

A MANIFESTO TO

COMBAT GLOBAL HEATING



The Environmental Justice Foundation Charitable Trust is a UK registered charity that believes we all share a basic human right to a secure natural environment.

EJF has teams based in Belgium, Germany, Ghana, Indonesia, Japan, Liberia, Sierra Leone, South Korea, Taiwan, Thailand and the UK. Our investigators, researchers, filmmakers and campaigners work with grassroots partners and environmental defenders across the globe.

Our work to secure environmental justice aims to protect our global climate, oceans, forests and wildlife and defend basic human rights.



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Protecting People and Planet

This manifesto, deliberately brief, is designed to point the way and highlight what can and should be done to achieve a sustainable, survivable future, providing a framework for the system change we urgently need. It borrows generously from existing solutions and suggestions, from experts and commentators. We do not claim originality, quite the opposite: we highlight the best proposals already known or developed that can be brought into operation immediately, for both the specific policy recommendations and the overall framing of the wholesale, market-wide, global changes that are needed to deliver net-zero carbon and climate justice.

Zero-carbon means reducing human-caused greenhouse gas (GHG) emissions – such as those from fossil-fuelled processes,¹ including vehicles, energy generation and factories – to as close to zero as possible. We need an urgent transition to as many zero-carbon goods and services as technologically feasible in order to meet the commitments of the Paris Agreement.

Net-zero emissions akin to “climate neutrality” means balancing human-caused greenhouse gas (GHG) emissions with the removal of GHGs in a process known as carbon removal. This can include natural processes such as photosynthesis and point to the benefits of protecting and restoring forests and the ‘blue carbon’ in our oceans. With our current technological capacity, we may not be able to fully switch to 100% zero-carbon economies but we can achieve net-zero carbon by 2035 by offsetting limited carbon emissions in certain hard-to-abate sectors through the use of nature-based solutions for carbon sequestration. Carbon removal technologies such as direct air capture and storage (DACS) may offer some solutions, but have yet to be tested at scale and should not be viewed as an alternative to nature-based solutions that are readily available and economically realistic. In all instances and all circumstances, the use and expansion of nature-based solutions must be just and equitable and must not be used as an alternative or excuse to delay the decarbonisation of our economies.

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FOREWORD

**CLIMATE BREAKDOWN IS
THE ISSUE OF OUR TIME.**

**IT PRESENTS AN
EXISTENTIAL THREAT
THAT WILL JEOPARDIZE
THE WELL-BEING AND
BASIC HUMAN RIGHTS
OF HUNDREDS OF
MILLIONS OF PEOPLE
WHILE DESTROYING OUR
PLANET'S NATURAL
ENVIRONMENTS AND
ELIMINATING SPECIES.**

WE FACE A CLEAR AND PRESENT DANGER.

Our climate is changing, and while this is already harming many today, ultimately it will harm us all if we do not act now with far greater energy and ambition to eradicate carbon from our economies by 2035 at the latest.

Climate breakdown is the issue of our time. It presents an existential threat that jeopardises the well-being and basic human rights of hundreds of millions of people in the near-term while destroying our planet's natural environments and eliminating species.

The science is clear: no one of credibility or substance now questions it. We are on a pathway to climate catastrophe. The carbon that is already baked into our system will cause massive devastation, disruption and pain. Emitting more carbon will simply amplify these impacts.

The 2019 report from the UN Intergovernmental Panel on Climate Change (IPCC) spelled out the stark truth – a 2°C rise would see the loss of virtually all coral reefs; extreme heatwaves for a third of the planet; ice-free summers in the Arctic; and dramatic sea-level rise. Currently, we are on a pathway to 3 degrees of heating.

What the report did not spell out was what this means for humanity. Already at 1°C increase, global heating is a threat multiplier, compounding existing economic, political, social and ecological stresses and inflicting harsh penalties in the poorest communities on our planet. All of these changes are interconnected and will amplify each other, devastating global biodiversity and making vast areas of our planet uninhabitable.

We already live in a world of climate apartheid, one of astonishing injustice where those who contribute the least to our heating planet, its poorest and most vulnerable inhabitants, are being affected first and worst, while the world's wealthy are still able to avoid the worst consequences of our addiction to carbon.

Yet the climate crisis will further exacerbate this disparity and these injustices, undoing advances promoting basic human rights and development, most particularly in the world's poorer countries. At the same time, it will present a growing threat to global peace.² While the plight of wildlife and the natural world must be key to our thinking on climate, we must also place people and justice at the centre of our action. Failure to do so would not only be unjust and inequitable, it would magnify existing challenges and promote new threats that lead to whole-scale climate breakdown. Global heating is the key issue of environmental justice and it must be viewed through a human rights lens alongside the environmental one.

Although our future is already compromised, it is not yet committed to the worst impacts. But we must be clear that without a wholesale shift in priorities and action today,

this decade will bring devastating chaos, characterised by the collapse of environments and economies; the deaths of millions and, forced migration of tens of millions more. Civil conflict and violence will escalate, along with war and competition for dwindling resources that can no longer sustain the human population. Our world will be ravaged.

But it does not have to be this way.

Despite the challenges, it is not too late to act, to roll back the worst impacts of our heating world. The financial, technological and logistical capabilities needed for these solutions already exist, these tools merely need to be re-directed. What is needed now, above all, is political will and with it, ambitious leadership.

While government commitments already made to combat climate change are a step in the right direction, they are too little and too slow. A net-zero carbon economy must be achieved by 2035: the 2050 pledges will fail if we are to keep to below 2C of heating and protect people and our planet from the worst effects of the climate catastrophe.

The economic rationale to act now is also compelling. All too often action to secure and protect our natural environment is classified as a cost - but in reality, action to combat global heating will be the greatest cost saving of all time.

The longer we wait, the higher the cost to our economies. The transition to net-zero carbon will require vast sums of money but spending now will protect us from the long-term future costs of climate breakdown. These "costs" today are an investment in our collective future well-being.

There will be a direct correlation between the ambition and action delivered today and how many people and species will be eradicated; how much social disruption, hunger, and poverty is caused; how large the mass migrations of climate refugees will be; and how much violence and conflict are experienced.

Governments must lead the transition to sustainability and harness the power of the marketplace and the energy and ingenuity of business. This transition must take people and society with it, exploding the myth that protecting our natural world always comes at a cost. The cost of inaction is far greater.

In combatting these threats we have a clear, common, shared interest. By working together as a global community, we can still avert the most damning impacts, the gravest injustices and the worst violence. But we must act now. The way is clear and our leaders must show true political will and lead – we demand that they do so.

Steve Trent

Founder | Executive Director, EJF



GOVERNANCE AND LEADERSHIP

IN ORDER TO KEEP GLOBAL HEATING BELOW 1.5C, WE NEED A “WHOLE OF GOVERNMENT” APPROACH WHICH INTEGRATES MITIGATING AND ADAPTING TO GLOBAL HEATING INTO EVERY POLITICAL PORTFOLIO.

01 GOVERNMENT ACTION AND A 'WHOLE OF GOVERNMENT' APPROACH

The climate crisis is inherently trans-boundary and global, in scope and scale, and therefore calls for coordinated international action to achieve net-zero carbon by 2035.

Climate should be at the top of the agenda for every government and international institution. International action needs to focus on the rule of law, on shared and agreed binding commitments that are equitable, achievable and enforceable. Multi-lateral and global collaboration is key.

We need a 'whole of government' approach which integrates mitigating and adapting to global heating into every political portfolio and that is led with ambitious vision from heads of government and the full capacity of executive authorities. Each government department must include and prioritise action on climate mitigation to remove carbon from all sectors of our economies.

National government targets need to be enshrined in law and supported by the promulgation of the laws and regulations needed to facilitate delivery.

Governments can and should leverage their unique authority over fiscal and monetary policy to drive changes in the fundamental architecture of national economies, with special reference to energy production, manufacturing, food production, construction, transport and trade, as well as for government procurement.

Governments must heavily tax carbon, allocating carbon a high taxable value while removing all subsidies or indirect incentives for its production and use. The application of large-scale, system-wide subsidies for renewable energy alongside market-driven incentives must be employed across all sectors, being driven and amplified by central government policy.

System-wide adoption of rigorously enforced policies for environmental sustainability and the transitioning toward a circular economy, again supported by fiscal and monetary policy, is necessary.

THINK GLOBALLY, ACT LOCALLY

Empowering local government to act will be key. While central authorities must lead on designing the legal, fiscal and financial frameworks and binding targets, alongside international collaboration and overarching policies to combat global heating, local government will be on the frontline of delivery and critical to implementation. These institutions must be financed, empowered and enabled to act for and within their local communities, taking people with them, building trust and minimising opposition.

GOVERNMENT MUST ADDRESS THE WHOLE OF THE ECONOMY IN A UNIFIED WAY

This whole of government approach must be accompanied by a 'whole-of-the-economy' perspective and approach. The most effective approaches to achieving net-zero carbon will require a cross-sectoral, integrated, whole economy view. Creating individual ghettos for transport, construction, energy production and other sectors will only create artificial economic and operational barriers to change, while obstructing the clear local and national planning and joined-up thinking to drive the necessary scope and speed of change.

NAMING AND SHAMING: PEER PRESSURE FOR BEST BEHAVIOURS

Governments must work together to leverage the power of the international stage and the tools of diplomatic engagement to push for climate action everywhere. One key aspect of this must be 'naming and shaming' 'climate outlaws' and holding accountable the leaders and countries that are failing to protect the environment or take action to reduce greenhouse gas emissions and protect their citizens from the impacts of global heating.

COVID-19 RECOVERY PACKAGES: AN OPPORTUNITY TO SAVE OUR FUTURE

Governments worldwide have already pledged trillions of dollars in COVID-19 recovery packages: over US\$ 10 trillion has already been earmarked in recovery plans,³ and some experts estimate that the final amount will total up to US\$ 20 trillion,⁴ all delivered in a relatively short timeframe. A stimulus package of this size has never been seen in human history: it dwarfs the packages devised at the end of World War II and the 2008 stock market crash.

How 'green' this stimulus package is will determine our carbon pathway for a decade or more.

CLIMATE EXPERTS ESTIMATE THAT US\$ 1.4 TRILLION IS NEEDED PER YEAR FROM 2020 TO 2024 TO INVEST FOR A PARIS-COMPATIBLE PATHWAY - OR ANNUALLY 10% OF THE TOTAL STIMULUS PACKAGE COMMITTED TO DATE.⁵

We are presented with the opportunity of a millennia: using these funds to drive the transition to net-zero carbon and the green economy can, quite literally, save our world and our future.



02 ACTION ON CLIMATE - AN ECONOMIC BENEFIT, NOT A COST

An overarching rejection of the idea that environmental conservation and climate action are a cost must lead the necessary change.

Accompanying this must be a much deeper, much better-informed understanding of the multiple economic and social benefits that will arise from the wholesale switch to a net-zero carbon economy and the effective protection of our natural environment. Determined action to mitigate against global heating today will not be a cost, it will be the biggest cost saving of all human history.

Renewable energy is already one of the fastest growing industries in the world: in the US alone, over 100,000 jobs were created in the sector from 2015 to 2019,⁶ representing more than a 25% growth in the renewable energy workforce. These numbers pre-date the Covid-19 pandemic and its accompanying economic recession, but even as global economies took a nosedive in 2020, the renewables sector bucked the trend and saw record growth of almost 7% in 2020, despite a temporary global decrease in energy demand.⁷ The International Energy Agency expects this momentum to continue into 2021, and predicts that renewable capacity are on track to grow nearly 10%.⁸ US President Joe Biden's climate plan includes an ambition to create 7 million more jobs in the American renewable energy sector by 2030.⁹

THE INTERNATIONAL LABOUR ORGANIZATION PREDICTED THAT ACTIONS TO MEET THE PARIS AGREEMENT TARGETS WOULD CREATE APPROXIMATELY 18 MILLION NET NEW JOBS GLOBALLY BY 2030.¹⁰

This switch to a net-zero carbon economy must be carried out in a globally equitable manner, recognising the differences in emissions and capacity to effect immediate change across the globe.



