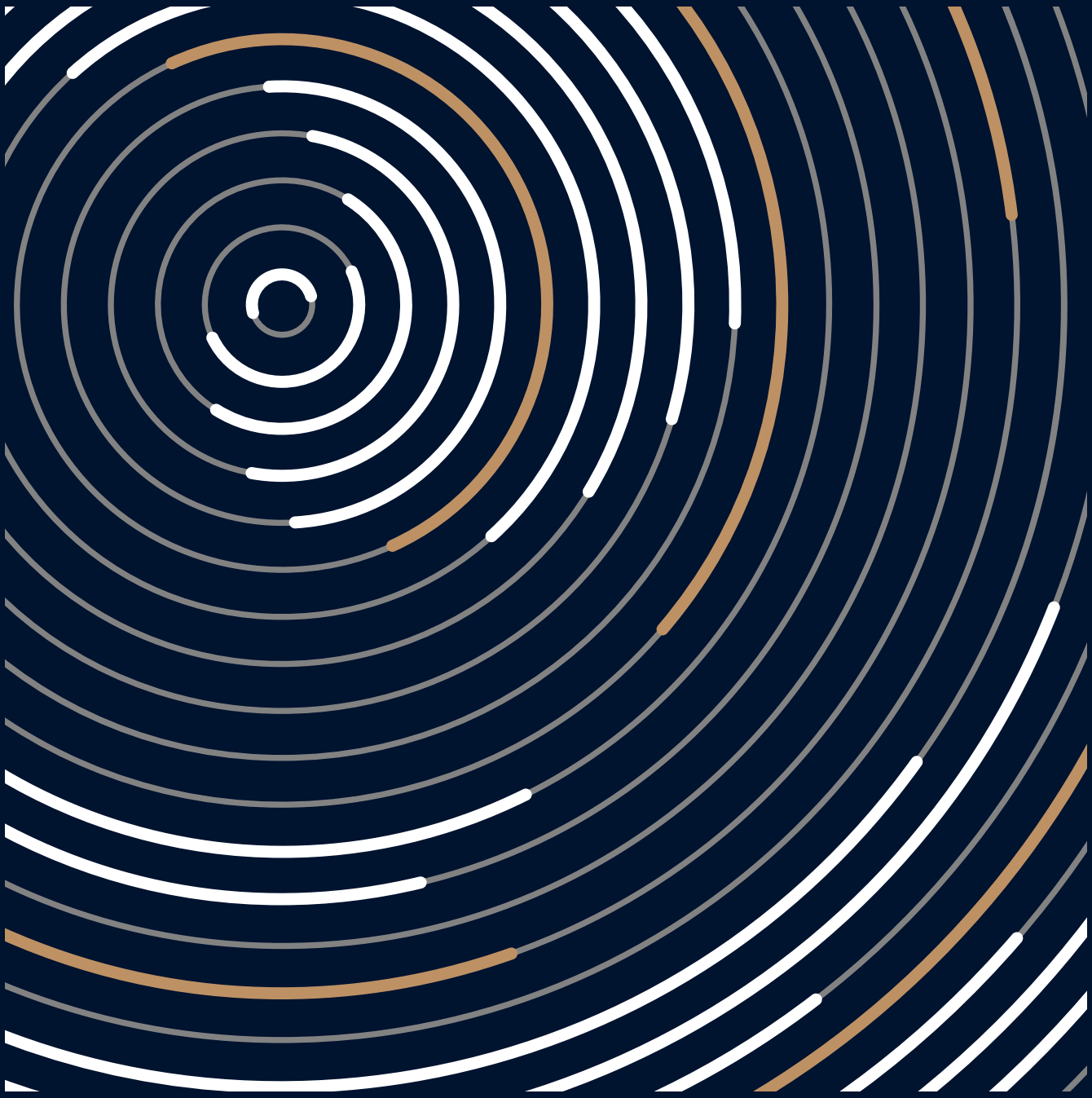


THE PARIS EFFECT

HOW THE CLIMATE AGREEMENT IS RESHAPING THE GLOBAL ECONOMY

EXECUTIVE SUMMARY

SYSTEMIQ

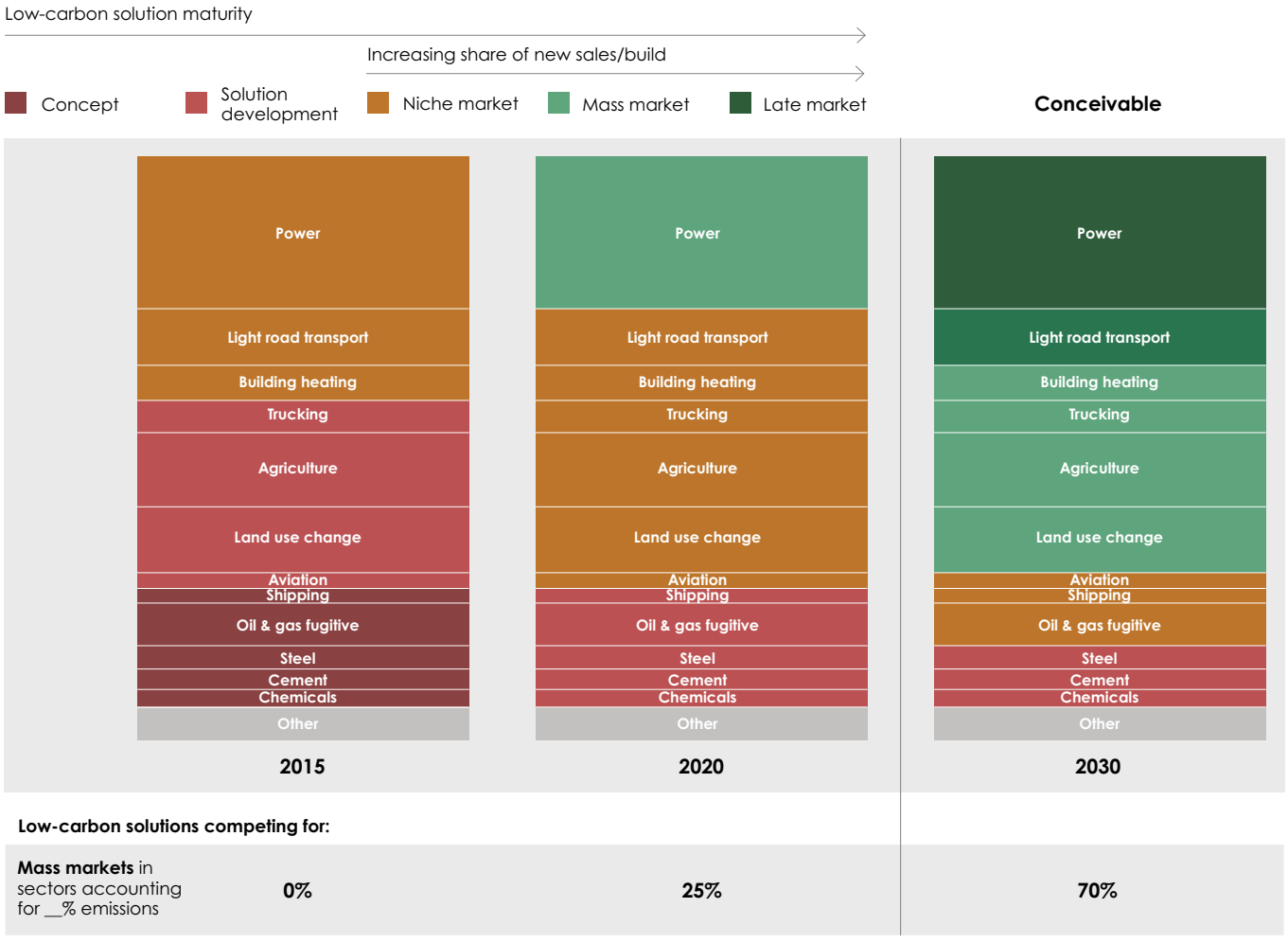
December 2020

In the years since the Paris Agreement, emissions have risen from 53 billion tonnes CO_2e in 2015[1] to 55 billion tonnes.[2] Even a severe COVID-driven contraction of the economy has barely changed this trajectory. The world is not on track to avoid dangerous, irreversible climate change. That is a key reality on which we need to act urgently and collectively. But it is not the whole story.

Since Paris, progress on low-carbon solutions and markets has been much faster than many realise. In 2015, low-carbon technologies and business models could rarely compete with incumbent high-carbon solutions. Today in 2020, low-carbon solutions are competitive in sectors representing around 25% of emissions. By 2030, these solutions could be competitive in sectors representing 70% of global emissions. (See Exhibit 1.) A stealth revolution is today propelling us towards a zero-carbon, digital future.

It has been estimated that building towards net-zero economies by 2030 stands to add over 35 million net new jobs globally, with growth in sectors like renewable power, energy-efficient buildings, local food economies and land restoration.[3] These are needed more than ever in the context of the post-COVID recovery. The net-zero transition should generate tens of millions of jobs over the coming decade. The same transition would also result in jobs being displaced - albeit fewer in number - in declining industries. Workers in affected sectors deserve strong support to help them adjust. As low-carbon solutions combine with digitisation to restructure economies, late movers will not only miss out on the multiple gains from the transformation, but also risk slower growth, lower productivity and job creation, and a loss of competitiveness. **Countries, companies and investors now have a once-in-a-generation opportunity to scale zero-carbon industries in the 2020s, creating prosperous growth, millions of jobs and more resilient economies.**

Exhibit 1: Low-carbon solutions by sector – progress since Paris and look forward to 2030



Note: sectors sized according to 2019 emissions impact

Source: SYSTEMIQ analysis; CO_2e emissions breakdown informed by International Energy Agency, Energy Transitions Commission; Food and Land Use Coalition; World Resources Institute; Climate Watch.

