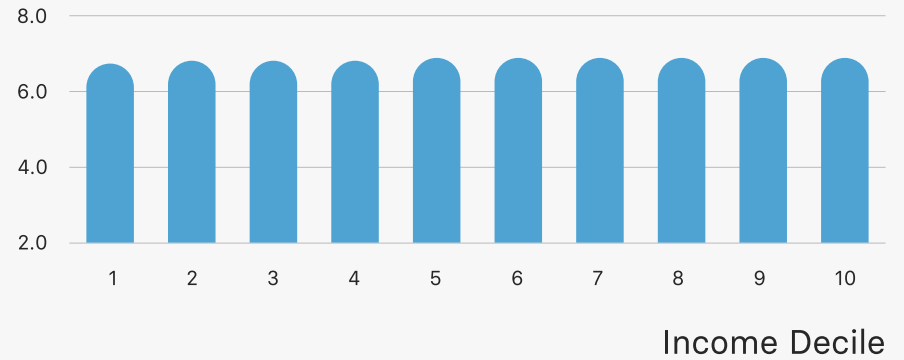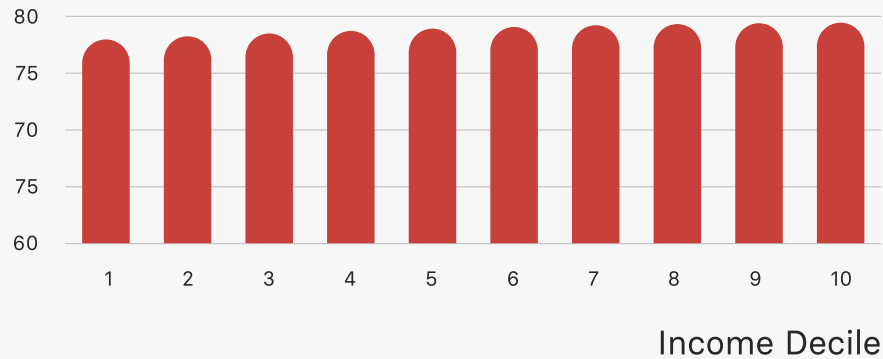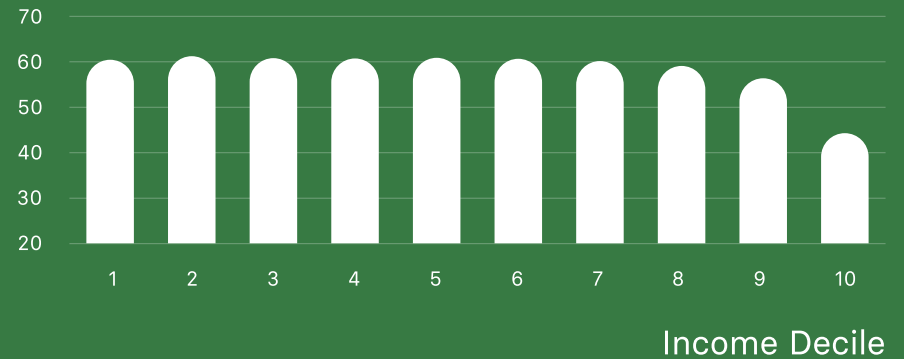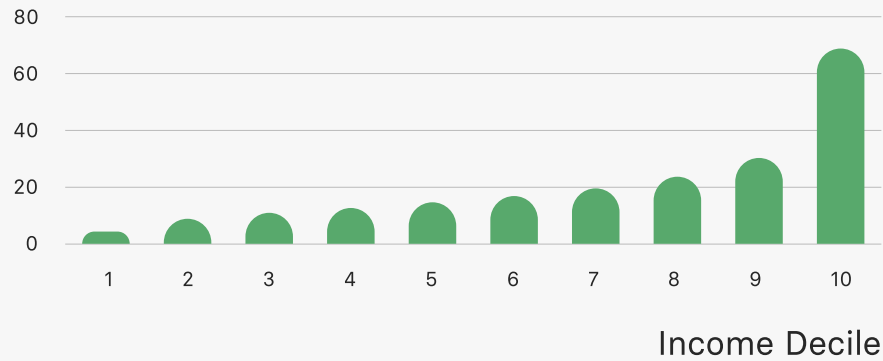