WORLDS APART: THE IMPACTS OF RISING GLOBAL TEMPERATURES

Before the start of the Industrial Revolution, humankind had never known an atmosphere with 300 parts per million (ppm) of carbon.

The level of carbon identified by the IPCC as “safe” of 350 ppm has been swept away; 400 ppm has passed and as I write this in early 2021, we stand at 414 ppm, with certainty that levels will increase. Atmospheric carbon will continue to increase, surpassing levels not seen in the past 3 million years, when sea-levels were around 18 metres (60 feet) higher than they are today. These figures are translating into increased global temperatures: our planet is already around 1.2 degrees warmer than at any point in human history.

Short of drastic intervention, global heating above pre-industrial levels will reach 1.5°C as early as 2030. This brings with it severe social and ecological consequences for the entire planet, including increased flood risks, extreme heatwaves, rapid biodiversity decline and sea-level rise.

One of the key points from the most recent IPCC report, states that should heating reach 2°C, these impacts become significantly worse in both terrestrial and marine environments.

Some of the potential impacts of 2°C compared to 1.5°C include yields of fish and certain crops declining at twice the rate; the near-complete loss of coral reefs and; a ten-fold increase in sea ice-free Arctic summers. In addition, at the ‘tipping point’ of 2°C or more of heating, rising temperatures are expected to set-off processes such as the loss of polar ice and permafrost, shifts in Amazon and boreal forest. These will make skyrocketing temperatures self-reinforcing and change parts of the Earth systems dramatically and irreversibly.

The 2020 UN Environment Programme’s Emissions Gap Report states that under our current emissions trajectory, we are likely to reach at least 3°C of heating by the end of the century. The world at 3°C would see almost 10% of Earth’s biodiversity threatened with extinction¹¹ and the disappearance of large parts of key carbon sequestering ecosystems such as the Amazon rainforest and the frozen tundra of the Arctic Circle. At least 200 million people could be displaced by rising sea levels,¹² and the world could lose approximately 3% of 2100 world GDP, with losses concentrated in already vulnerable populations and in developing countries in Southeast Asia and Africa.¹³

Achieving net-zero carbon by 2035 will require massive reductions in emissions across every part of every sector in society. Simultaneously, it will necessitate investment to deliver vastly greater supplies of reliable renewable energy and the development of national grids and distributions networks, electricity storage and associated infrastructure fit for this purpose. Furthermore, we must seek to also use less energy and improve the energy efficiency of our grids, homes, and businesses.

BIOFUELS AND NUCLEAR ARE NOT THE ANSWER

Crucially, these changes must be delivered without relying on unsustainable measures.

The rapid growth of truly renewable energy production means that nuclear power can no longer be justified as a tool to ‘bridge the gap’ as that moment has already arrived.¹⁴ Furthermore, the world cannot rely on biofuels to drive the decarbonisation of our economy, as the cultivation of crops such as palm oil and sugarcane - that have become the mainstay of the biodiesel industry - drive deforestation, species declines and food insecurity in many of the world’s irreplaceable habitats.¹⁵ In many instances, biofuels are neither carbon neutral nor efficient. For example, while it may be convenient to describe the process whereby woodchips produced from Canadian old-growth forests, transported by ships powered using fossil fuels and burned in a UK power-station as ‘carbon neutral’, it clearly is not, and it represents a hugely inefficient and unsustainable use of energy and resources.



**A 2°C RISE* WILL LEAD
TO A TEN-FOLD INCREASE
IN SEA ICE-FREE
ARCTIC SUMMERS...**

***(COMPARED TO 1.5 °C)**

L.W. / Unsplash



**...AT LEAST 200
MILLION PEOPLE
DISPLACED BY
SEA LEVEL RISE**

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**...THE NEAR-
COMPLETE
LOSS OF
CORAL REEFS.**

© EJF



Wind energy costs US\$26-44 per megawatt hour; the cheapest fossil fuel, gas combined cycle, costs US\$44-73 per megawatt hour.



03 RENEWABLES: THE ECONOMIC WINNER

The first, fundamental action will be to end all new fossil fuel extraction (oil, gas, coal) and rapidly phase-out existing production.

To do this, adequate support and credible alternative livelihood options must be provided to the communities dependent on these extractive industries. Central to this should be re-employment in a rapidly and massively expanded renewables industry (wind, solar, tidal and wave power and the tech innovations – such as battery tech - to support and expand them) and the creation of an infrastructure fit-for-purpose to support energy generation and efficient distribution.

Support to affected communities to invest in and benefit from local renewable energy projects can help ‘level-up’ economically-disadvantaged areas, providing decentralised, community-owned low-cost and sustainable energy.

The sums add up. The cost of generating electricity from sustainable energy continues to drop sharply, outperforming conventional generation in many cases, as Lazard’s Levelized Cost of Energy Analysis shows.¹⁶ Building unsubsidised wind and solar power is now cheaper than running already built fossil and nuclear facilities in most cases.¹⁷ For example, wind energy costs US\$26-\$44 per megawatt hour, whereas the cheapest fossil fuel, gas combined cycle, costs US\$44-73 per megawatt hour.

The patterns are even starker when subsidies are accounted for: globally, the International Monetary Fund estimates that fossil fuel subsidies were worth approximately US\$4.7tn, or 6.3% of global GDP in 2015 comprising direct payments and the economic cost of permission to pollute freely.¹⁸ Remove these subsidies and the transparent market cost of fossil fuels would rapidly surge higher: removing these subsidies with pace and purpose would clear many of the existing obstacles to a renewable future.

100% RENEWABLE ENERGY IS POSSIBLE, AND WE CAN GET THERE WELL BEFORE 2050 USING THE TECHNOLOGY WE ALREADY HAVE, BUT ONLY IF GOVERNMENTS DEMONSTRATE THE POLITICAL COURAGE AND LEADERSHIP TO MAKE THE LEAP.¹⁹



**FOSSIL FUEL SUBSIDIES WERE
WORTH APPROXIMATELY
US\$4.7TN, OR 6.3% OF
GLOBAL GDP IN 2015**

04 PUTTING A PRICE ON CARBON

Uniquely, governments and central banks control fiscal policy and either control or have wide-ranging influence over monetary policy and therein lies their best tools and the most obvious action for change.

Key to reaching net-zero carbon will be the engagement of both fiscal (taxes on carbon and subsidies and support to net-zero) and monetary tools to their fullest extent to provide the liquidity in the economy to ensure and enable the adoption of net-zero pathways. For example, look no further than the Covid-19 stimulus packages being released across the world. Put simply, tax carbon heavily and give carbon a price while simultaneously applying substantial tax incentives and direct subsidies to the expansion of renewable energy and associated storage facilities. Governments can also aggressively invest in research and development of new technologies and the means to further reduce costs and increase efficiency in renewables

CARBON EMISSION TAXES

One strong option is the use of carbon emission taxes which can be phased in (increasing every year) until 2035 when net-zero carbon is achieved. These would include 'carbon border pricing' taxes, where a tax is levied on imports from outside the country or bloc from high emitting countries with less stringent climate policies. This type of policy is currently under consultation in the EU for a range of sectors from cement to textiles. Carbon border pricing avoids the risk of the environmental and human injustice of 'carbon leakage', where EU companies and individuals simply shift the emissions resulting from commodity production to an area outside the EU.²⁰

Such fiscal incentives would drive both large-scale low-carbon infrastructure development and new technological innovation, along with the switch to zero-carbon and carbon neutral goods and services.

These taxes can be made revenue neutral to avoid debate about the size and reach of government. When designing carbon tax policies, the full range of social and economic benefits should be included in their analysis; for example, less burning of fossil fuels in and around current pollution hotspots such as London will reduce the burden on health services of treating respiratory illnesses.²¹

Carbon taxes must be weighted such that they are applied fairly, without a disproportionate burden on the less wealthy. In some proposals, such as those from economists in the USA, these carbon taxes could be directly returned to citizens through equal rebates so that "the majority of American families, including the most vulnerable, will benefit financially by receiving more in 'carbon dividends' than they pay in increased energy prices".²² Such taxes would help to correct the market failures driving the climate crisis and help steer the economy toward a net-zero future.

It is important to note that introducing taxes at the EU level requires unanimity. The most useful additional tool is legislation, such as banning imports of agricultural commodities grown on recently deforested land, or mandatory due diligence on environmental damage for companies importing to the EU.²³ These legislative approaches should be introduced immediately, starting the process that an effective carbon tax will continue.

HIGH VALUES TO CARBON PRICING

Fossil fuels – with heavy reliance on subsidies for production – represent a significant market failure. Their cost does not reflect the environmental damage they cause, in terms of the climate crisis or air and water pollution amongst other impacts. If they were priced to take these factors into account, they would cost substantially more. Governments must put a price on carbon that reflects its costs to our planet. By immediately setting a high benchmark cost for carbon – starting at at least US\$100 per tonne and rising over the next 5 years according to the pace of change in carbon reduction – and setting total carbon market caps for each geography, we can take decisive action to curb greenhouse gas emissions and keep to the 1.5°C target. Carbon pricing combined with strong incentives for renewable energy are mutually reinforcing, and will magnify the environmental and economic benefits of both.

CLIMATE FINANCE: PUBLIC SPENDING FOR PUBLIC GOOD

Another unique aspect of government power is public financing. Conversations on climate finance often focus on the role of private sector investments in propping up our fossil fuel fixation, yet government and intergovernmental fiscal policy has immense potential to accelerate decarbonisation and promote nature-based solutions and conservation interventions to halt climate change.

Public spending comes from taxpayer contributions: it is logically and morally imperative that public money is spent on protecting our planet and people from the impacts of global heating. Public investment and procurement of goods and services can prioritise zero carbon and carbon neutral options, and prompt innovation, research and development and level the playing field to better achieve net-zero carbon outcomes, for example by supporting energy efficiencies in homes and public transport to reduce car use. To put this opportunity in context, government expenditure on works, goods and services represent around 19% of EU GDP, accounting for roughly US\$2.78 trillion (EUR 2.3 trillion) annually.²⁴

Public climate finance must be a priority whether the money spent comes from today's taxes or is borrowed against future GDP. With the economic crisis posed by the Covid-19 pandemic, the governments and multilateral institutions which govern our global fiscal systems have a critical opportunity to transform public finance into a force for good.

Examples of this include payment for ecosystem services models,²⁵ or debt for nature swaps²⁶ that can incentivize countries to protect key ecosystems. Other experimental climate finance tools that have been proposed include positive conditionalities for sovereign debt restructuring as a way to jumpstart nature-based solutions,²⁷ and the introduction of nature performance bonds into sovereign debt markets as a way to account for and value natural capital.²⁸ However, it must be strongly caveated that **any conservation-aimed finance tools must be designed and implemented with the full engagement and free prior and informed consent of Indigenous Peoples and local communities in such a way that respects their rights and avoids further marginalising vulnerable groups.**²⁹

Finally, public development banks³⁰ that use taxpayer money to invest in development projects worldwide must perform an environmental stress test across their whole balance sheet every year and publish the results, in order to ensure that public financing has a net positive impact for people, climate and nature.^{31 32}

FOSSIL FUELS ARE FAILING FAST – DISCLOSURE IS KEY:

Once momentum towards a carbon neutral economy is fully underway, investments worth between 1 and 4 trillion US dollars in fossil fuels alone – coal mines, oil wells, and other extraction and transport facilities and infrastructure – together with the power stations, and conventional vehicles that rely upon them – will lose value.³³ Fossil fuel reserves and production facilities will be 'stranded assets', unable to make a profit.³⁴

Disclosure will be critical to the transition to net-zero carbon. Governments must make it a mandatory requirement for companies over a given size to disclose their carbon use and climate risk. This type of regulation can and must be implemented with immediate effect and incorporate punitive sanctions for violators and for major carbon polluters (see page 41).

By acting now, governments can replace the 'carbon bubble' with a new sustainable global economy that will provide livelihoods and energy for generations to come, in a manner which takes historic emissions into account and provides fair national carbon budgets for each country.³⁵

Governments must use the opportunity for a Covid-19 recovery which prioritises massive investment in renewable energy, including R&D and green job creation.