SETTING THE CONDITIONS FOR A NEW ECONOMY TO EMERGE

The dynamics set in train since the Paris Agreement have created the conditions for dramatic progress in low-carbon solutions and markets over the last five years. The agreement – with its in-built 'ratchet' mechanism – laid out a clear pathway for 195 countries to steadily cut their reliance on fossil fuels. This shared direction of travel increased the confidence of leaders to provide consistent policy signals. In turn, these have created the conditions for companies to invest and innovate, and for the markets for zero-carbon solutions to start scaling – from electric vehicles to alternative proteins to sustainable aviation fuels.

Countries, cities and regions accounting for over 50% of GDP now have net-zero targets (See Box 1).[4] Paris-aligned low-carbon policies are emerging with the potential for widespread impact. For example, the realistic possibility of carbon border tax adjustments by the EU[5], the UK[6], and by US President-elect Joe Biden[7] (in markets which together account for over 30% of global imports by value[8]) is already nudging behaviour in commodities such as steel and aluminium. The same is true in soft commodity markets, where the credible prospect of stricter requirements on food companies to prove that their supply chains are deforestation-free is changing behaviour.

Over 1,500 companies with combined revenues of $12.5 trillion have set or pledged to set net-zero targets.[9] The finance community has begun to integrate climate as a meaningful factor into mainstream investment. The value of global ESG assets (broadly defined) has almost doubled in four years, hitting $40.5 trillion this year.[10] Institutional investors representing $5 trillion assets under management have now committed to align portfolios with a 1.5°C scenario by 2050 via the Net-Zero Asset Owner Alliance (launched a year ago).[11] In 2020, the Bank of England announced that it will conduct climate stress tests on lenders and insurers from 2021.[12] **France,[13] the UK[14] and New Zealand[15] have either made climate risk disclosure mandatory or committed to do so. Others are beginning to follow.**

ZERO-CARBON SOLUTIONS AND MARKETS ARE GROWING FASTER THAN EXPECTED

These trends have created the conditions for sectors to move towards market tipping points where low-carbon solutions can out-compete legacy, high-carbon businesses. Once new solutions find an early market to serve, investment cycles can speed up, enabling performance improvement; costs often fall much faster than expected. The faster they improve, the more investment flows. Once solutions reach market tipping points – beating incumbents on cost, quality, convenience, regulatory alignment or social acceptance – they can take off on an "S-curve" trajectory. In parallel, legacy businesses often spiral downwards faster than expected as they lose market share, economies of scale and regulatory support. Once markets smell that a sector or technology has peaked, the dynamics of value destruction can be brutal.

In 2014, the IEA forecast that average solar prices would reach $0.05/kWh by 2050, 36 years later.[16] In fact, it took only 6 years.[17] Solar and wind are the cheapest form of new generation in countries covering over 70% of global GDP;[18] this will be the case everywhere by the late 2020s. These sources of power generation captured two-thirds of new power capacity added in 2019; including hydropower, renewables captured a full three-quarters of new capacity.[19] Solar/wind + batteries are also increasingly competitive as dispatchable power (for example, India's "round-the-clock renewables auction"[20]) benefiting from battery price declines propelled by the electric vehicles market. As solar, wind and battery costs continue to fall precipitously, this is creating economic pull for solar/wind + batteries to serve up to 75-90% of power systems.[21] Who would have believed that Texas would become one of the world leaders in wind power generation, with wind power accounting for nearly one-fifth of the state's electricity generation in 2019?[22]

In 2016, industry analysts forecast that internal combustion cars would still account for 60% of cars sold in the 2050s.[23] Today, it is hard to imagine them capturing anything beyond a shrinking minority of sales by the 2030s. Before 2024, **electric vehicles (EVs) will beat internal combustion on cost and**

almost every other purchase criterion: sticker price parity[24], a fraction of the maintenance, unparalleled acceleration, and near-equal range.[25] Since 2015, when the first few fully electric vehicle models were available, numbers have grown to 230 in 2019 and we are set to see over 500 models on the market by 2022.[26] These not only offer consumers more choice, but also more affordable, mainstream options. As more countries roll out charging infrastructure, who will buy outdated combustion engines? They will likely go down the road of DVDs, which saw sales decline by 86% in 13 years (2008-2019) after streaming services disrupted the market.[27] Countries from Norway to China are building out charging infrastructure and using EV subsidies to scale the market, boost domestic manufacturing and ensure their citizens have cleaner air.

This is the case for public transport fleets, too. Uganda has committed nearly $39 million to establish an e-bus plant with initial manufacturing capacity of 5,000 vehicles a year from 2021.[28] The government hopes that 90% of the e-bus parts could eventually be made in Uganda.[29] Further, the emergence of "mobility as a service" since 2015 will both reduce aggregate demand for personal vehicles and accelerate the transition to EVs. **Roughly a third of the expected increase in vehicle sales from urbanisation and macro-economic growth will likely not happen because of shared mobility.[30]**

The same market dynamics that delivered advances in the leading net-zero sectors will likely be replicated in other sectors, bringing them closer to market tipping points across the next 5-10 years. Widespread availability of clean electrons will further accelerate the change, given the central role that electrification (either directly or via hydrogen) plays in total system decarbonisation.