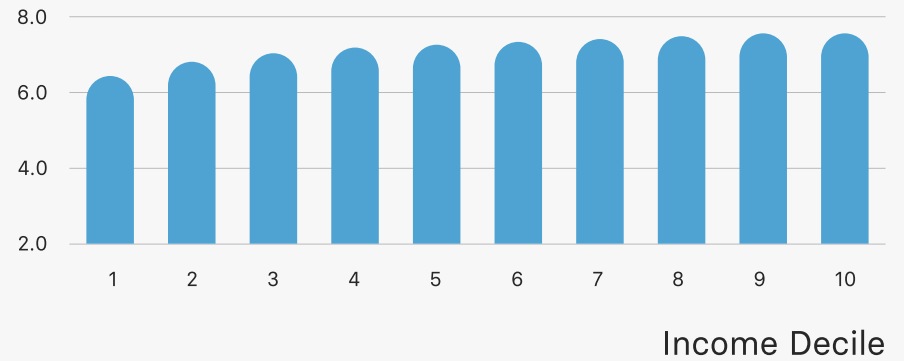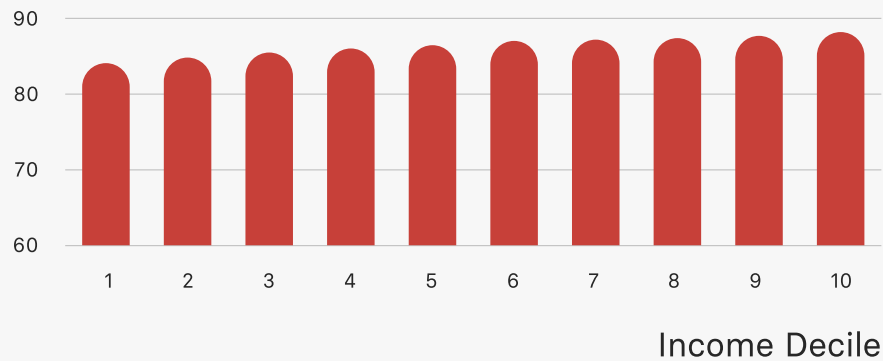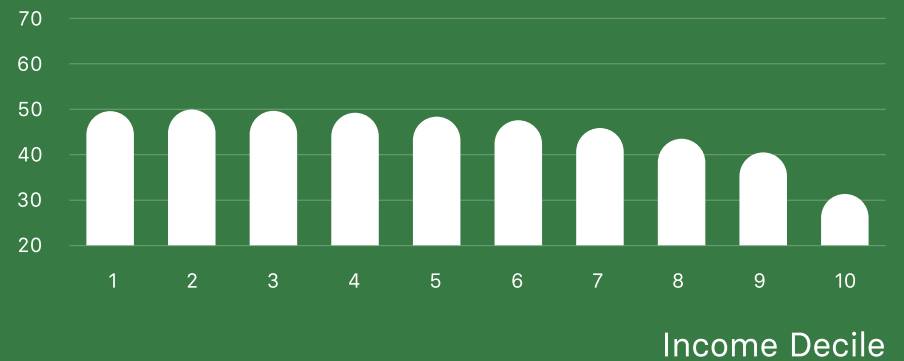
Ethiopia