Governments also have the opportunity to provide a fair and equitable transition away from fossil fuels, providing support and retraining not only for individuals currently working directly in the fossil fuel industries but also for those in sectors dependent on the status quo of the energy economy.³⁶ This lasting prosperity is what we should be aiming for.

GOVERNMENTS HAVE THE OPPORTUNITY TO PROVIDE A FAIR AND EQUITABLE TRANSITION AWAY FROM FOSSIL FUELS.

Disclosure will be critical
to the transition to net-zero
carbon economies.



05

INVESTING IN RENEWABLE ENERGY

Large scale direct investment by government should be matched with powerful fiscal incentives – including large-scale, system-wide direct subsidies – for renewable energy.

These will strengthen and drive further increases in renewable energy markets, while simultaneously operating as a key employment alternative for carbon-based industries as they lose viability and are rapidly decommissioned.

Expert estimates range from US\$800 billion to \$3.5 trillion per year needed by 2050 in order to ensure a climate-safe future,^{37 38} in the short term, the figure of US\$ 1.4 trillion every year from 2020 to 2024 has been proposed to set countries on track for 2030 emissions reductions targets.³⁹ For comparison, the global value of the stock market trades in 2019 alone was over US\$60 trillion.⁴⁰

EXPERT ESTIMATES RANGE FROM US\$800 BILLION TO \$3.5 TRILLION PER YEAR NEEDED BY 2050 IN ORDER TO ENSURE A CLIMATE-SAFE FUTURE.



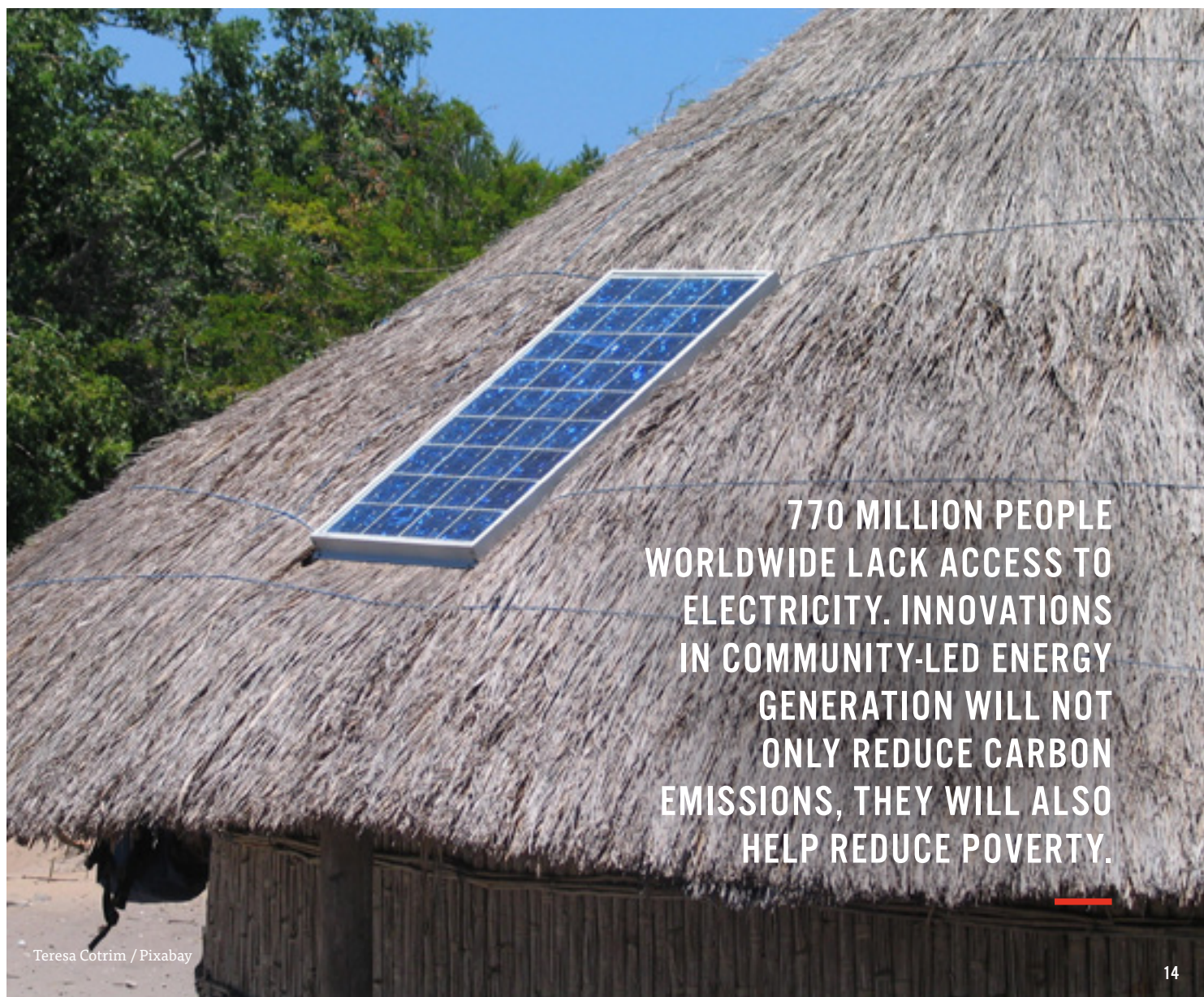
06 ENERGY AND ZERO-CARBON INNOVATION

Along with a wholesale shift to renewable energy, governments can also drive energy independence and sustainability by supporting smaller scale and micro-generation, bringing huge benefits to poorer sections of society.

770 million people worldwide still lack access to electricity,⁴¹ and Sustainable Development Goal 7 calls for access to affordable, reliable, and sustainable energy for all by 2030 – achieving this goal in conjunction with net-zero carbon is critical to a climate justice approach. Innovations in community-led energy generation through the rollout of renewable microgrids and peer-to-peer energy trading would not only reduce carbon footprints but would also generate new income streams and reduce poverty. Community-level solutions can be implemented anywhere from high-density urban neighbourhoods to isolated least-developed communities that have never had consistent, affordable access to energy and that have historically relied on unsafe fuels such as kerosene.^{42 43} Furthermore, locally generated energy bypasses the need for expensive energy infrastructure, accelerating our transition to carbon neutrality.

Governments must take the lead in supporting innovative community-level energy systems as a tool for achieving the Sustainable Development Goals and mitigating global heating.

In the UK, switching to more flexible, efficient energy systems such as solar microgrid could save between US\$23.2 - 54.75 billion (£17-40 billion) cumulatively by 2050,⁴⁴ while national microgrid strategies in Small Island Developing states such as St. Vincent and the Grenadines have put entire countries on the path to eliminating their dependence on fossil fuels for electricity access.⁴⁵



**770 MILLION PEOPLE
WORLDWIDE LACK ACCESS TO
ELECTRICITY. INNOVATIONS
IN COMMUNITY-LED ENERGY
GENERATION WILL NOT
ONLY REDUCE CARBON
EMISSIONS, THEY WILL ALSO
HELP REDUCE POVERTY.**

07 SHIFTING TOWARD A CIRCULAR ECONOMY AND DECREASED CONSUMPTION

Global consumption of materials such as biomass and biofuels, fossil fuels, metals and minerals is expected to double in the next forty years,⁴⁶ while annual waste generation is projected to increase from 2.01 to 3.4 billion tonnes by 2050.⁴⁷

Our linear economic model is built on never-ending resource extraction to meet our bottomless consumption - and it is directly responsible for climate breakdown.

If we continue our business as usual, take-make-waste economy, by 2050 we could require three planet Earths to supply our current economic model and lifestyles.⁴⁸

We urgently need to transition to a circular model, where our economies are designed, our products made, and our consumption aligned within planetary boundaries. The circular economy is a model of production and consumption that involves sharing, repairing, and recycling existing materials and products as long as possible.⁴⁹ Circularity seeks to 'design out' waste and pollution and regenerate the Earth's natural systems. Priority industries that could dramatically reduce their environmental footprint through a switch to circular models include electronics, textiles, furniture, chemicals, and construction products such as steel and cement.

BY 2050 WE COULD REQUIRE THREE PLANET EARTHS TO SUPPLY OUR CURRENT ECONOMIC MODEL AND LIFESTYLES.

GOVERNMENTS MUST SET AMBITIOUS TARGETS

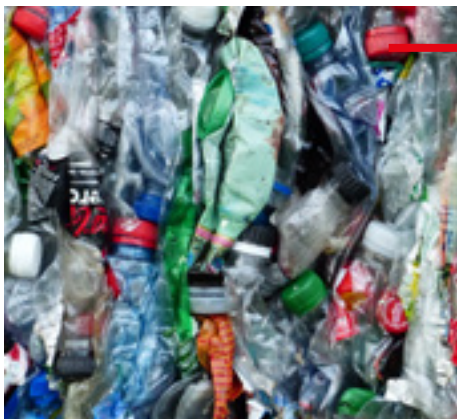
The transition to a fully circular economy is possible, but we need ambitious public leadership to make it happen.



Phase out single-use or virgin materials, and certain environmentally harmful manufacturing processes;



Improve national recycling capacity and waste management practices; and



Reduce the quantity and variety of materials used for specific products such as packaging;



Reward products based on their sustainability performance, including by linking high performance levels to incentives.⁵⁰



Improve product durability, reusability, upgradability and repairability;

One way governments can reward circularity in the private sector is by leveraging the force of public procurement. In the EU for example, public purchasing power accounts for 14% of GDP: committing government procurement to 100% environmentally-conscious materials and circular production will have a substantial impact.⁵¹

Finally, governments must take steps to facilitate consumer adoption of the circular economy ethos by countering greenwashing and ensuring reliable consumer information and promoting the 'right to repair'.

The transition to a circular economy will not only protect our planet. It will also support a more equitable future for all people and fight poverty by placing human well-being and planet - not profit - at the centre of our economic models.⁵²



KEY INDUSTRIAL SECTORS

MARITIME SHIPPING ACCOUNTS
FOR 2.89% OF GLOBAL
GREENHOUSE EMISSIONS, YET
MARITIME FUEL IS NOT TAXED.

08 TRANSFORMING TRANSPORT

Transport accounted for 27% of the EU's greenhouse gas emissions in 2017.⁵³ It must be radically overhauled to put people and planet first.

At the national scale, infrastructure should focus on low and zero carbon public transport, employing powerful incentives to drive people away from their private cars and onto zero and low carbon public systems. Local authorities should be given the power and money to create bespoke, joined-up transport systems suited to their geographies and constituencies. Urban centres must be designed primarily for walking and cycling, whilst providing sufficient alternatives for those unable to use these options.

CURRENTLY, PASSENGER CARS ACCOUNT FOR NEARLY A QUARTER OF GLOBAL OIL DEMAND.⁵⁴

Consumer preference globally has trended towards high emissions vehicles like SUVs, which doubled their global market share in the past decade.⁵⁵ Annual emissions from SUVs rose to over 700 million tonnes⁵⁶ a figure greater than the sum of the UK and the Netherlands combined yearly emissions.^{57 58} However, some projections show a tenfold increase in electric vehicle sales, up from 2 million in 2018 to 20 million cars a year by 2030⁵⁹ and governments must encourage this shift alongside the shift to credible, user-friendly low or zero carbon public transport.

Plans to ban sales of petrol and diesel cars and congestion taxes on high emissions vehicles are a start, but positive incentives are needed as well. Policies regarding private vehicles must drive innovation and invest in infrastructure, such as new solutions for heavy goods vehicles (HGVs) and the national

networks of rapid charging points for electrical vehicles needed for a low-carbon transport network.

The environmental impact of flying is not currently accounted for in the low cost of air travel, nor are airlines sufficiently mitigating their substantial role in climate breakdown. Global aviation emissions are forecast to increase dramatically to the year 2040.⁶⁰ The majority of flights are taken by a small handful of people,⁶¹ presenting a clear opportunity for a progressive frequent flyer tax to disincentivise all but the most necessary air travel and fund projects to bring the industry to net zero.