In 2015, it was broadly assumed that heavy industry (steel, cement, plastics) and heavy transport (shipping, aviation, trucking) would only partly decarbonize, even by 2050, and might never reach zero carbon within their own operations. With net zero by 2050 becoming the new norm, it is now clear that these sectors will need to get to net zero - and that they can. Today, there are 66 zero-emission shipping pilots and demonstrations.[31] The production of Sustainable Aviation Fuels grew twentyfold between 2013-15 and 2016-18.[32] 200 electric airplanes are in development.[33] Once electric aviation is commercial (likely by the mid-2020s for smaller planes, 2030s for 100+ seaters), **short-haul flights could be cost competitive with jet-fuelled planes**, with better engine efficiency and lower maintenance.[34] This will reshape the industry. Large-scale pilots are launching in zero-emissions cement and steel (such as Baowu Group in China).[35] The cost of green hydrogen production (a key technology to decarbonise these sectors) is set to fall to less than $2/kg before 2030, supported by the continued dramatic fall in renewable energy costs.[36] At this point, the cost increase to consumers of products linked to green shipping and green steel (for example, cars made with green steel) will be less than 1%.[37] Countries already recognise the opportunity for growth, exports and jobs. Chile, Morocco, Australia and many other countries are developing plans and infrastructure to become green hydrogen super-hubs for the clean energy era.

And across almost every resource-intensive sector, companies are exploring ways to become more circular, reducing the demand for primary resources. Increased recycling rates could mean that virgin plastic demand growth will fall sharply from 4% a year before 2020 to below 1% a year between 2020 and 2027, triggering the shift from an investment to a capital reallocation logic.[38]

A growing appreciation of the value of nature is giving rise to new ways of growing food and managing land. The alternative proteins industry (which includes plant-based meat, single-cell and insect-based proteins, and cultured meat) has grown **29% in the past two years to $5 billion.[39]** Major fast food chains are launching meat-free burgers, bringing this trend into the mainstream. By 2030, the market is projected to grow more than eighteenfold to $85 billion.[40] Both public and private sectors are increasingly engaging in schemes and mechanisms to pay for ecosystem services and public goods. The UK's Environmental Land Management scheme will reward farmers for undertaking environmental measures on their land.[41] From 2017 to 2019, the market for forestry and land-use credits more than doubled in value to $160 million.[42] **If properly managed with high standards of governance and environmental integrity, terrestrial carbon investments could grow to become a $50 billion market by 2030.[43] This would bring us closer to the point where thriving forests are worth more alive than dead**, generating resources for tropical forest nations to invest in their natural capital, build forest-positive value chains and improve livelihoods for their rural and indigenous communities. Rising consumer

consciousness of environmental issues, most notably triggered by the 2017 *Blue Planet* series in the case of single-use plastics, has the potential to further reinforce the shift towards nature-positive value chains.

Underlying forces at work in the macro-economy favour this industrial revolution. The digitisation of the economy enables business models that increase resource efficiency (for example, "as-a-service" models). A more connected world generates multiple sources of innovation worldwide, with emerging economies not only acting as early adopters of new, clean technologies but also driving their development and rapid diffusion. Smart policies are spreading faster as countries learn from each other, with growing climate policy convergence across close trading partners.[41] Ultra-low interest rates are well suited to clean technologies, which often have high upfront capital requirements and low running costs. With costs of capital (WACC) down at 5%, solar has a levelized cost of energy ~25% lower than if WACC was 10%.[45] The COVID-19 pandemic has prompted new (often digital) ways of working and entertaining. **This has the potential to permanently re-shape transport, commercial real estate and consumer spending habits.**

NEW SOURCES OF WEALTH CREATION AND DESTRUCTION ARE EMERGING

The financial markets can read the writing on the wall. The smart money is already moving into clean technologies and solutions. And it is getting out of old economy assets. As these industries decline, they lose economies of scale, cost of capital increases and it becomes harder to attract talent. Coal has been hit first: US coal stocks lost over half their value in 2019.[46] Coal capacity under development is down 62% globally since 2015.[47] Even under a Trump presidency, US coal production and consumption declined 16% and 40% between 2016 and 2020.[48] **Reflecting their own assessment of shortening industry life, oil and gas players are pulling back on long-life projects:** since 2014, the average lifetime of major industry projects has declined from 50 to 30 years and the trend is accelerating.[49] Any dollar spent into old economy industries is increasingly at risk of being a dollar that investors might not get back.