Carbon footprint

Income Decile

Life Satisfaction

Income Decile

Life Expectancy

Income Decile

HPI
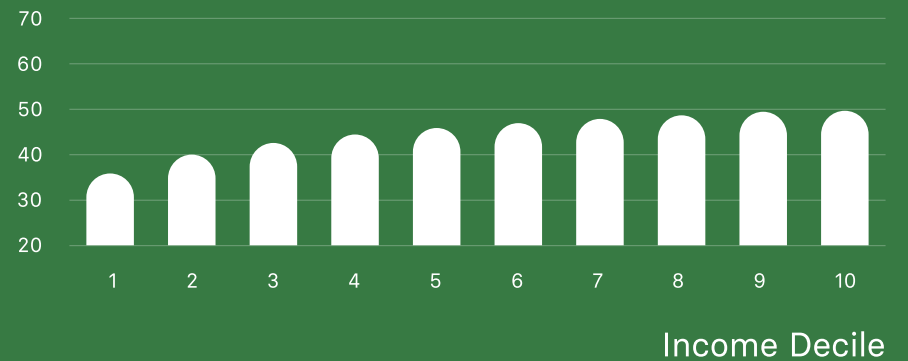

Income Decile
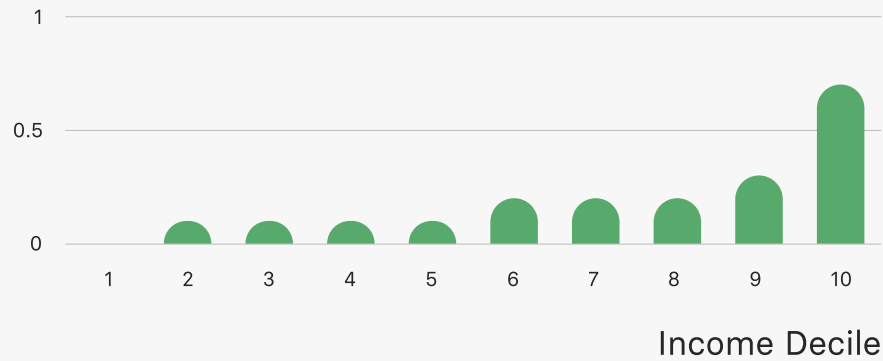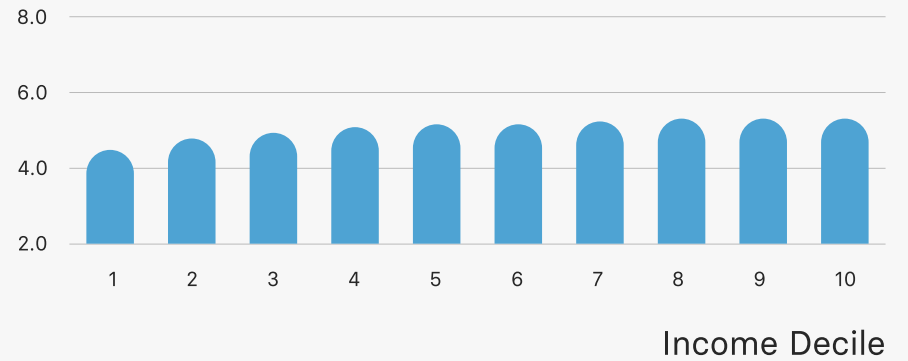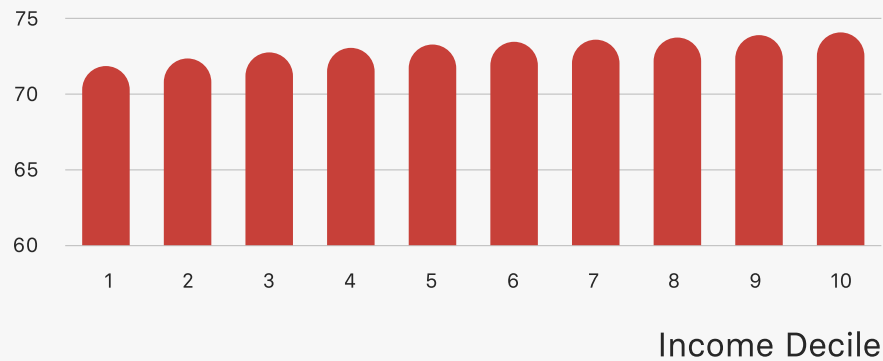
The full results can be found on the Index's website, but a few patterns stand out.

HPI scores rise at the beginning of the income distribution. This increase is larger in lower income countries like South Africa and India, but also visible in most wealthy countries, such as Denmark and the USA. However, for most countries, a decline in HPI with income can be seen fairly early on in the income distribution. For Norway, the highest HPI score is for the third income decile. For Chile, it's the seventh and eighth.

It should be repeated that these results do not indicate that the people in these income deciles are happier than those who are richer in their country. In Costa Rica, the highest HPI score is in the third income decile (67.7). However average self-reported wellbeing in this decile is only 6.8, compared to 7.2 in the sixth income decile. The reason the lower income deciles score higher is their smaller carbon footprints. While Costa Ricans in the third income decile achieve a decent level of subjective wellbeing, similar to the average for European countries such as Germany and France, as well as a life expectancy of 78.4 years, all within an annual carbon footprint of 2 tonnes per capita, the sixth income decile use 3.5 tonnes per capita – which is slightly beyond a globally fair consumption space.

The most striking feature of this analysis, however, is the scores for the top decile. In all countries except Ethiopia, there is a sharp drop in HPI from the ninth to the tenth decile. In all countries except Ethiopia, South Africa and India, the lowest scores for the HPI within a country are for the tenth decile. The reasons for this should be familiar from the cross-country comparisons. The marginally higher life expectancies and marginally better self-reported wellbeing amongst the richest decile

cannot make up for the considerably larger carbon footprints. This is particularly stark in the USA, where the top income decile has a carbon footprint of 68.7 tonnes per capita (35 times more than the third decile in Costa Rica that we mentioned earlier). Self-reported wellbeing is indeed high in this group (7.4) as is life expectancy (84.4 years), but the inefficiency leads to an HPI score of only 15.8, half the average for the USA. Similarly, in Norway, the tenth income decile have an HPI score of 30.9, compared to the average for the country of 49.8. On average, across all the countries analysed except Ethiopia, the top income decile brings the average HPI score down by 6.5%. Countries like Mexico would have an average carbon footprint within fair consumption limits if it weren't for these top deciles. If we calculated the HPI for the 80% of Costa Ricans that are not in the top two deciles, they would achieve what we have defined as good lives that don't cost the Earth (carbon footprint 2.8 tonnes, life expectancy 79 years, self-reported wellbeing 6.9 out of 10).

Looking at the dataset as a whole, carbon inequality (measured in terms of the ratio between the carbon footprint of the top 10% and the rest of the population) explains 17% of variation in HPI score. Of the top 20 countries in terms of HPI, only one (Chile) has a particularly high carbon inequality ratio. The countries with the highest carbon inequality – China, Botswana and India – all fare relatively poorly on the HPI.

