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# We Need to Talk About the Carbon Budget



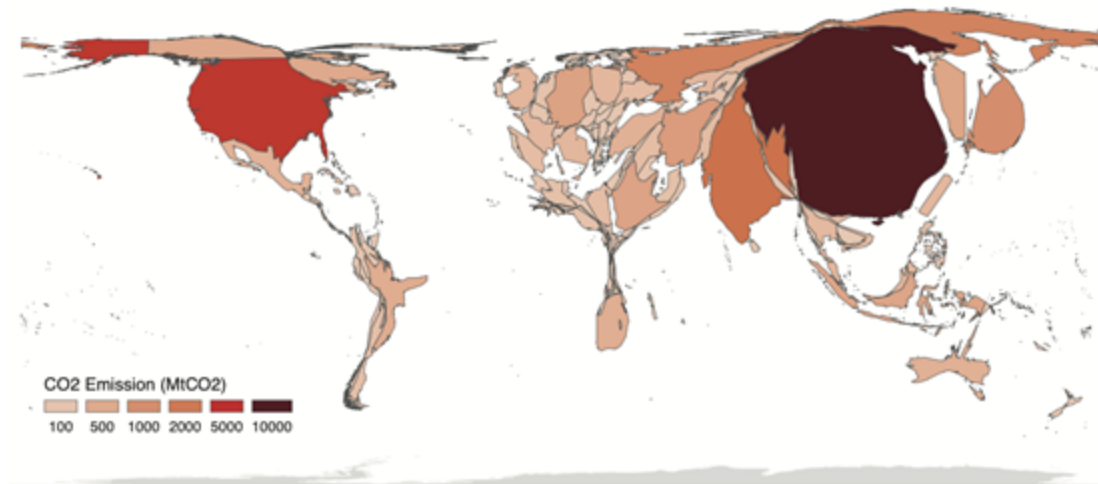
By [Beatrice Weder di Mauro](#) , INSEAD

**With the release of the IPCC’s latest report confirming that the world is alarmingly far from achieving global climate goals, governments must set mandatory emissions targets for the private sector, establish a robust global carbon market, and distribute the global carbon budget and emissions rights fairly.**

It’s grotesque, isn’t it? A map of the world with countries scaled to match their annual CO2 emissions betrays a bloated Global North and a squeezed South. Unlike a mirror at a funfair that makes us laugh at some impossibly distorted version of reality, this reflection speaks a sobering truth – of global inequity, of haves and have nots.

FIGURE 2.6 DISTRIBUTION OF TOTAL EMISSIONS WORLDWIDE

Countries scaled by total CO<sub>2</sub> emissions



Source: Own compilation based on Friedlingstein et al. (2021).

Faced with the wicked problem of tackling [climate breakdown](#) – detailed in the [latest report](#) by the IPCC (Intergovernmental Panel on Climate Change) – and reducing carbon emissions, we could see the challenge as one primarily confronting the Global North. Indeed, Nationally Determined Contributions (NDCs), the Paris Agreement’s central mechanism for facilitating national commitments to reducing emissions, frames decarbonisation of the global economy as a task mostly for countries with high emissions. But even if NDCs were ambitious enough to deliver [net zero](#) (emissions) by 2050, they would still only address the half of the problem that is already manifest but not the half that lies ahead.

### A problem of two halves

While the Global South may be a small emitter today, it is also where most [projected increases in the global population](#) will occur, with millions aspiring to better lives. No one can rightly deny this aspiration – ‘leave no one behind’ is the transformative promise of the UN Sustainable Development Goals – but historically, income growth has been strongly connected with [higher per capita carbon emissions](#).

Substantial fossil fuel reserves and vast carbon storage in virgin forests in the Global South mean the potential for increased emissions is huge, and the [Amazon has already become a source of carbon emissions](#) rather than

a sink for CO<sub>2</sub>. Yet for the world to limit global heating to 1.5°C or even 2°C, most of the forests must be conserved and fossil fuel reserves must **remain untouched**. And this makes the challenge for the South – of not ‘carbonising’ while developing – one at least as significant as decarbonising the North.

