

CLIMATE CHANGE ENERGY AND ENVIRONMENT

BUILD FORWARD BETTER!

The Global Fight Against the Climate Crisis in
Times of the Pandemic

Thomas Hirsch, Manuela Mattheß
July 2021



The pandemic and climate crisis have much in common. Their consequences are global, long-term, complex and intensify global inequality. They lead to a return in the importance of the state and can only be resolved multilaterally.



With a concerted targeting of the stimulus packages announced on greenhouse gas neutrality, investment in the future, jobs and resilience, the social and ecological transformation can succeed.



COP 26 in Glasgow offers the final realistic opportunity to raise national climate targets such that the overall target of limiting global warming to 1.5 degrees Celsius remains achievable.

CLIMATE CHANGE ENERGY AND ENVIRONMENT

BUILD FORWARD BETTER!

The Global Fight Against the Climate Crisis in Times of the
Pandemic

Contents

1.	INTRODUCTION - THE COVID PANDEMIC AS A HISTORIC TURNING POINT	2
1.1	Asymmetrical and Long-Term Consequences of the Pandemic	3
1.2	Similar Basic Patterns of the Pandemic and Climate Crisis	3
1.3	Pandemic and Climate Crisis Intensify Inequality, Insecurity and Indebtedness	4
1.4	Build Forward Better	4
1.5	Is the Pandemic Accelerating the End of the Fossil Fuel Era?	5
1.6	Living in the Risk Society	6
2.	AT THE TURNING POINT – BUILDING BLOCKS FOR A SUCCESSFUL TRANSFORMATION	8
2.1	Economic Stimulus Policies for Greenhouse Gas Neutrality, Employment and Social Justice	8
2.1.1	Germany’s Recovery Programme	9
2.1.2	The European Union’s Recovery Programme	10
2.1.3	The United States Recovery Programme	10
2.1.4	China’s Recovery Programme	11
2.1.5	Accelerate the End of the Fossil Fuel Era	11
2.1.6	Increase Systemic Resilience	12
2.2	Return to Multilateralism	13
2.3	International Solidarity: A Green Marshall Plan for the Global South ...	13
2.4	Raising the Climate Targets Before the Climate Summit in Glasgow (COP26)	14
2.4.1	Climate Policy Expectations for Decisions to be Taken in 2021	15
2.5	Accelerate Social and Ecological Transformation as a Response to the Pandemic	15
3.	CONCLUSION: FOR A DECADE OF NEW BEGINNINGS	17
	References	19
	List of abbreviations	21
	Imprint	22

1

INTRODUCTION - THE COVID PANDEMIC AS A HISTORIC TURNING POINT

For over a year now, the COVID pandemic has gripped the world, plunging it into serious crisis. The consequences in health, social and economic terms are unparalleled and for a sizeable proportion of the world's population will remain painfully felt for years to come. These consequences include long-term health impairments, educational opportunities missed, loss of livelihoods, over-indebtedness and a spiral of further repercussions, to name but a few. At the same time, humanity also has to tackle the climate crisis, which is seriously threatening our ecosystems as well as the basis of existence for billions of people, particularly in the countries of the Global South. Even if it is understandable that most countries are currently focused on fighting the pandemic and dealing with the damage it has caused, the climate crisis cannot be allowed to disappear from sight. That can be avoided, however, as it is possible and, in fact, necessary to address both crises together.

For that to succeed, economic recovery and ambitious climate policy must go hand in hand. In turn, this requires COVID recovery programmes to be placed on a sustainable footing, guided by the objectives of the Paris Climate Agreement, the target of limiting global warming to 1.5 degrees Celsius and implementation of the United Nations Sustainable Development Goals (SDGs). Rapid decarbonisation can then follow, making a brighter future possible for everyone. The recovery stimulus programmes for the next few years will thus determine the course of the coming decades, establishing path dependencies. In doing so, this crucial decade could become a decade of transformation. We could also succeed in containing the crisis in biodiversity, in protecting the availability of natural resources and in reducing income disparities, currently increasing worldwide at an alarming rate.