The carbon elite

Emissions are tightly correlated with income. But what drives the large increases in the emissions of top income groups? Fortunately, there is now a good amount of data available on the emissions patterns of the wealthy, both at the global level and in certain regions.

Globally, the top 10% of income earners contribute around half of all emissions (Khalfan et al. 2023). Of these emissions, 60% come from middle and high-income consumption countries in North America and the EU, while 20% are associated with high income earners in India and China. In Europe, the top 10% of the population with the highest carbon footprints per capita account for 27% of the region's carbon footprint, a higher contribution than the bottom 50% of the population.

Most of these consumption emissions are driven by planes, cars, and large homes.

Aviation

Aviation is a highly carbon-intensive sector and has experienced continual growth. Emissions have increased by a factor of 6.8 between 1960 and 2018 (Lee et al. 2021). Prior to the pandemic, the industry was projected to triple between 2020 and 2050 (Fleming, de Lepinay, and Schaufele 2022). Air transport is also one of the most unequally distributed consumption categories. As individuals and households become wealthier, they purchase more plane tickets – and the effect is stronger than for any other consumption category. Data from European households suggests that when incomes increase by 100%, flights increase by roughly 150% (Ivanova and Wood 2020).

In the EU, the top income decile comprise the vast majority of all flights and resulting emissions from flying. In 2019, this decile emitted 3 tCO_2e/cap from flying alone, vastly more than the 0.1 tones emitted on average by the bottom 90% of earners, and itself dwarfed by the 22.6 tones emitted by the top 1%. In total, flying makes up 41% of the 1% highest earners' consumption emissions (Ivanova and Wood 2020).

Land transport

Emissions from land travel, primarily trips in private cars, are also disproportionately emitted by the top 10% and 1%. In the EU, for example, producing, driving, and maintaining vehicles drives 32% of the consumption emissions of the top 10%, making it the most important category for this income group. While the wealthiest 1% often prefer to fly, land travel still makes up 21% of their overall consumption emissions (Ivanova and Wood 2020).

Housing

In North America, housing predominates in the emissions profile of the wealthy. Wealthier Americans have per capita footprints roughly a quarter higher than lower-income residents, primarily due to larger homes. In the richest suburbs, household emissions can be 15 times higher than in neighbouring communities (Goldstein, Gounaridis, and Newell 2020). In Europe, housing emissions make up 14% of the consumption emissions of the top 1% and 21% of the consumption emissions of the top 10%.

Investment

Personal consumption, whether it be of planes, cars, or large houses, is not the full picture, however – especially concerning the richest 1%.

The national level carbon footprint data used in the HPI includes emissions from consumption (either direct or embodied in goods and services), government activities and business investment. At the individual level, investment emissions can be allocated according to ownership (e.g. through shares). Most people's investment emissions are minimal, as they have little capital to invest in polluting firms. Amongst the wealthiest, however, it's a different picture. In 2019, roughly 70% of the total emissions of the top 1% of global earners came from investment rather than through their individual consumption. Moreover, the weight of investments in the per-capita footprints of top incomes groups has risen for decades alongside increasing carbon intensities of investment and increasing wealth inequality (Chancel 2022).

This dynamic is especially striking when looking at billionaires, whose wealth largely comes from returns on assets.

According to rough estimates from Oxfam, the annual carbon footprint of the investments of just 125 of the world's richest billionaires equal the carbon emissions of France. These ultra-wealthy investors, through their shares (and often direct ownership) in companies, emit over a *million* times more carbon than the average person in the bottom 90% of global income. Indeed, the selected billionaires analysed by Oxfam held portfolios twice as pollutive as the broader market and 14% of their investments were in directly emitting industries like fossil fuels and cement (Khalfan et al. 2023).

Photo by Ricardo Frantz on Unsplash

Where do we go from here?

There are three clear findings that emerge from the 2024 Happy Planet Index:

● **Good lives don't have to cost the Earth.** There is a relationship between carbon footprint and adjusted happy life years, but it is non-linear and relatively loose. Whilst there is a tendency for happier healthier countries to have larger carbon footprints, there are many countries that buck the trend and several that come close to good lives within a fair consumption space. The top three countries in the HPI have all to some extent consciously and intentionally prioritised the sustainable wellbeing of their citizens over crude economic growth. This suggests that sustainable wellbeing is achievable – if societies put their minds to it.

● **GDP does not measure what matters.** Of the ten countries with the highest per capita GDP, six have below average HPI scores. In other words, pursuing ever higher GDP does not lead to what really matters: wellbeing within environmental limits. In many wealthy nations, high levels of consumption and production are contributing to ecological collapse without providing proportional health or happiness for their citizens. Poorer countries meanwhile are living in better balance with the environment, but need to ensure they are providing their citizens with the resources needed to live a healthy, happy and dignified life. If maximising wellbeing for both people and the planet is our goal, the HPI reveals that our focus on GDP is leading us in the wrong direction and indicates that our current political and economic systems are woefully inefficient.