Another opportunity to control aviation emissions is by taxing kerosene fuel, currently not taxed in many countries including the UK and the EU.^{62 63} Estimates show that charging 33 cents on each litre of kerosene could raise approximately US\$32.3 billion (€27 billion) a year in the EU alone⁶⁴ and a levy such as this could be hypothecated and used to fund low and zero carbon solutions in transport.

Maritime fuel is also not taxed, yet maritime shipping accounts for 2.89% of global greenhouse emission,⁶⁵ and 13% of the EU's transport-related emissions in 2015.⁶⁶ The International Maritime Organisation (IMO) predicts that under a business-as-usual approach, maritime shipping emissions could rise between 50 to 250% by 2050.⁶⁷ Factoring in the carbon cost of maritime shipping through fuel taxes is one way to accelerate reducing the climate footprint of the international shipping sector. Technical and operational reforms such as slow steaming, weather routing, and efficiency devices can further reduce emissions. The IMO has set a target of reducing emissions by 70% by 2050,⁶⁸ but this is too little, too late: the international shipping sector must be carbon neutral by 2035 as part of a full-scale transformation to net-zero carbon.

As well as cutting emissions, governments must also concentrate on reducing the cost of low or zero carbon public transport to users. In some cases, this could mean making it free of charge to encourage usage and optimise social as well as environmental benefits, as is already happening in Luxembourg.



09 CONSTRUCTION – BUILDING FOR CLIMATE MITIGATION

Construction is a major global contributor to greenhouse gas emissions: construction accounts for 11% of global emissions through the sector's embodied carbon,⁶⁹ in other words, the carbon associated with the materials and construction processes to build and maintain buildings.

In some countries, a 'construction fever' has pushed sector emissions even higher, such as in China where construction represents almost 20% of their carbon footprint.⁷⁰ In the UK, almost 50 million tonnes of CO₂ are embedded through new construction every year.⁷¹

The first and most important step is to make it a legal requirement that governments critically evaluate any proposed government-funded construction project for its climate impact before making a decision on whether approval is granted, similar to existing approaches for the financial justification of large projects. This would include the cost of mitigation for any unavoidable emissions in the construction and functioning of the development in question. For example, carbon taxes for every flight in Britain would have to be increased significantly to compensate for the building of additional runways at existing airports⁷² – beyond the already required increases to offset the flights themselves. Failing to account for these externalities into the assessment of construction work is a dereliction of duty.

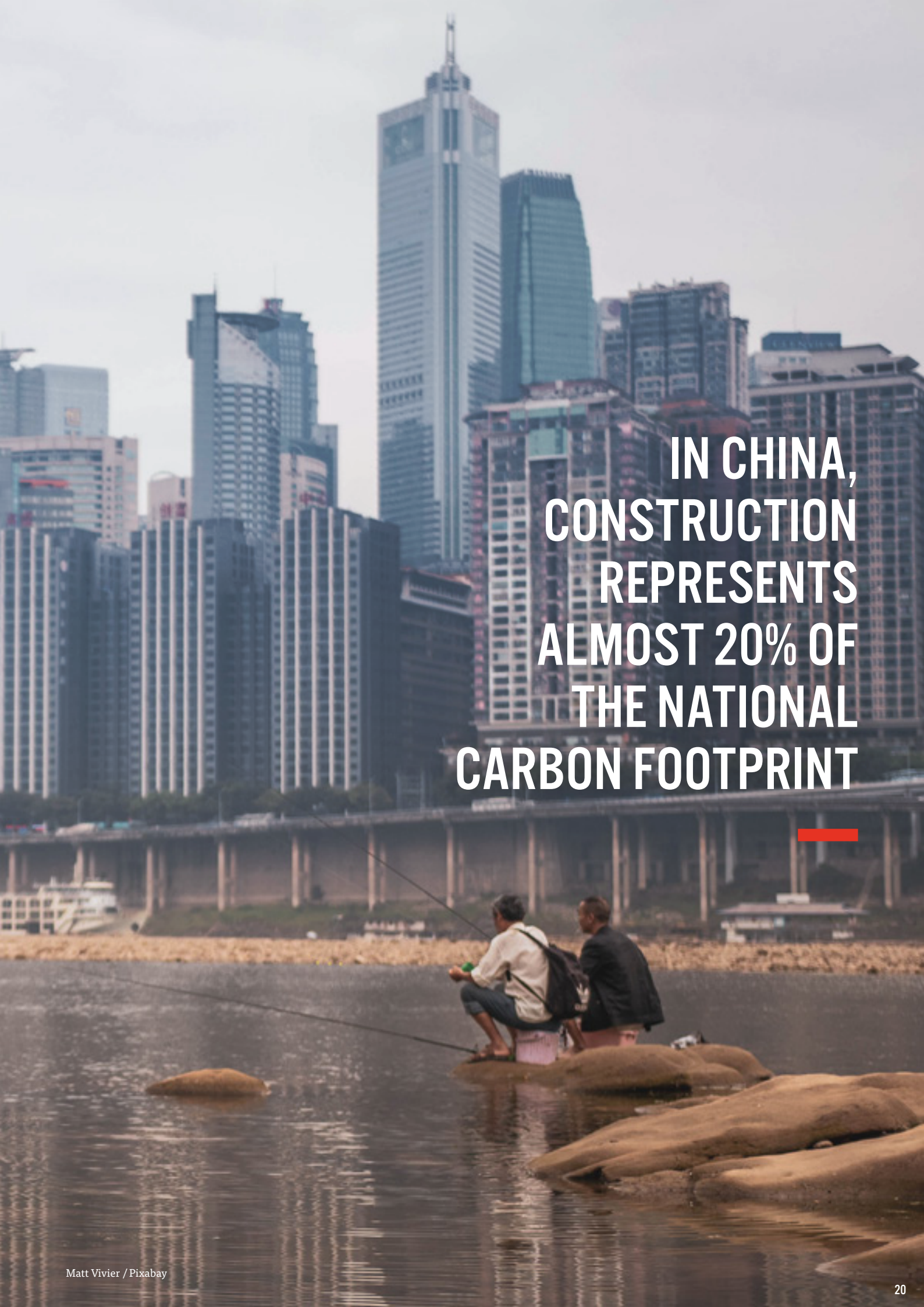
In addition, governments must set robust regulations to encourage best-in-class environmental standards for private sector construction. A substantial amount of energy could be saved if houses were built to the highest standard of efficiency. High standards and inspections for new buildings must be rolled out, but equally importantly, there must be policy support and incentives for retrofitting in older houses, which will make up the majority of housing stock.⁷³

Homes should be built of low-carbon, recycled and local building materials, heated using low-carbon energy sources, and lit with energy-efficient lighting – maximising the use of natural light through design. Solar panels and improved water efficiency should be standard, with design and planning taking into account green spaces and provision for pedestrians, cyclists, public transport users and electric vehicle owners.

Policies to foster innovation in the building trade to develop low-carbon materials should be implemented. The development of new materials such as low-carbon concrete has not been matched by uptake; increasingly, the materials exist but they are not being used. Governments have a role to play in kickstarting demand for low-carbon construction materials, as well as in continuing to encourage further decarbonisation of construction.⁷⁴ Policies such as the UK government's approach that the concrete used for London's Crossrail project should have a minimum of 50% cement replacement are a small step in the right direction⁷⁵ but initiatives such as this need national and regional scaling up and must be reinforced by regulatory requirements.



CONSTRUCTION
ACCOUNTS FOR
11% OF GLOBAL
EMISSIONS.

A photograph of a city skyline, likely Shanghai, with several tall skyscrapers. In the foreground, two men are sitting on large rocks in a body of water, fishing. The sky is overcast. The text is overlaid on the right side of the image.

**IN CHINA,
CONSTRUCTION
REPRESENTS
ALMOST 20% OF
THE NATIONAL
CARBON FOOTPRINT**

10 REGENERATING AGRICULTURE AND FOOD PRODUCTION

In 2016, the world's top 20 meat and dairy companies emitted more greenhouse gases than the whole of Germany, Europe's biggest climate polluter.⁷⁶ Agriculture is the biggest contributor to biodiversity loss worldwide.⁷⁷

The meat and dairy sector is among the biggest emitters of the greenhouse gases, and cattle ranching drives more deforestation in the Brazilian Amazon than every other commodity combined.⁷⁸

Reforming our food production systems is critical to stopping global heating. Governments have a role to play in designing ambitious policies that encourage biodiversity-friendly, organic and mixed-use landscape approaches to agricultural management,⁷⁹ and balance ecosystem restoration with the need to provide affordable, readily-available, healthy and nutritious food for all.

The issues of land tenure, justice, and environmental protection are all intimately linked. The largest 1% of farming companies own or operate more than 70% of the Earth's farms and pastures, and this inequality has been worsening since the 1980s:⁸⁰ This pattern of ownership is not only profoundly unjust and inequitable, it jeopardizes rural livelihoods and has driven unsustainable agricultural practices such as intensive monocultures and widespread deforestation.

It is not just a question of how food is produced, but also of what people are eating. The UN Food and Agriculture Organization estimates 14.5% of the world's greenhouse gas emissions come from the livestock sector.⁸¹ Switching to a vegetarian diet could save 0.8 tonnes of CO₂ (or the equivalent in other greenhouse gases) per person every year.⁸²

The promotion and adoption of low-carbon diets is central and governments must lead in the production and dissemination of easily-accessible information promoting the health benefits of low-meat and vegetarian diets. Requiring the labelling of food products to indicate their embedded environmental footprint is one way in which governments can encourage planet-healthy eating.⁸³



**SWITCHING TO A
VEGETARIAN DIET
COULD SAVE 0.8
TONNES OF CO₂* PER
PERSON EVERY YEAR.**

**(OR THE EQUIVALENT IN OTHER
GREENHOUSE GASES)**



IF CURRENT TRENDS CONTINUE, FOOD WASTE COULD RISE TO 2.1 BILLION TONNES ANNUALLY - TEN TIMES THE MASS OF THE ISLAND OF MANHATTAN - WORTH \$1.5 TRILLION.^{84a}

© Murasmelania

As with other sectors, it is vital that the true cost, including the carbon cost, is paid upfront and here again, the potential for progressive carbon emissions taxes is manifest. Taxes on plastic bags and sugary drinks have shown that government action can influence consumer behaviours that threaten individual health and the planet.⁸⁴ Governments must therefore implement climate taxes on emission-heavy foods such as red meat and dairy to push producers to reduce their environmental impacts.

Another critical element in reforming food production is tackling the issue of food waste.

25-30% OF ALL FOOD PRODUCED WORLDWIDE ENDS UP BEING LOST OR WASTED, ACCOUNTING FOR AS MUCH AS 10% OF GLOBAL GREENHOUSE GAS EMISSIONS,⁸⁵ IN A WORLD WHERE OVER 800 MILLION PEOPLE GO HUNGRY.⁸⁶

Action is urgently needed to reduce food waste, including technical capacity such as improved harvesting techniques and storage practices, and addressing consumer behaviours through education campaigns. Governments have a role to play by investing in food infrastructure and regulating food production practices in order to decrease the carbon footprint of food waste and abolish hunger.

Even within the most damaging food production sectors – beef and farmed crustaceans – the majority of carbon emissions come from a small handful of all producers.⁸⁷ As with so many of the issues in this manifesto, driving change in the minority of companies who produce the majority of pollution would be the first priority of any environmentally sustainable government policy framework.

11 FASHIONING A SURVIVABLE FUTURE – CHANGING OUR CLOTHES

ELLEN MACARTHUR
FOUNDATION FOUND THAT:

EVERY SECOND,
THE EQUIVALENT OF
ONE GARBAGE TRUCK OF
DISCARDED TEXTILES ENTERS
LANDFILL OR IS INCINERATED.

© Mykola Sirenko

- AN ESTIMATED US\$ 500 BILLION VALUE IS LOST EVERY YEAR DUE TO CLOTHING BEING BARELY WORN AND RARELY RECYCLED.
- IF NOTHING CHANGES, BY 2050 THE FASHION INDUSTRY WILL USE UP A QUARTER OF THE WORLD'S CARBON BUDGET.
- WASHING CLOTHES RELEASES HALF A MILLION TONNES OF PLASTIC MICROFIBRES INTO THE OCEAN EVERY YEAR, EQUIVALENT TO MORE THAN 50 BILLION PLASTIC BOTTLES.⁸⁸

Clothing production, retail and use play a significant role in global heating.