Some incumbents have understood the S-curve and are pivoting fast to build new renewable energy businesses. Danish utility company Ørsted A/S has transformed into a global offshore wind provider since listing publicly in 2016. Its share price has tripled in the last two years and market capitalisation now stands at ~$76 billion.[50] Others refused to read the tea leaves and suffered massive value destruction, estimated at over $500 billion in European utilities markets since 2008.[51] ExxonMobil's value is now rivalled by that of rising US renewables giant NextEra Energy.[52] Big Oil is being replaced with green giants in the clean energy industry. While those with cheapest oil or other fossil resources may leave it too late to adapt, the economic torch is being passed to the next generation. **The window for long-lived fossil fuel investments is closing very fast.**

A NARROWING WINDOW OF OPPORTUNITY

However, there is no guarantee that these market tipping points will be reached fast enough. The balance sheets and lobbying power of old economy players enable them to continue investing and influencing politicians to provide the regulation that keeps them on life-support. Inconsistent policy support for growing industries can also create false starts. For example, retroactive changes to Spain's solar feed-in tariff in 2013 created massive investor risk and stalled the industry's development.[53]

Given the science, we cannot afford another decade of delay. In the last five years, emissions have gone up. The world is not on track to avoid dangerous levels of global warming and irreversible climate tipping points are being triggered. **On climate, in the words of Bill McKibben, winning slowly is the same as losing.**

Many countries are beginning to move, bolstered by an electorate that is prioritising climate and the emergence of industry players lobbying for regulations to support zero-carbon solutions. Since 2019, elections in the EU, UK, New Zealand and US were all won by leaders with strong climate platforms.[54]

Countries that see the opportunity are taking steps to harness the power of reinvestment cycles to establish globally competitive players in new industries. South Korea's New Deal directs $95 billion into green and digital technology investments.[55] The UK Government's £100 billion national infrastructure strategy outlines plans to invest in green infrastructure to create a net zero economy by 2050,[56] with up to 68% emission cuts by 2030.[57] One third of France's COVID stimulus package – around $30 billion – is allocated to green measures (including $9 billion to green industry).[58] These countries will reap the rewards of millions of good jobs, reduced fossil imports, scaled-up clean exports, cheaper power and transport, lower health costs, enhanced resilience, and greater energy and food security. If enough countries use their COVID recovery programmes to scale zero-carbon industries, these shifts will reshape the economy over the coming 10 years.

However, most countries are not moving fast enough. Government decisions to support existing industries – while understandable, given this is where jobs are today – are ultimately unwise. **By failing to predict the pace of change, countries are making poor policy and investment decisions and wasting taxpayers' money.**

To capture this opportunity, countries need to deliver decisive action over the coming year, leading up to COP26 in Glasgow. Individually, countries can send unambiguous policy signals into the real economy through consistent, ambitious targets, regulation and fiscal incentives. Collectively, greater international cooperation sector-by-sector will accelerate shifts, aligning global supply chains and driving cost and performance improvements. Real economy actors need to act swiftly to stay relevant, including corporates (especially in the carbon- and nature-intensive sectors) and the finance community. **The case for enlightened self-interest has never been stronger. Those countries, companies and cities that act decisively today will strengthen their own competitive prospects and will drive a real economy transformation that can deliver high-quality, lower-risk growth, jobs and returns.**

COUNTRIES THAT SEE THE OPPORTUNITY ARE TAKING STEPS TO HARNESS THE POWER OF REINVESTMENT CYCLES TO ESTABLISH GLOBALLY COMPETITIVE PLAYERS IN NEW INDUSTRIES.

Box 1

Ambition has stepped up across key actors

- Countries, cities and regions accounting for over **50% of GDP now have net-zero targets** in place.[59]

- **20 countries and the EU** have a net-zero commitment and **more than 100 others** are considering adopting one.[60] 118 states and regions are committed to keeping temperature rise to well below 2 degrees Celsius, with efforts to reach 1.5 degree Celsius. Many of these are increasingly setting net-zero targets for 2050 or earlier.[61]

- **China has committed to carbon neutrality by 2060**[62] and US President-elect **Joe Biden has committed to re-engage** on climate.[63] The two global superpowers account for around 40% of global emissions.[64]

- The EU[65], U.K.[66] and US President-elect Joe Biden[67] are considering **carbon border tax adjustments,** in jurisdictions which account for 30% of global imports by value.[68]

- Over **1,500 companies** with combined revenues of $12.5 trillion have set **net-zero targets.**[69]

- 460 companies have approved science-based targets and a further ~500 are engaging in the **Science-Based Targets initiative (SBTi).**[70]

- 1,500 organisations (with a market capitalization of over $12.6 trillion) and financial institutions with $150 trillion AUM have made clear their support for implementing the recommendations of the **Task Force on Climate-related Financial Disclosures (TCFD).**[71]

- Institutional investors representing **$5 trillion** assets under management have now committed to align portfolios with a 1.5˚C scenario by 2050 via the **Net-Zero Asset Owner Alliance** (launched 2019).[72]

- **France,[73] the UK[74] and New Zealand[75] have each either made climate risk disclosure mandatory or committed to do so.** In 2020, the Bank of England announced that it would be conducting climate stress tests on lenders and insurers from 2021.[76]

- **34 central banks have joined the Network for Greening the Financial System**, through which they are working to ensure a smooth transition to a low-carbon economy.[77]

Sector leaders are betting on a zero-emission future

- **Over ten carmakers (including Volvo, Renault and Fiat) have committed to EV sales targets** for the period between 2020 and 2025.[78] VW Group alone plans to invest $66 billion by 2024.[79]

- Shipping giants **Maersk and CMA CGM** have committed to **net zero by 2050.**[80]

- Since 2018, **IAG**[81]**, One World Alliance**[82] and others representing **>15% global air passengers** have issued net-zero commitments.