● **Inequality is a bad deal for the planet, and for countries.** In all except one of the countries we analysed, the richest 10% have a considerably lower HPI score than their fellow citizens. Their much higher carbon emissions do not translate into higher wellbeing. Overconsumption on the part of the rich is not only bad for the planet, but also a waste. Countries that can address the overconsumption of their wealthiest can greatly reduce their carbon footprint and considerably bring up their average HPI score.

What does this mean for people who care about achieving a sustainable world? We think there are four key lessons that follow from the findings:

Take alternative indicators seriously

Criticism of GDP is almost as old as GDP itself. Indeed, one of its founding architects Simon Kuznets said in 1934 "the welfare of a nation can scarcely be inferred from a measure of national income". The ill-fated US Presidential candidate Bobby Kennedy's speech on the inadequacies of GDP in 1968 has been quoted or played back countless times across the world. In this century, politicians of all flavours have made the same point, from Nicolas Sarkozy in France to Raffael Correa in Ecuador to Jacinda Arden in New Zealand. Most recently, in 2023, the President of the EU, Ursula von der Leyen opened the Beyond Growth conference held at the European Parliament by quoting Kennedy herself and noting that the future depends on more than just 'GDP indicators'.

And yet, 90 years after Simon Kuznets' comments, as we have seen in the introduction to this report, GDP and the economic growth it measures are still treated as the key measuring stick of national success.

How can this be possible? How is it that politicians can pay lip service to critiques of GDP and a more nuanced perspective on measuring progress whilst nevertheless still seeing growth as their top priority? One reason is that, whilst many thoughtful political actors understand the problem of GDP at an intellectual level, there is still very little bottom-up political drive to dethrone it (Whitby, Seaford, and Berry 2014). There are no marches through the streets of Paris or Buenos Aires demanding new indicators of progress, no occupations of Wall Street or Tahrir Square.

Global activist networks such as Avaaz have not launched major campaigns calling for new indicators.

We get it. People are far more likely to mobilise in the face of immediate crises, be it wars, fascism or costs of living. And there are many of those crises to deal with at the moment. But it is the duty of progressive actors to think in the long term and seek to mobilise popular support for changes which are likely to have long-term positive benefits as well.

Develop a people's measures of national success

"Who's counting?"

—*Marilyn Waring (1990),[16] feminist economist and former Member of the New Zealand Parliament.*

Waring's question has been elaborated on by Florence Jany-Catrice, who asks *"Qui decide de ce qui compte?"* or *"who decides what should be counted?"* (Jany-Catrice, 2012). We don't think the HPI should replace GDP. Rather, we think of it as the start of a conversation around what *should* be measured. Since the HPI was launched in 2006, the conversation has been vibrant, with plenty of discussion in the 'beyond GDP' space. But we do not believe that one global indicator invented by 'experts' in the USA and UK should be replaced by another one invented by 'experts' based in the UK and Germany. Instead, we believe it's time for governments to listen to the voices of citizens to define what is important.

Because of that, alongside the HPI, we are also launching a call for communities around the world to begin the path to their *own* citizen-led measures of success. From Chile to Ireland to Sweden, a 'deliberative wave' is currently sweeping the world (OECD 2020), engaging citizen's assemblies and juries in the important decisions that affect nations. It's time to start applying these approaches to one of the biggest decisions: our visions of national success.

We think there are four important requirements:

1. Genuine, deliberative and transparent citizen involvement from a large and representative sample of the population, such as through a citizen's assembly.

2. A co-production process, integrating scientific expertise with citizen's opinions.

3. The identification of a small number of headline indicators (we anticipate between three and six) which do not oversimplify, but are memorable to a large audience.

4. An understanding of the distinction between goals (e.g. people's wellbeing) and means (e.g. a stable economy), and a recognition of the finite constraints imposed by the natural environment

Ultimately, we believe these conversations need to happen at the national level, but regional, city or local initiatives can also be effective in starting the debate. Ultimately, they need to occur at the level at which key decisions are made, including decisions that affect the economy, be it national, regional or local. Elements of this approach are already beginning to emerge. From the development of Oxfam's Humankind Index in Scotland in 2012, to the Wales we Want in 2015, to the Index of Conditions for Wellbeing developed in the Walloon region of Belgium in 2011, to ongoing work on Australia's National Development Index. It's time to consolidate these efforts and create the first citizen's assembly to define national success.

Communicate a positive vision

Change is scary. Sustainability is still seen as a sacrifice by many people. While the majority of the world's population do seem to be willing to indeed sacrifice something to protect the planet when asked in the abstract (Andre et al. 2024) and indeed see radical change as desirable (Sparkman, Geiger, and Weber 2022), we are not seeing such radical proposals for transforming how we live take centre stage politically.