Countries in the South are also more vulnerable to climate risks. They will experience increased drought and flooding even if global warming is limited to 1.5°C, and need significant **climate adaptation finance** – estimated to be between US\$160 billion and US\$340 billion by 2030, going up to US\$565 billion by 2050 – that enables them to face **already inevitable climate impacts**. In addition, realising the transition to net zero will rely on large capital flows from North to South, including through a **range of incentives** such as **debt-for-nature swaps** that help protect natural carbon sinks.

Optimistic technologists believe that emerging and developing economies in the Global South will be able to avoid the ‘brown road’ to prosperity and **leapfrog directly to a clean energy, net-zero future**. This would magically eliminate any trade-off between growth and emissions but it relies on richer countries quickly scaling clean technology, making it cheaper, and eliminating sizeable **green premia**. If technology does not eliminate these, the alternative is an approach long-favoured by economists: carbon pricing. But unfortunately, carbon taxes are deeply unpopular and have been taken off the table in key countries like the United States.

How then can we reconcile and deliver on both decarbonising the North and forging a clean development path in the South?

The starting point lies in shifting from price-based solutions (carbon taxes) to quantity-based solutions (the remaining carbon budget). In terms of economic thinking, this means shifting from Pigou (pricing externalities) to Coase (cap, allocate rights and trade). In practice, it means establishing a functioning and feasible global carbon credit market, as explored in **Climate and Debt**, the latest Geneva Report on the World Economy. This will not be easy given current markets are fragmented and embryonic, and participation is voluntary.

Firstly, to improve market functioning, mandatory carbon emissions reduction requirements must be put in place for all large emitters, and carbon credits must be shown to be **credible so that markets scale and prices** rise to levels that reward countries and companies for preserving

carbon sinks, developing nature-based solutions, and engaging in **nature-positive business**. There are **various competing initiatives** trying to bring transparency and accountability to the voluntary carbon markets.

Secondly, and more importantly, the world must squarely face the rapidly shrinking but increasingly alarming elephant in the room. According to the IPCC, if the average global temperature rise is to **remain below 1.5°C with more than 80 percent certainty**, the world has a carbon emissions budget of just 300 gigatonnes of CO<sub>2</sub>. And with 50 percent certainty, only 500 gigatonnes. At current emissions levels, the budget will be exhausted in less than a decade. To be feasible, any system for allocating remaining emissions rights must be perceived as equitable. And so the question is, who should be allowed to 'use up' the remaining budget?

### **Equitable energy transition partnerships**

NDCs implicitly suggest allocating the bulk of the remaining carbon budget to the biggest emitters in the North. At the other extreme, countries that have emitted the most in the past might receive only a small part of the remaining budget, which would immediately create a large carbon market. But neither of these approaches balances ethics with political realism in a way that is fair and effective.

A more balanced approach would be to distribute remaining emissions rights equally per capita across the globe, and then adjust them to account for past and future emissions opportunities. For poor countries with large carbon sinks, for example, the opportunity costs of low future emissions are high, while those endowed with a wealth of natural renewable resources can more easily avoid future emissions. A robust global carbon market would then deliver the efficient use of the world's remaining emissions budget through global 'cap and trade'.

Achieving global consensus for and establishing such an approach will take time, of which we have very little. A less ambitious but similar and more achievable approach is to greatly expand 'just energy transition partnerships' in which rich countries cut a deal with poorer countries to pay for green technology in return for phasing out coal and leaving remaining reserves untouched. Indonesia, for example, recently received **US\$20 billion** from a coalition of rich countries through such a deal. Securing further timely deals like this would usefully complement a global deal

through targeting priority emissions mitigation 'hot spots' such as the Amazon rainforest.

President Luiz Inácio Lula da Silva of Brazil has called for the [COP30 climate summit in 2025 to be held in the Amazon rainforest](#), an ecosystem vital for global climate stability. What better place for the world to turn things around, and what better milestone towards which our leaders might work to secure a step change on the road to net zero?

**Find article at**

<https://knowledge.insead.edu/responsibility/we-need-talk-about-carbon-budget>

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**About the author(s)**

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