- **European steel makers representing 13% of global production** have set 2030-50 net-zero targets.[83]

- **40 companies** representing one-third of global cement production capacity have committed to be carbon neutral by 2050, through the Global Cement and Concrete Association. **Dalmia Cement**[84] and **Heidelberg Cement**[85] have separately committed to carbon neutrality by 2040 and 2050, respectively.

- **General Mills**[86]**, Cargill**[87] **and Walmart** have each committed to regenerative agriculture. Walmart has pledged to protect, manage or restore 50 million acres by 2030 (an area the size of Ohio and Indiana).[88]

- 200 companies, covering 20% of the global plastics packaging market, have transformative **circularity commitments**, up from just one in 2015.[89]

ENDORSEMENTS

"We know that inadequate action translates into massive and costly climate risk. The Paris Effect makes it clear that it also puts economies at risk of falling behind the next wave of the creation of prosperity. That wave is already gathering pace and will become a dominant force in growth and transformation over this decade. Wise policy makers and investors will aim for the opportunities, jobs, and resilience that can be delivered only through a net-zero economy."

Pr. Nicholas Stern, Professor of Economics, Chair of the Grantham Research Institute on Climate Change and the Environment, London School of Economics

"The Paris Agreement has inspired net zero pledges from countries, companies and citizens. This report shows that we can transform very quickly and that recovery from economic crisis must prioritise the delivery of these pledges. The net zero future is not a far off vision; we are ready to make the transition now."

Christiana Figueres, Former Executive Secretary of the UNFCCC, now co-founder of Global Optimism

"As the report shows, the global economy has seen positive changes since the Paris Agreement: low-carbon industry is developing rapidly, climate finance and green finance are becoming increasingly mainstream. A number of economies, including China, have set the vision to reach carbon neutrality by mid-century. China's 2060 commitment represents a huge green investment opportunity. Furthermore, achieving carbon neutrality requires a green finance system which can provide the incentives and the regulatory framework to accelerate the low-carbon transition. A post-COVID world needs to recover the economy and at the same time, transition to a green future – these two tasks can never be separated."

Dr. Ma Jun, Director of Center for Finance and Development at Tsinghua University, Chairman of China Green Finance Committee

"It is clear the global long-term goal of Paris - net zero GHG emissions by midcentury - is now the reference point for governments and financial actors. World leaders started a journey in 2015 and now is the time to accelerate. We know global temperatures and emissions are rising but this assessment should give us hope that the Paris Agreement is working."

Laurence Tubiana, CEO, European Climate Foundation

"The Paris Agreement was a watershed moment for the global economy– and it is both exhilarating and reassuring to see that technological and economic trends over the past five years are indeed propelling us towards a carbon-emissions free future. This is despite the fact that a global peaking of carbon emissions is yet to occur; and suggests that these positive trends need to be converted into action as soon as possible, if not sooner."

Dr Ajay Mathur, Director General, TERI and a member of the Prime Minister's Council on Climate Change

"This excellent and hopeful paper shows us that with the astonishing progress being made across a wide range of clean energy technologies and business models, we can deliver global economic transformation at the speed and scale needed to meet the Paris climate goals but only if political leaders do their part with the right kind of policy support. It reaffirms that we can win the fight of our lives for a safer, cleaner, more prosperous world. And now the US is about to be fully back in the fight, where it belongs."

Todd Stern, Former United States Special Envoy for Climate Change

"The Paris Effect is a timely reminder to us all of the importance of the Paris Climate Agreement, and how the scale of multi-stakeholder collaboration it has helped to trigger across business, finance and governments is key to delivering a net zero emissions economy by 2050 or sooner. The report shows how much has been achieved since 2015, but also how much there is still to do. Looking ahead to COP26, the World Economic Forum will be fully engaged to help business and government leaders raise ambitions and deliver the actions required for a net zero, nature-positive economy, as a key dimension of the post-COVID global recovery."

Prof Klaus Schwab, Founder and Executive Chairman, World Economic Forum

"The Paris Effect report reiterates that the move towards a cleaner, decarbonised economy has gained unstoppable momentum. The transition is being pushed along no longer solely by regulators, but by markets themselves, as the costs of technologies are falling and green businesses are beginning to outcompete incumbents. This means that the move to a net zero economy is becoming an inevitability, and will be hastened along by more countries and companies committing to net zero targets."

Hubert Keller, CEO, Lombard Odier

"Decarbonisation of the global economy is accelerating despite some of the headwinds we have seen. With concerted and focussed effort we can make this the growth story of the century and create resilient and inclusive societies."

Paul Polman, Co-founder and Chair, IMAGINE

"The Paris Agreement has brought the world together in increased global ambition for climate action. Clear political ambition and commitment to decarbonization is key for the industrial deployment of renewable energy, and for an accelerated decarbonization of our societies, which is now also building speed through green hydrogen in hard-to-abate sectors. The Paris Effect highlights that in just 5 years, the transition to low-carbon solutions has been happening much faster than many realise, as the costs of renewable energy continue to fall and more countries and businesses seize this opportunity."