It takes between 15 and 35 tonnes of CO₂ to manufacture a tonne of textiles,⁸⁹ depending on the fabric, compared with just one tonne of CO₂ to produce a tonne of paper. Overall, the textile industry pumps between 1.22 and 2.93 billion tonnes of CO₂ into the atmosphere every year.⁹⁰

As both textile production and consumption are increasing drastically, the problem is poised to get worse. Since 1975, the global production of textiles has almost tripled. Europeans now consume an average 31 kg of textiles per person every year.⁹¹ Cheap 'fast fashion' as part of our 'throwaway culture' has contributed to a hugely wasteful sector and growing impact on our climate. Almost 60% of all clothing produced is disposed of within a year of production ending in landfill or incineration.⁹²

Cotton, despite being a natural crop, is not the answer. Globally, 'conventional cotton' accounts for 220 million tonnes of CO₂ every year and uses 8.2 million tonnes of pesticides and synthetic fertilisers.⁹³ It is also a thirsty crop, using 233 billion cubic metres a year, the same as 238 bathtubs of water per person per year.⁹⁴

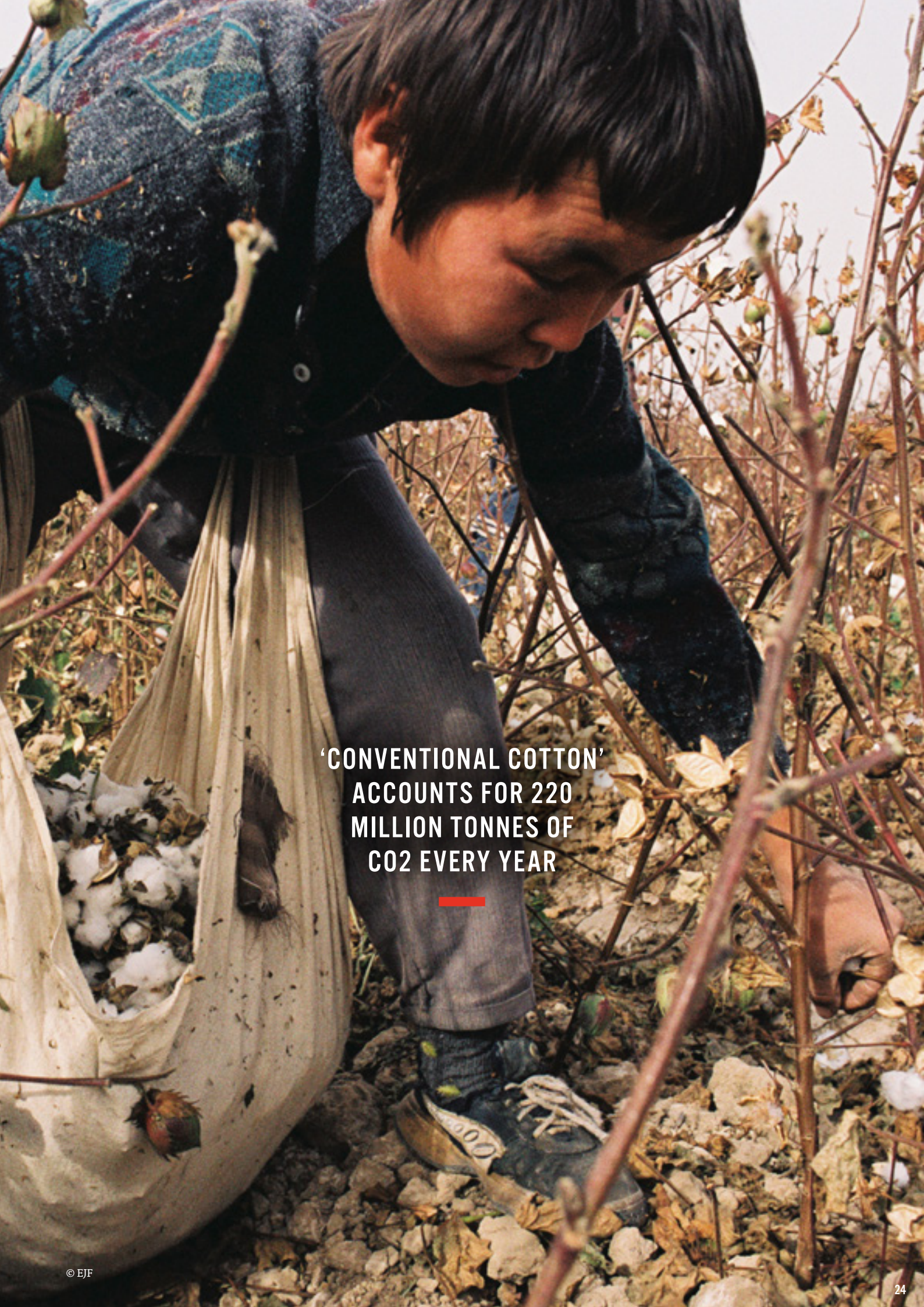
Other fibres are no better: it requires around 342 million barrels of oil every year to meet demand for plastic-based fibres.⁹⁵ The disintegration of synthetic fabrics like polyester, nylon and acrylic is responsible for between 20 and 35% of all microplastics in the marine environment.⁹⁶

There's a growing trend for viscose fibre, but that, too, is problematic: 150 million trees are felled annually to produce the wood pulp required to manufacture viscose.⁹⁷ Globally more than 56 million hectares of forest has been lost in only the last fifteen years, contributing significantly to global heating.

A switch to organic cotton is crucial part of the solution. The annual savings of 96.2 million tonnes of CO₂ offered by this sustainable cultivation is the equivalent of driving an average car around the world 14,112 times.⁹⁸ As well as eliminating the need for toxic pesticides, the annual water savings from organic cotton farming are the equivalent to 95,000 Olympic-sized swimming pools.⁹⁹ Much more could be saved if organic cotton became a larger part of market share.

Governments must incentivise and encourage sustainable and ethical fashion and clothing, using fiscal and regulatory measures to support organic cotton production while discouraging the highly damaging environmental impacts of conventional cotton production and other textiles.

Fashion producers and retailers must commit to ambitious, time-bound targets for replacing high-emission textiles in their supply chains with alternative, low-climate impact materials such as organic cotton as well as innovations for up-cycling and recycling. The fashion industry must also reckon with the upcoming transition to a circular economy, and rethink how to design and consume clothing for circularity: for example, retail outlets should offer in-store textile recycling and incentives for consumers.



**'CONVENTIONAL COTTON'
ACCOUNTS FOR 220
MILLION TONNES OF
CO2 EVERY YEAR**



CAPTURING CARBON

NATURE HAS
THE ANSWERS



Forests, oceans, wetlands, biodiversity, climate – these are all critical pieces of the environmental jigsaw.

A failure to prevent climate breakdown will result in the failure of all conservation missions across species and ecosystems. But the protection and restoration of ecosystems are also fundamental in successfully combatting global heating. Nature-based solutions offer us a lifeline in the fight to stop climate catastrophe.

EJF calls for 50% of the Earth to be conserved for nature. Esteemed biologist E.O. Wilson makes a convincing case that in order to protect the biodiversity and natural systems critical to the health of our planet and our climate, we must set aside at least half of the Earth's surface for the preservation of key ecosystems, whilst ensuring the full protection and traditional usage rights of Indigenous peoples. Conservation of the Earth's biodiversity and natural habitats must be viewed as a life support for Indigenous peoples rather than as competition with it and indigenous voices must be heard and acted upon in conservation

planning. Human rights and environmental protection are allies in the future of the planet. Under our current regime of exploitation and expansion, we are on track to disrupting or destroying 90% of the Earth's natural habitats, which would decrease by half the number of species that can be sustained on our planet.¹⁰⁰ By setting aside at least 50% of Earth's surface, with special emphasis on the most ecologically important habitats on land and sea, we can ensure the protection of at least 85% of our planet's biodiversity and prevent the mass extinction which science has repeatedly warned us of.¹⁰¹ Acting boldly on biodiversity must be central to our climate action.

**EJF CALLS FOR
50% OF THE EARTH
TO BE CONSERVED
FOR NATURE.**

12 NATURE-BASED SOLUTIONS

FORESTS

'Nature-based solutions' to climate change are those relating to the living world – such as forests, peatlands, wetlands and more – that provide a vital tool in the fight against climate breakdown.

Forests are among the best solutions to global heating, and changes to our land use, agriculture and forestry practices globally could take us around 37% of the way to keeping warming below catastrophic levels.¹⁰²

Preservation of old-growth forest and replanting native woodland species should be on the agenda for every government and not least wealthy nations such as EU Member States. Forests provide not only carbon storage but water filtration, flooding and erosion prevention, medicines, air purification and soil retention, habitats for wildlife and health benefits to people, and much more besides.¹⁰³

The good news is that doubling tree cover can be achieved with little or even no effect on food production, by prioritising land that is low-quality farmland but perfect for woods and forests and their associated benefits to flourish.¹⁰⁴

IT IS NOT ENOUGH TO SIMPLY HAVE MORE TREES.

Reforestation must restore natural forests and regenerate the rich biodiversity found in their natural state, rather than lining up further barren industrial

monoculture plantations. One particularly strong reason for this is that over the same area, natural forests store an average 40 times the carbon of plantations.¹⁰⁵

Rewilding - the restoration and protection of existing species and reintroducing those that have been extirpated (made locally extinct) also has significant carbon benefits and is a core foundation to any natural solutions approach. The more biodiverse a given area is, the more able it is to withstand external shocks that would damage or demolish a less resilient ecosystem, and so keep the carbon stored and out of the atmosphere.^{106 107}

This prominent role for wildlife and for natural forests means that projects to protect or expand forests through initiatives like REDD+ must be cautiously evaluated. While some specific REDD+ projects have been successful in saving forests from being cut down, question marks remain over:

- the risk of double counting,¹⁰⁸ where both the buyer of the credits and the country containing the forest count the carbon against their targets;
- the danger of REDD credits being used to finance plantations;
- the clear potential for the abuse of local and Indigenous communities, undermining their rights with centralised decisions made over their land and their future.

Finally, to ensure that restoration and preservation projects are not squeezed for space by commercial enterprises, governments must ban biofuels made from food crops and end the use of woody biomass for energy, unless it can be proved that it is genuinely a waste product.



CHANGES TO OUR LAND USE, AGRICULTURE AND FORESTRY PRACTICES GLOBALLY WOULD TAKE US AROUND 37% OF THE WAY TO KEEPING WARMING BELOW CATASTROPHIC LEVELS.