Huge amounts of money are currently being put to work around the globe to recover from the COVID crisis as quickly as possible. Taken together this is, by a long way, the largest investment programme in the history of humankind, offering at present a unique chance – triggered by the pandemic and standing in the broader context of the climate crisis – for a comprehensive, system-changing transformation process. »Build forward better«: together, we can overcome the COVID and climate crises with intelligent investment in the socio-economic transformation process – already underway anyhow – giving it a sustainable and socially acceptable form. The

COVID crisis has clearly revealed the fragility and injustices of our economic and development models. It shows us that old-style economic activity, based on the exploitation of finite resources, has disastrous consequences. To prevent the limits on the planet's capacity being exceeded on a permanent basis, destroying for ever essential foundations for life, what is called for is a rethink and action to be taken. Therefore, discussions are urgently needed on an equitable design for international climate policy, alternative development and growth models and a global energy transformation shifting away from fossil fuels to renewable sources of energy. Not the return to the status quo but a sustainable, low-emission, socially-just, climate-friendly restart for the economy, industry and society, in solidarity with one another, must be the watchword, enabling a just transition out of both crises.

The pandemic has cruelly revealed structural weaknesses: overburdened health systems, fragile supply chains, overstretched bureaucracies and inadequate political crisis management. At the same time, the pandemic has accelerated innovation. Never before have effective vaccines been developed so rapidly.

The climate crisis will still be there, even when the COVID crisis is over. Resolving it is, in essence, a question of justice. Over many years, changes in the environment triggered by the climate crisis have resulted globally in increased economic and non-economic harm, forced migration and in a significant aggravation of political, economic and social conflicts. They threaten the basis of existence for many people, especially in the Global South. The countries with the lowest CO₂ emissions are at the same time those which are the most vulnerable to these consequences. Adequate global climate protection implies, therefore, lived international solidarity as well as solidarity within societies and between generations. This publication examines both crises and their interconnections and outlines possible approaches for an adequate, equitable and successful recovery.

1.1 ASYMMETRICAL AND LONG-TERM CONSEQUENCES OF THE PANDEMIC

By 23 March 2021, the pandemic had resulted worldwide in almost 124 million people infected and claimed close on 3 million lives. The United States alone accounted for a quarter of all infections and a fifth of all deaths. Europe, Latin America and South Asia are further hotspots, whereas above all East Asia, with China as the pandemic's starting point, has experienced relatively few victims thanks to highly effective containment strategies. This applies, for example, to Japan, South Korea and Taiwan.

Although herd immunity is expected soon in the United States and certain other countries such as Bhutan, Israel and the United Kingdom as result of rapid and successful immunisation campaigns, in many parts of Europe and Latin America the third wave is underway; also in South Asia and parts of Africa incidence rates are rising again. Although here in Germany a mood of resignation is spreading because of the poor political crisis management (e.g. in the organisation of the vaccination campaign or the lack of uniformity in the COVID rules adopted by the different Federal States) and the catastrophic economic consequences many are facing, in East Asia and Israel, and in the foreseeable future in the United States and the United Kingdom, a close to normal life is possible once again. Also in economic terms these regions are already at the start of strong post-pandemic growth, building up a considerable lead, which other regions can narrow only slowly, if at all. Although the German economy is growing again, in comparison with the United States and East Asia, a major gap is emerging.

The pandemic has led to increased tensions, greater inequalities and in many places to dramatic upheavals of an economic, social and increasingly also political nature. In the absence of effective medicines, an increase, and not a decrease, in the overburdening of many public healthcare systems and the likelihood that it will take until the end of 2022 to vaccinate the complete world population (So 2020), the global outlook remains bleak. The fact that a few rich countries, accounting for only 16 percent of the world's population, have secured two thirds of the vaccine doses available, e.g. Canada could vaccinate its population four times over, results in a global vaccine injustice. This pattern is an uncanny reminder of how also climate risks affect the poorest countries more acutely than the rich. Everyone has a right to a vaccination. To that extent it is correct, albeit with a certain scope for improvement, that Germany supports the global COVAX vaccination campaign (BMZ 2021).

The situation in Africa is particularly depressing. Although, overall, comparatively few cases have been diagnosed here and above all countries experienced in dealing with the Ebola virus quickly adopted protective measures, South Africa, Libya and Cabo Verde have a very high incidence in international comparison and the death rate in 18 African countries is above the global average. Above all, however, the majority of African states have not received a single dose of vaccine. Much worse, although for other reasons, is the

situation in many South American countries above all in Brazil where the president himself has become the greatest security risk for the country, the region and maybe even further afield. The longer it takes to establish vaccine protection throughout the world, the more likely it is that the virus will return as a mutation to those places where the vaccine was first administered.