Thomas Thune Andersen, Chairman of the Board, Orsted

"Transformational change is possible – and it is happening. The Paris momentum continues to be a driving force behind the protection of our Global Commons. While recognising the scale of our environmental challenges, I salute the progress made over the past 5 years and trust that it will propel Governments into near-term action for a stronger, healthier and fairer world in the long term."

Naoko Ishii, Executive Vice President and Director, Center for Global Commons, UTokyo

"The past 5 years have confirmed the exponential nature of the transition to a net zero economy. The right policy signals are coming now. There is a vast opportunity if we get this right. But those who join the race too late may never catch up. It is very hard to chase an exponential curve."

Nigel Topping, UK High-Level Climate Action Champion

ENDORSEMENTS

"The last five years have shown that stability in the climate system is key to avoiding instability in the financial system. The Paris Effect demonstrates that investors are already helping drive economy-wide shifts to net zero as smart capital moves away from carbon- and resource-intensive players towards companies whose business models are based on sustainable value creation."

Rhian-Mari Thomas, CEO, Green Finance Institute

"The climate crisis is developing even faster than we feared; but as this important and clearly written report sets out, the zero carbon technologies we need to limit future damage are already far more competitive than we expected. We must now seize the opportunity to accelerate the energy transition and emissions reductions."

Lei Zhang, CEO, Envision

"The world is not yet on track to avoid potentially disastrous climate change. But this clear, compelling and important report sets out a case for optimism. In the 5 years since the Paris climate agreement , faster than anticipated technological progress has given us the tools to cut emissions rapidly at low cost, and an ever growing number of countries, companies and sectors have committed to reduce their emissions to zero. In this new reality, countries and companies which fail to grasp the economic opportunities will be left with stranded assets and unsustainable jobs."

Adair Turner, Chair, Energy Transitions Commission

"The Paris Effect report underlines the opportunities to build forward together. The role of the private sector in attaining transformative tipping points as we recover from COVID-19 and transition to a greener more inclusive future is critical. This transition has to be just and inclusive. Low carbon technologies, sustainable food security systems and nature-based solutions are all opportunities for Africa. Critically, this report recognises that we need to innovate and upscale financing to build forward effectively."

Vera Songwe, United Nations Under Secretary-General and Executive Secretary of the Economic Commission for Africa

"Over the last 5 years since the Paris Agreement, progress on low-carbon solutions and markets has been much faster than many realize, with rapidly falling costs for wind, solar and batteries. This is already causing fundamental disruption in our energy systems, and this disruption will only accelerate as clean energy costs continue falling relentlessly. Governments, investors and other global leaders should review The Paris Effect to better understand and get ahead of clean energy cost curves."

Jules Kortenhorst, CEO, Rocky Mountain Institute

"The Paris treaty not only raised global awareness around the urgency to act; it also set in motion an unstoppable train. This report makes it clear that joining the movement to build resilient and clean economies is not only the right thing to do, it is the private sector's best path towards return on investment."

Feike Sijbesma, Honorary Chairman, DSM

“

Financial market participants are beginning to focus on the serious risk management problem posed by worsening climate change, but this report calls attention to the many parallel areas of opportunity, where cost tipping points and growing incentives to reduce emissions mean real economic benefits can be gained through investing in low carbon sectors and technologies. There has been a growing embrace of the concept of a rapid transition to a “net zero” future since the Paris Agreement came into effect 5 years ago. Countries and investors that turn a blind eye to that will only worsen the risks they face while missing the opportunities to benefit from the low carbon transition.”

Bob Litterman, Chairman of the Commodity Futures Trading Commission’s Climate-Related Market Risk Subcommittee, former head of risk management at Goldman Sachs

“

The Paris Effect report summarises very well the momentum generated by the Paris Climate Agreement across the globe. The understanding of the climate crisis and commitment to the Paris Climate Agreement have made countries aware of the speed and actions needed to mitigate climate change impact. The desire to scale up innovations and new decarbonisation technologies have come to the forefront faster than expected. The probability of a scaled and accelerated implementation of new ideas and technologies motivated Dalmia Cement to pioneer a carbon negative roadmap and become net zero by 2040.”

Mahendra Singhi, MD and CEO, Dalmia Cement (Bharat) Limited

“

Paris changed the game. It stated the path for a low-carbon economy and called for the world to step up to the climate crisis. 5 years later, in some ways, that promise has not been met. But in more ways than we realise, it has. The Paris Effect shows how different nations, institutions and businesses are transforming parts of our energy, transport, industry and agriculture systems even faster than we had anticipated – and with benefits that no government can afford to turn down.”

Izabella Teixeira, Former Minister of the Environment, Brazil

“

Paris brought forth unprecedented alignment across the world, and a sea change in mindsets and innovation from finance to boardrooms, policies to indigenous communities and youth. We need a shift from ego system to eco system with net-zero, resource-efficient and nature-positive economies – which can bring 35 million direct jobs by 2030. Better business Better World is worth pursuing now more than ever.”