PEATLANDS AND WETLANDS

Peatlands - while covering only 3% of the Earth's landmass - are second only to oceans as natural carbon stocks, storing more carbon than all other terrestrial vegetation types combined.¹⁰⁹

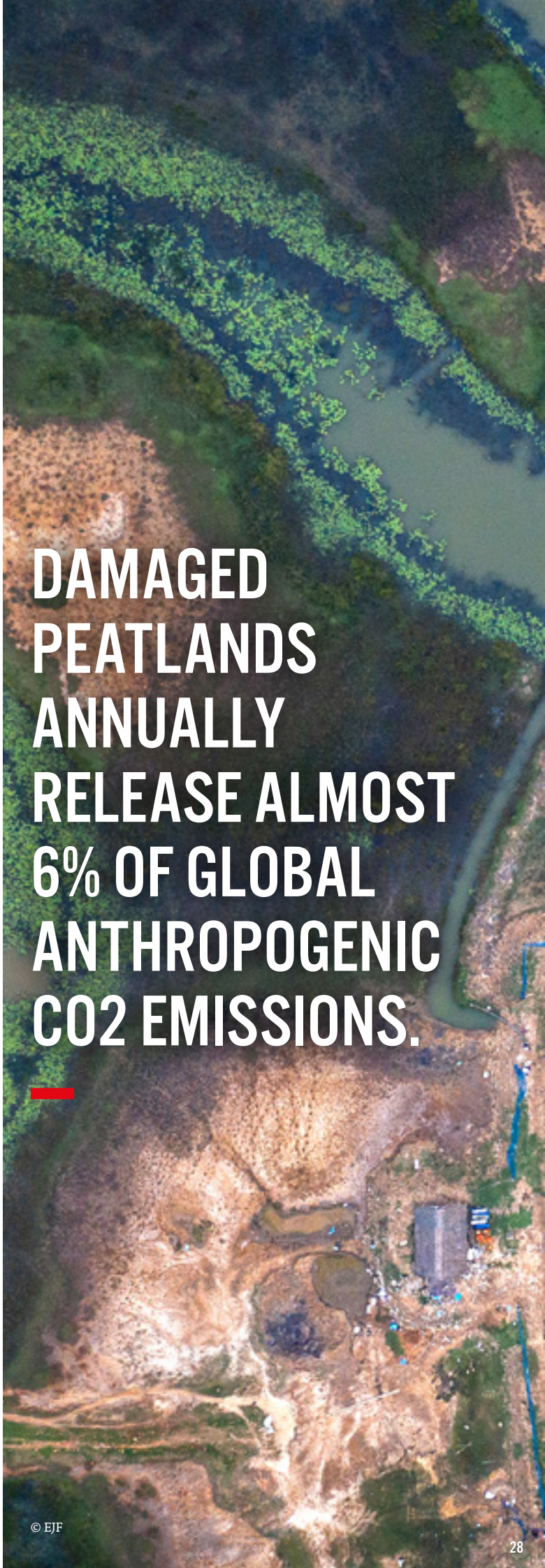
Peatland landscapes are varied – from blanket bog landscapes in Ireland and Scotland to swamp forests in Southeast Asia and the world's largest tropical peatland discovered beneath the forests of the Congo Basin in 2017.¹¹⁰ These habitats also provide a host of other benefits such as water purification and flood prevention.¹¹¹

Another clear reason to protect peatlands is that when degraded they release methane – a greenhouse gas with a heating effect roughly 30 times that of CO₂, which will further accelerate climate breakdown.¹¹² Damaged peatlands annually release almost 6% of global anthropogenic CO₂ emissions.¹¹³ Around 15% of the world's peatlands have been drained.¹¹⁴ Peatland is under threat by a range of anthropogenic activities including expansion of agriculture – such as palm oil plantations in Indonesia; logging and drainage; and from the continued mining of peat for horticultural use. In 2019, 2.1 million cubic metres of peat were used as growing media in the UK horticulture sector, including by amateur gardeners;¹¹⁵ with affordable alternatives available, there must be a swift move to peat-free growing.

Governments must also immediately require an end to the burning of peatland for any reason whatsoever, be that to clear it for palm oil plantations in Asia or for grouse shooting in the UK. Clear, comprehensive and well-enforced regulation is needed to protect carbon- and wildlife-rich peatlands from any further destruction, alongside action to promote restoration.

Wetlands and rivers are the third key part of the natural solutions approach.

They are some of the most carbon-dense ecosystems on the planet, but risk being converted into carbon sources rather than sinks through mismanagement and destruction.¹¹⁶ They also offer a number of benefits to help mitigate against the parts of the climate crisis which are already 'locked in' – shielding coastal communities from storm surges and rising sea levels, for example, and providing sources of fish to buffer against climate-driven food shortages.



**DAMAGED
PEATLANDS
ANNUALLY
RELEASE ALMOST
6% OF GLOBAL
ANTHROPOGENIC
CO₂ EMISSIONS.**



**MANGROVE FORESTS
CAN STORE UP TO FOUR
TIMES MORE CARBON
PER HECTARE THAN
TROPICAL RAINFORESTS.**

MANGROVES AND SEAGRASSES

Alongside the importance of forests and wetlands, 'blue carbon' stored in coastal and marine ecosystems is a critical element of a nature-based intervention plan for fighting global heating.

Mangrove forests that line the coastlines of tropical and subtropical countries across the globe can store up to four times more carbon per hectare than terrestrial tropical rainforests.¹¹⁷ Mangroves are also home to rich biodiversity, providing critical food sources and protection from extreme weather for coastal communities.


But mangroves are being deforested at a rate of 1-2% per year,¹¹⁸ threatening the livelihoods of the more than 100 million people who live within 10 kilometres from large mangrove forests.¹¹⁹ Unsustainable shrimp farming is one of the biggest drivers of mangrove destruction: up to 62% of the losses in mangrove area from 2000-2016 were driven by land use change, primarily from aquacultural and agricultural expansion.¹²⁰

Scientists estimate that global seagrass meadows may store up to 19.5 gigatonnes of carbon.¹²¹ Alongside their carbon storage function, seagrass meadows transform their surroundings by slowing wave energy, improving water quality and clarity, and stabilizing the seafloor.

By tempering 'outside forces', they provide food and shelter for fish, birds, marine mammals, reptiles and a host of other species, including iconic species such as seahorses, sea turtles and the dugong and manatee. Seagrass plays a critical role as breeding grounds and nurseries that underpin healthy fish populations .

The loss of seagrass meadows therefore jeopardizes not only the ecosystem, but livelihoods and food security for coastal communities.¹²² Seagrass meadows globally are threatened by urban, industrial, and agricultural runoff, infrastructure development, and seabed dredging by fishing boats.¹²³ At the current rate of degradation, seagrass loss is emitting more than 300 million tonnes of carbon every year.¹²⁴

Coastal states must urgently prioritise the conservation of and restoration of mangrove and seagrass ecosystems as part of their Paris Agreement targets. This includes decisive actions to designate, protect and replant mangrove forests and seagrass meadows, beginning in low-lying areas where local communities are at increased risk from extreme weather events, sea level rise and coastal erosion. Governments must also establish moratoria on shrimp farming and agricultural expansion in mangrove areas, ban destructive fishing practices like dredging, and better manage waste flows to prevent toxic run-off from poisoning these critical stores of 'blue carbon'.



**GLOBAL SEAGRASS
MEADOWS MAY STORE
UP TO 19.5 GIGATONNES
OF CARBON.**

BLUE PLANET SOLUTIONS - OCEANS

Along with terrestrial and coastal ecosystems, the ocean is a crucial part of the climate system.

Our planet has a ‘blue beating heart’ – we must protect it, if we are to combat global heating.

The world’s ocean absorbs up to 30% of the CO₂ emissions humans produce,¹²⁵ and store 50 times more CO₂ than the atmosphere.¹²⁶ It has taken in over 90% of the excess heat caused by the worsening greenhouse effect since the 1970s,¹²⁷ equating to approximately a nuclear bomb’s worth of heat every second for the past 150 years.¹²⁸

As levels of CO₂ continue to rise sharply, the ocean is becoming more acidic. As it acidifies, its capacity to act as a carbon sink falls. Protecting the ocean will stabilise the climate. A healthy ocean, teeming with plant and animal life that fixes and stores carbon, is an important tool in the bid to tackle climate change.¹²⁹

One of the heroes in the fight against global heating could be the great whales, such as the blue whale and humpback whale that can sequester more than 30 tonnes of carbon in their lifetime.¹³⁰

Furthermore, the migratory patterns and feeding habits of whales create what experts call the ‘whale pump’, which distributes nutrients throughout the surface of the ocean and feeds the growth of phytoplankton.¹³¹ Phytoplankton produces an estimated 50% of the Earth’s oxygen by capturing and photosynthesizing 37 billion tonnes of carbon annually – the equivalent of four Amazon rainforests every single year.¹³² But centuries of human exploitation for their meat and blubber have reduced great whale populations to 25% of their pre-industrial numbers. Marine life is increasingly threatened by pollution including excessive amounts of plastic waste entering our oceans that is ingested or entangles wildlife; oil and gas development; and overfishing; alongside the warming and acidification of the ocean.¹³³

Our planet has already developed some of the most effective tools we have to fight climate change – we must protect ‘Earth tech’ species such as the great whales and invest in whale conservation as an ally against global heating.

SPECIES LIKE THE BLUE WHALE OR THE HUMPBACK WHALE CAN SEQUESTER MORE THAN 30 TONNES OF CARBON IN THEIR LIFETIME.



The ocean has taken in over 90% of the heat caused by the worsening greenhouse effect, equating to approximately a nuclear bomb's worth of heat every second for the past 150 years.

AN END TO ILLEGAL AND UNSUSTAINABLE FISHING

Another critical action to protect our blue planet is the eradication of illegal, unreported, and unregulated (IUU) fishing and other unsustainable marine exploitation practices which threaten the ecological integrity of ocean ecosystems. Nearly 90% of the world's fisheries are currently exploited at or exceeding sustainable levels.¹³⁴ Rich ocean biodiversity and healthy fisheries are key to maintaining the ocean's carbon removal power and protecting the 3 billion people worldwide who depend on marine and coastal ecosystems for their livelihoods.¹³⁵ Governments worldwide must work together to eradicate IUU fishing. Central to this will be the delivery of 'net to plate' transparency throughout fisheries supply chains, to enable all parties to see who is fishing what, where, how and when. Crucially, while preventing unsustainable exploitation of fish stocks to promote the long-term health of our ocean, these same transparency mechanisms can be used to stamp-out the human trafficking, slavery, violence and other human rights abuses that plague sections of the global fishing industry.

'30 X 30'

To protect our ocean and halt climate breakdown, we need a global network of ecologically representative marine protected areas (MPAs) to cover at least 30% of the high seas (those outside of territorial waters) no later than 2030. Scientific experts have already compiled a protection plan that would work:¹³⁶ by analysing each of the 25,000 squares of 100x100 km that cover the high seas, they have determined the 30% that would be best for conservation and climate and that require urgent designation and protective measures.

A MORATORIUM ON DEEP-SEA MINING

Alongside these marine protected areas, deep-sea mining should be banned entirely. This incredibly destructive process, which can devastate pristine, unexplored and unique ecosystems, is clearly not part of a sustainable future.¹³⁷ Unless action is taken now, deep sea mining is poised to become a huge industry exploiting oceanic deposits of copper, nickel and other ores. The method being rolled out is simple and immensely destructive: rocks and vents on the seabed are crushed up by immense underwater machinery, and the fragments extracted to the surface to be sorted. The analogy is akin to taking a woodchipper into a forest and collecting what it spits out behind - anything unfortunate enough to be caught in the way is crushed, killed and wasted.

Contrary to the claims of mining companies, irreplaceable ecosystems are in the firing line - one area targeted for mining has 'one of the most diverse communities [...] in the deep sea', where more than half the species collected in a 2016 study were new to science.¹³⁸

CARBON CAPTURE TECHNOLOGIES?

Industrial carbon capture storage has been touted as a 'silver bullet' for countering greenhouse gas emissions and preventing the worse effects of global heating.¹³⁹ However, strong caution has been urged by the IPCC, which notes that "Carbon Dioxide Removal (CDR) deployed at scale is unproven, and reliance on such technology is a major risk in the ability to limit warming to 1.5°C."¹⁴⁰

While these technologies may form part of a mitigation policy portfolio, industrial carbon capture should in no way be used as a justification for delaying radical action to decarbonize economies. It should only be used to complement, and not compete with, the transition to net-zero carbon alongside nature-based solutions and the protection and restoration of ecosystems that includes reforestation and biodiversity recovery; and substantial investments in the conservation and rehabilitation of 'blue carbon' sinks.

A man is shown from the chest up, carrying a large, heavy bundle of dry sticks and branches on his back. He is wearing a white t-shirt with colorful, mirrored text and a blue cloth tied around his neck. He has a pained or strained expression on his face. The background is a dry, dusty area with some structures in the distance.

CLIMATE JUSTICE

99% OF ALL DEATHS
FROM WEATHER-RELATED
DISASTERS OCCUR IN
DEVELOPING COUNTRIES.

13 CLIMATE JUSTICE MUST BE CENTRAL TO OUR THINKING AND ACTIONS

Issues of justice are central to the task of halting global heating: the people and countries that have historically contributed the least to greenhouse gas emissions and benefitted the least from carbon-fuelled economic growth, are those suffering first and worst from the impacts of climate change.