Convincing people and politicians to be bolder is a matter of hearts and minds (Mastny 2021). The data from the Happy Planet Index is part of the package that hopes to engage the 'minds'. It shows that it is possible to live good lives that don't cost the Earth. It is also consistent with a huge wealth of research showing that people who live more sustainably, for example by consuming less meat or driving less, can be just as happy and healthy, if not more, than those who continue to live unsustainably (Creutzig et al. 2018; Echeverría, Gimenez-Nadal, and Molina 2022; Verhofstadt et al. 2016). This kind of evidence should embolden political actors to speak up for policies that make the sustainable option easier, cheaper, or even the only option available.

The Happy Planet Index can also help in terms of convincing the 'hearts'. Stories of good lives that don't cost the Earth are necessary to make sustainable lifestyles seem more attainable and desirable, and the Happy Planet Index has already inspired some artists and thinkers to document and illustrate examples of good lives that care for the planet (Aparici n.d.; Boyce 2022).

Focus on overconsumption and inequality

NGOs such as Oxfam have already identified inequality as one of the leading drivers of climate change. Their latest report shows that the richest 1% of the world's population emit as much CO_2e as two thirds of humanity (Khalfan et al. 2023). Their emissions are enough to cause 1.3 million excess deaths due to heat. The wealthiest are literally killing us with their lifestyles.

For the first time, the Happy Planet Index is able to combine this terrifying injustice with another message – the wealthy barely even benefit from this excess. In terms of wellbeing, their overconsumption is simply wasteful. We have not been able to calculate HPIs for the top 1% of any country, but in the 15 countries we analysed, the HPI scores of the top 10% were way below the average in all but one country. This should embolden political actors to tackle inequality and, particularly, overconsumption. In most countries, the richest are bringing average sustainable wellbeing down.

Of course, there is another side to inequality – the lowest income groups in most countries suffer low HPI scores. Switching consumption opportunities, and related carbon emissions, from the richest to the poorest would be beneficial for everyone.

Final word

We know that our current economic models and measures of progress are obsolete. Nobel Laureates Joseph Stiglitz and Amartya Sen have said this (Stiglitz, Sen, and Fitoussi 2009). European Commission President Ursula von der Leyen has said this. UN Secretary General Antonio Guterres has said this. Pope Francis has said this.

But saying it is not enough. It's time to begin building a new economic system that can achieve wellbeing for all within environmental limits. This is a daunting task, not just in terms of the technical challenges, but also the political challenges. We point readers to the excellent work of organisations such as the New Economics Foundation, ZOE (the institute for future-fit economies), and the Club of Rome, as well as researchers and economists like Julia Steinberger, Ann Pettifor and Tim Jackson who are working out the details of how economic systems need to be different – be it in terms of taxation systems, ownership models or welfare systems.

We do not want to pretend that changing how we measure progress will lead to a new economic system on its own. Of course it will not, and political scientists have warned against being naïve about this (Hayden and Dasilva 2022). Nevertheless, new indicators of progress are needed if we are to transition to a system which is not dependent on economic growth to achieve social outcomes. They can help inspire both the public and politicians to embrace that new system. And, if we come together as societies to decide what these indicators should be, they can contribute to a new common sense of purpose and greater democratic energy.

It's time to talk about what matters to us.

Photo by Alex Radelich on Unsplash

References

○ Abdallah, Saamah. 2023. 'We Don't Want to Leave the Beyond GDP Agenda to the "Experts"'. *Hot or Cool.* Retrieved 26 March 2024 (https://hotorcool.org/hc-posts/we-dont-want-to-leave-the-beyond-gdp-agenda-to-the-experts/).

○ Akenji, Lewis, Magnus Bengtsson, Viivi Toivio, and Michael Lettenmeier. 2021. 1.5-Degree Lifestyles: Towards a Fair Consumption Space for All. Berlin: Hot or Cool Institute.

○ Andre, Peter, Teodora Boneva, Felix Chopra, and Armin Falk. 2024. 'Globally Representative Evidence on the Actual and Perceived Support for Climate Action'. Nature Climate Change 14(3):253–59. doi: 10.1038/s41558-024-01925-3.

○ Aparici, Ainara. n.d. 'Las Felicidades del Mundo'. Retrieved 27 March 2024 (http://lasfelicidadesdelmundo.blogspot.com/).

○ Attenborough, David. 2020. A Life on Our Planet: My Witness Statement and a Vision for the Future. 1st edition. Ebury Press.

○ Boyce, Christopher. 2022. A Journey for Happiness: The Man Who Cycled to Bhutan. Dekyid.

○ Chancel, Lucas. 2022. 'Global Carbon Inequality over 1990–2019'. Nature Sustainability 5(11):931–38. doi: 10.1038/s41893-022-00955-z.