Cherie Nursalim, Vice Chairman Giti Group and International Chamber of Commerce

“

The Paris Agreement promised to leave no one behind, and an inclusive, just energy transition is pivotal to deliver this vision. Renewable energy solutions are now the cheapest and fastest way to reach vulnerable populations and achieve universal energy access – all while we accelerate climate action. Simply put: we cannot achieve net-zero emissions by 2050 if we do not achieve sustainable energy for all by 2030.”

Damilola Ogunbiyi, CEO and Special Representative of the UN Secretary-General for Sustainable Energy for All and Co-Chair of UN-Energy

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We would like to thank the following individuals for their input and expertise: Meera Atreya, Matthias Ballweg, Scarlett Benson, Faustine Delasalle, Ben Dixon, Catharina Dyvik, Douglas Flynn, Danielle Gent, Henry Gilks, Diletta Giuliani, Alasdair Graham, Ita Kettleborough, Bertram Kloss, Jörn Kobus, Julia Koskella, Martin Naughton, Aparajit Pandey, Francisco Pereira, Milan Petit, Lloyd Pinnell, Elena Pravettoni, Morten Rosse, Yoni Shiran, Rupert Simons, Eveline Speelman, Katherine Stodulka, Martin Stuchtey, Deanna Tallon, Tilmann Vahle, Laëtitia de Villepin, Andreas Wagner, Felix Phillip, Marco Van Veen, Andrea Bath, Georges Tijbosch, Jessica Stewart.

SYSTEMIQ would like to thank the Children's Investment Fund Foundation for providing financial support for this work.

ACKNOWLEDGEMENTS

The report team is deeply grateful to a large number of individuals who have generously contributed their time and energy to inform the report. We wish to thank the following people: James Arbib (RethinkX), Jennifer Austin (High Level Climate Action Champions), Dorka Bauer, Richard Black (Energy & Climate Intelligence Unit), Charlie Bloch (Rocky Mountain Institute), Koben Calhoun (Rocky Mountain Institute), James Cameron (Pollination), John Elkington (Volans), Owen Gaffney (Potsdam Institute), Spencer Glendon (Probable Futures), Emily Goldfield (Rocky Mountain Institute), Ed King, Joel Jaeger (World Resources Institute), Roland Kupers (Institute for Advanced Studies, Amsterdam), Nicholas Haan (Singularity University), Tim Jackson (University of Surrey), Robin Knight (We Mean Business), Mark Malloch Brown, James Newcomb (Rocky Mountain Institute), Simon Sharpe (UK Cabinet Office, COP26), Nick Stern (Grantham Institute, LSE), Adair Turner (Energy Transitions Commission), Maria Laura Rojas (Transforma), Zoe Tcholak-Antitch (Mission 2020), Robert Ward (Grantham Institute, LSE)

Contributors and their respective organisations do not necessarily endorse all findings or recommendations of this report. The authors would like to thank Jory & Co. for designing and producing the report. All remaining errors and omissions are the responsibility of the authors.

Endnotes

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Image Caption/Atul Loke for Panos Pictures/Food and Land Use Coalition
Women work on tissue cultured banana sapling at the Jain Irrigation facility in Jalgaon, India.

SYSTEMIQ

Developed by SYSTEMIQ, *The Paris Effect: How the climate agreement is reshaping the global economy*, examines how progress towards a zero-carbon economy has accelerated in the past five years since the Paris Agreement, and the opportunities that this creates for governments that join this transition.

The new assessment shows that although greenhouse gas emissions and global temperatures are rising, progress on low-carbon solutions has been faster than many realise: in 2015, zero-carbon technologies and business models could rarely compete with legacy high-carbon businesses. Today, zero-carbon solutions are competitive in markets representing around one quarter of emissions. By 2030, these solutions could be competitive across sectors representing nearly three quarters of emissions. The report highlights how key shifts across the general public, corporates, finance and government are propelling this progress, creating the opportunity to scale zero-carbon industries in the 2020s.

The Paris Effect draws on research and analysis from hundreds of sources to highlight economic, social and political trends over the past five years. Countries that create the right enabling policy environments to harness these trends stand to capture the benefits of millions of jobs, resilient economies, and simultaneously reduce emissions. Finance ministers and other key economic decision-makers can accelerate investments into low-carbon industries with greater confidence that this will deliver compelling returns. The case for enlightened self-interest has never been stronger.

About SYSTEMIQ

SYSTEMIQ was founded in 2016 to drive the achievement of the Paris Agreement and the UN Sustainable Development Goals by transforming markets and business models in three key economic systems: regenerative land use, circular materials, and clean energy. A certified B-Corp, SYSTEMIQ combines purpose-driven consultancy with high-impact, on-the-ground work, and partners with business, finance, policy-makers and civil society to deliver transformative change. SYSTEMIQ has offices in Brazil, Germany, Indonesia, the Netherlands and the United Kingdom.

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Report design by Jory & Co