As we transition to a green economy, we must provide meaningful, large-scale support and compensation to those impacted by climate disasters such as extreme weather events, drought, and sea level rise. Furthermore, poorer nations and those already feeling the devastating impacts must be given a 'seat at the table', have their voices heard and acted upon as the world works together to avoid climate breakdown.

CLIMATE REFUGEES

The world's richest countries are the source of the vast majority of greenhouse gas emissions that are currently warming our planet. The EU alone was responsible for 40% of all global CO₂ emissions between 1850 and 2011.¹⁴¹ Yet in an unjust world, 99% of all deaths from weather-related disasters occur in developing countries – even though the world's 50 least developed countries contribute less than 1% of global carbon emissions.¹⁴²

Already at 1°C, climate change is compounding existing economic, political, social and ecological stresses and affecting the poorest communities on our planet. Millions of people have been forced from their homes. The climate crisis is both ecological and humanitarian.

Since 2008, weather-related hazards – which are increasing in frequency and severity as a result of climate change – have displaced around 21 million people each year on average, equivalent to 41 people every minute, according to data from the Internal Displacement Monitoring Centre.¹⁴³ Millions more have been forced to leave their homes due to prolonged droughts and their devastating impacts.

A new legally-binding international agreement is needed to protect climate refugees. This instrument is crucial to give definition and status to climate refugees;¹⁴⁴ to define rights and obligations, and to coordinate and combine our actions so that they are truly effective in protecting the most fundamental human right to a safe home.



**WE URGENTLY NEED A
NEW LEGALLY-BINDING
INTERNATIONAL
AGREEMENT TO PROTECT
CLIMATE REFUGEES**

INDIGENOUS RIGHTS AND LEADERSHIP

Data from the Amazon show that levels of carbon emissions from deforestation are significantly lower on Indigenous territories and protected areas than elsewhere.¹⁴⁵

Indigenous communities are being threatened by illegal loggers, miners and hunters, impairing their ability to protect the vital role of the ecosystems that assist us in combating climate breakdown.

For many Indigenous peoples, maintaining the balance between humans and the natural world and securing it for future generations is deeply embedded in cultural values. This approach to what we now call 'sustainability' holds valuable lessons for the entire world. Not only should Indigenous peoples be consulted in any decision that affects them and their lands, we need to put their knowledge front and centre as we navigate our way to a green and just world.

Globally it is estimated only 10% of land is legally owned by Indigenous peoples and local communities, with an additional 8% formally designated for

their use,¹⁴⁶ despite Indigenous peoples and local communities having claim to, or customary usage of, up to 65% of global land mass.¹⁴⁷ 2.5 billion people worldwide depend on land, natural resources and ecosystems which are held and managed collectively.¹⁴⁸ Lack of legal protections exposes Indigenous peoples and local communities to land grabbing, illegal or forced expropriation of resources, dispossession and displacement by government or corporate actors. Stronger, more comprehensive legal provisions could potentially be important in addressing this gap and protecting Indigenous peoples and other local communities and the ecosystems they manage and depend on.

Centring Indigenous peoples and local communities in decision-making is also key to stopping threats and violence towards forest defenders. In 2019, an average of four Indigenous, land, and environmental defenders were murdered every week.¹⁴⁹ The global community as a whole must take action now to protect Indigenous and local communities and to recognise their crucial role in halting climate breakdown.



**ONLY 10% OF LAND
WORLDWIDE IS LEGALLY
OWNED BY INDIGENOUS
PEOPLES AND LOCAL
COMMUNITIES.**

Governments of states containing Indigenous territories must end active or passive campaigns of disenfranchisement and discrimination,¹⁵⁰ and commit to proactive designation and protection of the land tenure rights of Indigenous peoples, ensuring these communities are able to retain control over their traditional lands.

Other governments must apply pressure to ensure they are protected worldwide, in recognition of the essential role Indigenous communities have in facing the climate crisis, their negligible input in having caused it, and, separately, their intrinsic right to determination in their own territories.

We must centre the voices and expertise of Indigenous peoples and communities impacted first and worst by global heating in every decision.



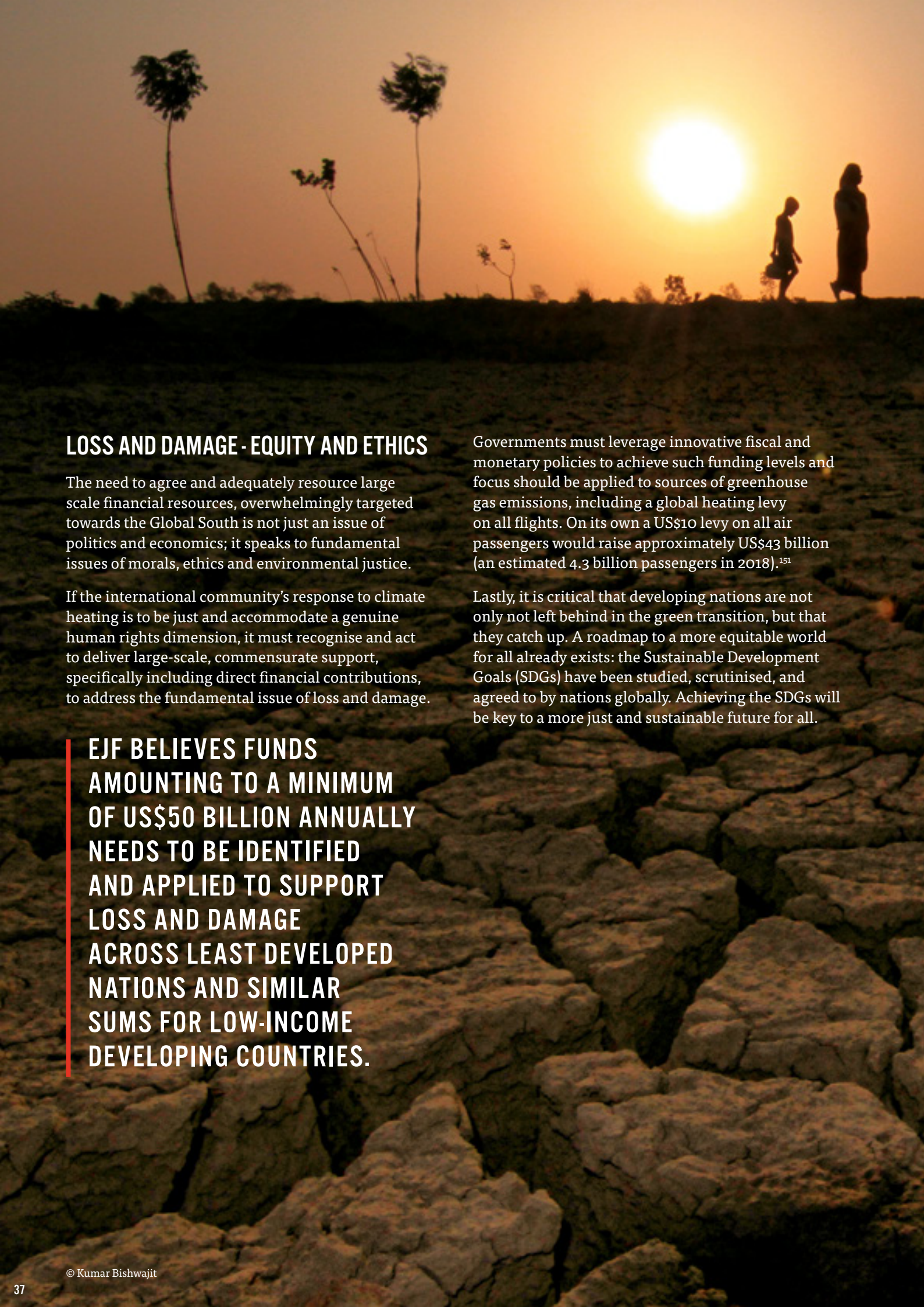
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LOSS AND DAMAGE - EQUITY AND ETHICS

The need to agree and adequately resource large scale financial resources, overwhelmingly targeted towards the Global South is not just an issue of politics and economics; it speaks to fundamental issues of morals, ethics and environmental justice.

If the international community's response to climate heating is to be just and accommodate a genuine human rights dimension, it must recognise and act to deliver large-scale, commensurate support, specifically including direct financial contributions, to address the fundamental issue of loss and damage.

EJF BELIEVES FUNDS AMOUNTING TO A MINIMUM OF US\$50 BILLION ANNUALLY NEEDS TO BE IDENTIFIED AND APPLIED TO SUPPORT LOSS AND DAMAGE ACROSS LEAST DEVELOPED NATIONS AND SIMILAR SUMS FOR LOW-INCOME DEVELOPING COUNTRIES.

Governments must leverage innovative fiscal and monetary policies to achieve such funding levels and focus should be applied to sources of greenhouse gas emissions, including a global heating levy on all flights. On its own a US\$10 levy on all air passengers would raise approximately US\$43 billion (an estimated 4.3 billion passengers in 2018).¹⁵¹

Lastly, it is critical that developing nations are not only not left behind in the green transition, but that they catch up. A roadmap to a more equitable world for all already exists: the Sustainable Development Goals (SDGs) have been studied, scrutinised, and agreed to by nations globally. Achieving the SDGs will be key to a more just and sustainable future for all.



**THE GREEN TRANSITION MUST
ALSO BE A JUST TRANSITION.
THE SDGS ARE THE ROADMAP
TO A MORE SUSTAINABLE AND
EQUITABLE FUTURE FOR ALL.**





BUSINESS LEADERSHIP AND FINANCING OUR FUTURE

JUST 100 ACTIVE FOSSIL
FUEL PRODUCERS ARE
RESPONSIBLE FOR 71%
OF GLOBAL EMISSIONS
SINCE 1988.

14 TRANSFORMING BUSINESS

If relatively few wealthy countries are responsible for a large proportion of the world's atmospheric CO₂, the same is true of wealthy companies: just 100 companies are responsible for 71% of global emissions since 1988.¹⁵²

Businesses must commit to transition their entire energy supply to renewable energy resources now. This will be central to the necessary rapid switch needed to meet a net-zero carbon target by 2035 and will complement the regulatory, fiscal and monetary actions driven by government policy. It is not just the fossil fuel sector that can and must make changes to reduce their carbon footprint: all businesses must take steps to change their supply chains for environmental and human rights protection. We urgently need due diligence and climate risk mitigation in global value chains and production to protect our natural assets from harm, and to reduce the footprint of all business operations from energy use to travel to waste generation.

Some companies have offset policies¹⁵³ (for every unit of electricity consumed – typically from coal or natural gas power plants – they buy a unit of wind or solar electricity) or are increasing their investments in or ownership of renewable production. This investment helps increase the amount of renewable energy in local electricity grids, with the reasoning that in future the infrastructure will be in place so that a complete switch to renewables can be achieved. However, a much deeper, broader vision and greater ambition is needed across corporate boardrooms.

These interim policies must be assessed and improved upon. Most companies that have made and met such targets focus on using 100% renewable electricity in their own operations.¹⁵⁴ The need for business leadership extends beyond electricity and beyond the offices of the companies in question. They must also examine their entire supply chains - including production, transport, retail and marketing - developing and implementing a circular economy that extends to other businesses and the public.

Many companies have made commitments to make progress on how their supply chains affect the natural world, yet few are reporting on their progress, and even fewer are reporting transparently in the progress made or hurdles encountered.¹⁵⁵ Companies

in every sector also need to accelerate the shift to circularity, and commit to designing waste, resource extraction, and pollution out of their supply chains.

It is true that corporate supply chains are complex and opaque but contextualised against the tiny window of opportunity available to avoid the climate crisis, the private sector must take on far more responsibility and do far better. The first step is to be transparent about their sourcing and make clear public plans for how to end carbon emissions, deforestation and other negative land use decisions, ocean degradation and associated human rights abuse. To ensure that companies do not simply simply seek PR success, their supply chains should be independently audited and the actions and progress benchmarked against commitments.

Businesses must also be held accountable for human rights and environmental abuses in their entire supply chains, in order to create a level playing field and accelerate the protection of communities and our shared planet.