○ Chancel, Lucas, and Thomas Piketty. 2021. 'Global Income Inequality, 1820–2020: The Persistence and Mutation of Extreme Inequality'. Journal of the European Economic Association 19(6):3025–62. doi: 10.1093/jeea/jvab047.

○ Colebrook, Catherine. 2018. Measuring What Matters: Improving the Indicators of Economic Performance. Discussion Paper.

○ Coote, Anna. 2023. Universal Basic Services: Provisioning for Our Needs within a Fair Consumption Space. Berlin: Hot or Cool Institute.

○ Coscieme, Luca, Lewis Akenji, Elli Latva-Hakuni, Katia Vladimirova, Kirsi Niinimaki, Kristian Nielsen, Claudia Henninger, Cosette Joyner-Martinez, Samira Iran, and Erminia D'Itria. 2022. Unfit, Unfair, Unfashionable: Resizing Fashion for a Fair Consumption Space. Berlin: Hot or Cool Institute.

○ Creutzig, Felix, Joyashree Roy, William F. Lamb, Inês M. L. Azevedo, Wändi Bruine de Bruin, Holger Dalkmann, Oreane Y. Edelenbosch, Frank W. Geels, Arnulf Grubler, Cameron Hepburn, Edgar G. Hertwich, Radhika Khosla, Linus Mattauch, Jan C. Minx, Anjali Ramakrishnan, Narasimha D. Rao, Julia K. Steinberger, Massimo Tavoni, Diana Ürge-Vorsatz, and Elke U. Weber. 2018. 'Towards Demand-Side Solutions for Mitigating Climate Change'. Nature Climate Change 8(4):260–63. doi: 10.1038/s41558-018-0121-1.

○ Daly, Herman E., and John B. Cobb. 1994. For The Common Good: Redirecting the Economy toward Community, the Environment, and a Sustainable Future. Revised edition. Boston, Mass: Beacon Press.

○ Diener, Ed, and Christie N. Scollon. 2003. 'Subjective Well-Being Is Desirable, but Not the Summum Bonum'. Minneapolis, MN.

○ Dietz, Rob, and Daniel O'Neill. 2013. Enough Is Enough: Building a Sustainable Economy in a World of Finite Resources. 1st edition. San Francisco: Berrett-Koehler Publishers.

○ Echeverría, Lucía, J. Ignacio Gimenez-Nadal, and José Alberto Molina. 2022. 'Green Mobility and Well-Being'. Ecological Economics 195:107368. doi: 10.1016/j.ecolecon.2022.107368.

○ Fioramonti, Lorenzo. 2013. Gross Domestic Problem: The Politics behind the World's Most Powerful Number. London ; New York: Zed Books.

○ Fleming, Gregg, Ivan de Lepinay, and Roger Schaufele. 2022. 'Environmental Trends in Aviation to 2050'. Pp. 24–31 in Innovation for a Green Transition: 2022 Environmental Report. ICAO.

○ Goldstein, Benjamin, Dimitrios Gounaridis, and Joshua P. Newell. 2020. 'The Carbon Footprint of Household Energy Use in the United States'. Proceedings of the National Academy of Sciences 117(32):19122–30. doi: 10.1073/pnas.1922205117.

○ Haberl, Helmut, Dominik Wiedenhofer, Doris Virág, Gerald Kalt, Barbara Plank, Paul Brockway, Tomer Fishman, Daniel Hausknost, Fridolin Krausmann, Bartholomäus Leon-Gruchalski, Andreas Mayer, Melanie Pichler, Anke Schaffartzik, Tânia Sousa, Jan Streeck, and Felix Creutzig. 2020. 'A Systematic Review of the Evidence on Decoupling of GDP, Resource Use and GHG Emissions, Part II: Synthesizing the Insights'. Environmental Research Letters 15(6):065003. doi: 10.1088/1748-9326/ab842a.

○ Hayden, Anders, and Clay Dasilva. 2022. 'The Wellbeing Economy: Possibilities and Limits in Bringing Sufficiency from the Margins into the Mainstream'. Frontiers in Sustainability 3:966876. doi: 10.3389/frsus.2022.966876.

○ Hirschman, D., and E. P. Berman. 2014. 'Do Economists Make Policies? On the Political Effects of Economics'. Socio-Economic Review 12(4):779–811. doi: 10.1093/ser/mwu017.

○ Ivanova, Diana, and Richard Wood. 2020. 'The Unequal Distribution of Household Carbon Footprints in Europe and Its Link to Sustainability'. Global Sustainability 3:e18. doi: 10.1017/sus.2020.12.

○ Jackson, Tim. 2016. Prosperity without Growth: Foundations for the Economy of Tomorrow. 2nd ed. London: Routledge.