At the time of writing, led by the European Commissioner for Justice, Didier Reynders, the EU is proposing to develop mandatory human rights and environmental due diligence (“mHREDD”) requirements on businesses. The EU’s moves show the potential for global leadership in this field and to raise the benchmark for global supply chains. Around 70% of European businesses are reported to now support mandatory due diligence standards for supply chains.¹⁵⁶

Rising public awareness of the climate crisis is leading some consumers to target their spending towards demonstrably more-sustainable options. Along with shifting patterns of investment and more stringent due diligence requirements it may soon not be a viable business model to ignore the negative impact of company operations and supply chains.

MAJOR CARBON POLLUTING CORPORATIONS MUST ACT

While all stakeholders in all industrial sectors must act, it is clear that a relatively small number of corporations carry a disproportionate responsibility and, likewise, that their failure to cut carbon emissions will 'drown out' all other efforts.

Just 100 active fossil fuel producers, including Saudi Aramco, ExxonMobil, Shell, BHP Billiton and Gazprom are linked to 71% of industrial greenhouse gas emissions since 1988 – the year the IPCC was established. These 'carbon majors' are the source of 635 billion tonnes of greenhouse gases since 1988.¹⁵⁷

Crucially almost one-third (32%) of historic emissions come from publicly-listed investor-owned companies, 59% from state-owned companies and 9% from private investment.

OVER HALF OF GLOBAL INDUSTRIAL EMISSIONS SINCE 1988 CAN BE TRACED TO JUST 25 CORPORATE AND STATE PRODUCERS.

Fossil fuel companies and their products released more emissions in the 28 years between 1988-2016 than in the 237 years prior to 1988.

Over half (52%) of all global industrial greenhouse gases emitted since the start of the industrial revolution in 1751 have been traced to these 100 fossil fuel producers.

Some attempts to make the climate crisis a problem for individuals to help solve may have been well-intentioned, but in the absence of action by governments and business – individual actions are doomed to fail. Decisive policies and enforcement at the highest levels are needed to combat global heating – nothing else will do.

These same figures give shape to the overwhelming injustices of our carbon economy. Put simply, the benefits, the wealth, opportunities, comforts and luxuries derived from carbon have been concentrated in the hands of a tiny minority, while the costs are overwhelmingly borne by the poorest.

Industry – and especially those 100 Carbon Major polluters – must take responsibility for their historical role in global heating and act now to avert climate breakdown. This means greening supply chains, switching to renewable energy and supporting innovation, divesting from fossil fuels, and transitioning towards a circular economic model.

It also requires a sea-change in corporate and investor thinking to address deep-rooted issues of injustice at the heart of global heating and support the attainment of the Sustainable Development Goals. Government and consumers have a role to work with industry to leverage urgent, effective action to prevent climate catastrophe.



15 SAVING FOR OUR FUTURE

The sinews of the climate crisis are investment and lending, providing the financial backing to dig oil wells, clear forests and send planes into the sky.

This both fuels the current problem and provides the opportunity to change it. If the policies of the handful of financial institutions which lend to so many companies – the power behind the Carbon Majors - were to change, it would have a dramatic impact on our ability to restore the climate.

PENSIONS WITH A PURPOSE

There is little point saving for a future on an uninhabitable planet.

Currently over US\$45 trillion is invested in global pension funds.¹⁵⁸ The largest pension market is the USA, with more than 60% of the assets in the largest 22 pension markets, followed by the UK and Japan.¹⁵⁹ A significant portion of these vast sums supports fossil fuel industries. A rapid, near-term switch, not just out of carbon-based industries, but into renewable energy and other climate positive sectors would provide a critical incentive, particularly across key Western economies and in particular the USA, EU/European Economic Area and UK.

However, only some 10% of global pension funds have any public, formal investment policies which align with the Paris Agreement.¹⁶⁰ OECD-member pension funds alone may total US\$287 billion to \$1 trillion (€238–828 billion) in liquid fossil fuel assets.¹⁶¹

It is vital that both private investors and institutional stakeholders in pension funds are informed and encouraged – potentially through fiscal incentives – to rapidly switch out of fossil fuels. The divestment movement is already gathering strength:

A 2019 REPORT STATED THAT US\$11 TRILLION (€9 TRILLION) IN FUNDS HAVE NOW BEEN MOVED OUT OF THE FOSSIL FUEL INDUSTRY.¹⁶²

While some progress is being made on voluntary disclosure of risks across the sector,¹⁶³ this progress is slow. In 2019 Mark Carney, former Governor of the Bank of England, said that lending and investment policies “are consistent with warming of 3.7-3.8°C”.¹⁶⁴

This suggests that while there are bright spots, such as the increasing success of ‘shareholder activism’ to force companies to disclose their climate risks, the increasing profile of climate breakdown in financial institutions has not successfully reached

the trading floor.¹⁶⁵ Illustrating this, JP Morgan’s own economists say climate change will be catastrophic,¹⁶⁶ yet JP Morgan Chase’s position as one of the biggest investors in fossil fuels remains.¹⁶⁷

Climate change risks have received increased attention from financial regulators, who see a growing necessity for company directors and boards to actively assess and disclose the risks that climate change poses to their business. For instance, the Australian Securities and Investments Commission has issued an updated guidance to company directors, stating that they should create plans to mitigate the risks posed by climate change to their businesses, and that failure to do so may put them at risk of legal action from investors.¹⁶⁸

Financial regulators and governments must step up and introduce legislation to force banks, pension funds and other financial institutions to properly assess the impacts of their lending and investment. Such measures include mandatory due diligence reporting; holding the financial sector liable for their destruction of our planet; and helping refocus the huge power of these institutions away from fossil fuels and towards an environmentally sustainable future. Special emphasis must be made on actively managing pension funds towards green portfolios compatible with a net-zero carbon 2035 ambition: pensions exist to provide future security for their members, and their investments should reflect that duty. While business and consumer leadership have a role to play in greening pensions and the financial services industry, government regulation is needed to quickly divest from fossil fuels and encourage investment in a more sustainable future for all.





I WON'T
BE QUIET

MIL
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FAW



MAKE CHANGE FOR THE PLANET

16 EVERYONE HAS A ROLE TO PLAY

The climate crisis requires coordinated, international action, with governments from all over the world working together.

Individuals cannot be expected to solve the climate crisis alone when in the background governments triple coal power subsidies¹⁶⁹ and continue to approve new coal mines and gas and oil extraction that fly in the face of their stated commitments to

net-zero. Carbon-based businesses are carefully engineering powerful messaging to make the climate crisis the problem – and fault – of the ‘small person’, of individuals and households, while covering up their knowing culpability.

However, we – you – are not powerless, and there is a suite of crucial actions everyone can take, most importantly by holding elected officials and those in power, along with corporations, to account. Use your vote and your voice; use your wallet and your purchasing power to demand change and a survivable future.

DEMAND MUCH MORE FROM THE POLITICIANS THAT REPRESENT YOU.

CLIMATE CHANGE IS A VAST AND COMPLEX ISSUE THAT NEEDS ACTION FROM THE GRASSROOTS TO GOVERNMENTS. AS GRETA THUNBERG SAID: “ACTIVISM WORKS, SO ACT.”

You can take action by writing letters to your political representatives, taking to the streets to peacefully demonstrate, and voting for politicians who will take the urgent, system-wide actions we need to save our planet.

Our silence will only embolden those who seek to maximise their profit at the expense of the public. We owe it to future generations that we are loud, resilient and persistent in opposing the corporate greed that is heating our shared planet.

GET INVOLVED

This is more about peaceful, effective political protest than changing a lightbulb - demand your representatives ACT with urgency. But your everyday can make a difference too. Make your money work for you and the planet.



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MAKE YOUR MONEY WORK FOR YOU - INVEST FOR THE FUTURE

As individuals, we can help steer the financial industry towards a greener investment future.

Find out what your pension and other financial assets are invested in, and demand that your fund managers divest from fossil fuels and your employers choose a more sustainable pension fund. Invest your pensions and assets in companies that are leading the charge away from carbon and towards truly sustainable energy and resource production and supply chains.

You can also use your power as a consumer to persuade businesses to stop environmental harm. Don't buy from bad actors: commit yourself to researching and actively supporting the businesses that do good for people and the planet and help create the market for change.



Nicholas Doherty / Unsplash

USE GREEN ENERGY AND REDUCE YOUR USE

Renewable energy is one of the most effective tools we have in the fight against climate change, and wind and solar energy have experienced remarkable growth and huge cost improvements over the past decade, with no signs of slowing down.

88% of Scotland's energy demand was met by renewables in the first quarter of 2019.¹⁷⁰ There is therefore no need for nuclear power as a 'bridging' tool, nor for the pollution, water contamination and emissions of fracking: renewables are ready now. Consumers can help to consolidate the shift into green energy by switching to suppliers who only use renewables, of which there are now many.

In the UK, zero-carbon energy sources are poised to overtake fossil fuels as the largest electricity source over a full calendar year.¹⁷¹

With the annual average UK household fuel bill standing at over £1000 (US\$1350),¹⁷² making your daily life as low-energy as possible will save the planet and save you money.



MA510 / Unsplash

FLY LESS

This is a powerful way to fight climate change. Avoiding a single roundtrip transatlantic flight will save 1.6 tonnes of CO₂ or the equivalent in other greenhouse gases.¹⁷³ If there is no alternative to flying, use an effective form of carbon offsetting that will have a real, lasting impact on emissions.



MabelAmber / Pixabay

USE THE CAR LESS

Transport now accounts for around 27% of total EU greenhouse gas emissions,¹⁷⁵ and living car-free would save an average of 2.4 tonnes of CO₂ (or equivalent) every year.¹⁷⁶ It also comes with multiple other benefits. It will reduce air pollution, and, if you switch to walking or cycling, it will be good for both your physical and mental health.



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DRESS FOR SUSTAINABILITY

As consumers, we can make a huge difference by reducing our clothing consumption, choosing to buy organic or sustainable textiles, washing clothes more economically and ensuring items are reused and recycled whenever possible. Extending the lifespan of clothes by three months of active use has the potential to reduce the carbon, water and waste footprints of an item by between 5 and 10%.¹⁷⁴



Jo-Anne McArthur / Unsplash

EAT LESS MEAT AND DAIRY

In 2016, the world's top 20 meat and dairy companies emitted more greenhouse gases than the whole of Germany, Europe's biggest climate polluter.¹⁷⁷ The meat and dairy sector is among the biggest emitters of the greenhouse gases. A total of 14.5% of the world's greenhouse gas emissions come from the livestock sector, the UN Food and Agriculture Organization estimates.¹⁷⁸ Switching to a vegetarian diet could save 0.8 tonnes of CO₂ (or the equivalent in other greenhouse gases) every year.¹⁷⁹

CONCLUSION

Drought, flood and fire and devastating extreme weather events are ripping through communities from Australia to the Arctic. The polar ice is vanishing, and we have fired the starting gun on the biggest refugee crisis in human history. We have less than a decade to save the planet: this means only action starting now will save the planet – and us.

This manifesto offers a roadmap for the transformational change we need in every sector to survive the coming storm. What comes next will be determined by whether we seize this opportunity and take our future back from the handful of companies and individuals who are throwing it away to line their pockets.

However, this manifesto is not just about avoiding disaster. If we act now future generations will grow up with cleaner air, abundant wildlife, and long-term environmental safety and security. We owe it to the planet, to ourselves and to future generations.

“THIS IS THE MOMENT. GLASGOW [COP26] IS THE LAST, BEST OPPORTUNITY THAT WE HAVE AND THE BEST HOPE THAT THE WORLD WILL COME TOGETHER AND BUILD ON PARIS. SCIENTISTS TELL US THIS DECADE, 2020 TO 2030, MUST BE THE DECADE OF ACTION. FAILURE IS NOT AN OPTION”.

John Kerry, U.S. Special Presidential Envoy for Climate

World leaders have an opportunity to come together in Glasgow for the Climate Summit (COP26) in November and literally save humanity from pain, disruption, decay and decline never seen before in human history. They must act. We demand that they do so - join us.



Protecting People and Planet



Protecting People and Planet



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