○ Jany-Catrice, Florence. 2012. 'Quand mesurer devient maladif'. Revuew Projet 2012/6 (n. 331): 6-13. (https://www.cairn.info/revue-projet-2012-6-page-6.htm)

○ Jeffrey, Karen, and Juliet Michaelson. 2015. Five Headline Indicators of National Success: A Clearer Picture of How the UK Is Performing. London: New Economics Foundation.

○ Khalfan, Ashfaq, Astrid Nilsson Lewis, Carlos Aguilar, Jacqueline Persson, Max Lawson, Nafkote Dabi, Safa Jayoussi, and Sunil Acharya. 2023. Climate Equality: A Planet for the 99%. Oxford, UK: Oxfam International.

○ Lee, D. S., D. W. Fahey, A. Skowron, M. R. Allen, U. Burkhardt, Q. Chen, S. J. Doherty, S. Freeman, P. M. Forster, J. Fuglestvedt, A. Gettelman, R. R. De León, L. L. Lim, M. T. Lund, R. J. Millar, B. Owen, J. E. Penner, G. Pitari, M. J. Prather, R. Sausen, and L. J. Wilcox. 2021. 'The Contribution of Global Aviation to Anthropogenic Climate Forcing for 2000 to 2018'. Atmospheric Environment 244:117834. doi: 10.1016/j.atmosenv.2020.117834.

○ Mastny, Lisa. 2021. Communications Scan on Sustainable Living.

○ Nilsson, August Håkan, Johannes C. Eichstaedt, Tim Lomas, Andrew Schwartz, and Oscar Kjell. 2024. 'The Cantril Ladder Elicits Thoughts about Power and Wealth'. Scientific Reports 14(1):2642. doi: 10.1038/s41598-024-52939-y.

○ OECD. 2020. Innovative Citizen Participation and New Democratic Institutions: Catching the Deliberative Wave. Paris: Organisation for Economic Co-operation and Development.

○ O'Neill, Daniel W., Andrew L. Fanning, William F. Lamb, and Julia K. Steinberger. 2018. 'A Good Life for All within Planetary Boundaries'. Nature Sustainability 1(2):88–95. doi: 10.1038/s41893-018-0021-4.

○ Parrique, Timothee, Jonathan Barth, Francois Briens, Christian Kerschner, Alejo Kraus-Polk, Anna Kuokkanen, and Joachim H. Spangenberg. 2019. Decoupling Debunked – Evidence and Arguments against Green Growth as a Sole Strategy for Sustainability. European Environmental Bureau.

○ Philipsen, Dirk. 2015. The Little Big Number: How GDP Came to Rule the World and What to Do about It. Princeton University Press.

○ Policy Profession Support Unit. n.d. The Policy Starter Pack: An Induction Guide to Welcome You to the Policy Profession. London: Civil Service Learning.

○ Sparkman, Gregg, Nathan Geiger, and Elke U. Weber. 2022. 'Americans Experience a False Social Reality by Underestimating Popular Climate Policy Support by Nearly Half'. Nature Communications 13:4779. doi: 10.1038/s41467-022-32412-y.

○ Stiglitz, Joseph E., Amartya Sen, and Jean-Paul Fitoussi. 2009. Report by the Commission on the Measurement of Economic Performance and Social Progress.

○ Terzi, Alessio. 2021. Economic Policy-Making Beyond GDP: An Introduction. Discussion Paper. 142. European Commission.

○ Verhofstadt, E., L. Van Ootegem, B. Defloor, and B. Bleys. 2016. 'Linking Individuals' Ecological Footprint to Their Subjective Well-Being'. Ecological Economics 127:80–89. doi: 10.1016/j.ecolecon.2016.03.021.

○ Vladimirov, Martin, Alexander Gerganov, Vanya Petrova, and Marius Koeppen. 2023. Developing Alternative Visions for Assessing Progress to Sustainable Development 'Beyond GDP'. European Commission.

○ Waring, Marilyn. 1990. If Women Counted: A New Feminist Economics. San Francisco: Harpercollins.

○ Whitby, Alistair, Charles Seaford, and Christine Berry. 2014. The BRAINPOoL Project: Beyond GDP – From Measurement to Politics and Policy. World Future Council.

○ Wiedenhofer, Dominik, Doris Virág, Gerald Kalt, Barbara Plank, Jan Streeck, Melanie Pichler, Andreas Mayer, Fridolin Krausmann, Paul Brockway, Anke Schaffartzik, Tomer Fishman, Daniel Hausknost, Bartholomäus Leon-Gruchalski, Tânia Sousa, Felix Creutzig, and Helmut Haberl. 2020. 'A Systematic Review of the Evidence on Decoupling of GDP, Resource Use and GHG Emissions, Part I: Bibliometric and Conceptual Mapping'. Environmental Research Letters 15(6):063002. doi: 10.1088/1748-9326/ab8429.