1.2 SIMILAR BASIC PATTERNS OF THE PANDEMIC AND CLIMATE CRISIS

The basic pattern of the pandemic exhibits many features in common with the climate crisis. Because of the world's highly interconnected nature, the crisis is a global one. However, its harm is distributed extremely asymmetrically. Hardest hit are people who as a result of a predisposition are particularly vulnerable. In addition to age and illness, above all poverty and discrimination on grounds of sex and race are major factors in determining vulnerability (Brot für die Welt 2021).

Further parallels between the extreme weather events triggered by climate change and the pandemic are the lasting and complex repercussions. Long after the occurrence of extreme weather events or the wave of a pandemic, their socio-economic effects can still be felt. Construction of crisis-resistant infrastructure – above all in relation to basic public services, health and social protection – will take many years, above all in developing and emerging countries, and places an additional burden on public finances that are in any event stretched with many countries already in debt distress. According to Sharan Burrow, General Secretary of the International Trade Union Confederation, at least 1.6 billion people do not have access to social protection systems because they are in precarious or informal employment (Burrow 2021). For her, access to basic social provision is a question of survival. Because in large parts of Africa and Asia and also in parts of Latin America this access does not exist, in 2020 some 690 million people, according to figures from the Food and Agriculture Organization, were undernourished (FAO 2020). In sub-Saharan Africa the situation is particularly acute. In that region 22 percent of the population are undernourished. A survey carried out in Kenya by the German NGO Welthungerhilfe revealed that nine out of ten respondents are poorer today than before the pandemic and four out of ten are less well nourished. For reasons associated with the pandemic, many people have lost their income. Disruptions to the supply chain mean that foodstuffs are not available or are available only at a higher price.

Very similar effects can be observed as a result of climate change. Following floods in 2020, six million people in the Horn of Africa and East Africa had to leave their homes and were dependent at times on food aid. In Ethiopia alone, 1.6 million people were affected. The loss of livelihood resulting from climate-related damage is more often a long-term phenomenon whereas occupational activities interrupted by the pandemic can be resumed after it ends. In contrast, climate change results not only in unemployment but also in homelessness. Worldwide between 50 million and 100 million people have already been forced to leave

their homes as a result of climate change. The World Bank estimates that by 2050 the number of climate migrants will reach 143 million. The number and severity of climate-induced extreme weather events have increased four-fold in the last 40 years. According to data collected by the reinsurer Munich Re, the resulting losses amount on average to close on 160 billion US dollars annually. These losses will further increase as climate change intensifies. To this must be added crop failures as a result of rising temperatures, damage to infrastructure along the coasts as a result of rising sea levels, reduced worker productivity outdoors because of the heat and much more. According to a joint study by University College London and the Carbon Disclosure Project, by 2070, climate damage costs could reach 5.4 trillion US dollars a year (Neue Zürcher Zeitung 5.10.2020).

1.3 PANDEMIC AND CLIMATE CRISIS INTENSIFY INEQUALITY, INSECURITY AND INDEBTEDNESS

In 2020 the global economy shrank by 4.5 percent and the crisis is not yet over. Growth forecasts are dependent above all on vaccination successes. At present, according to the World Bank and the International Monetary Fund, it can be assumed that the economy will regain its pre-crisis level at the earliest by the end of 2021 but possibly not until 2022. Admittedly, the speed of the recovery is regionally very different. In 2020, China achieved a growth nonetheless of 2.3 percent and for 2021 growth of 6 percent is expected. Following a contraction of 2.3 percent in 2020, the US economy is currently in rapid recovery mode. For the first time in decades the predicted growth figure of 6.5 percent is higher than that of China. The EU, following a collapse of 6.2 percent in 2020 (Germany: -4.9 percent), lags considerably behind with projected growth of at best 3.7 percent in 2021 and 3.9 percent in 2022 (IMF 2021). However, thanks in part to rules on short-time working, unemployment here rose less sharply than, for instance, in the United States where, at times, it reached levels not seen since the Great Depression of the 1930s.

Many emerging and developing countries have also been hit hard. India's economy shrank last year by 8 percent. In Bangladesh, despite nominal growth of 3.8 percent, hundreds of thousands of jobs were lost alone in the textile sector because clients cancelled their orders and hundreds of textile factories had to close overnight. In island states in the Pacific, Indian Ocean or Caribbean, which are generally heavily dependent on international tourism, this crucial sector of the economy is still foundering, with many of the businesses concerned unlikely to reopen. For example, for Samoa, the International Monetary Fund predicts for the years 2020 to 2022 income losses of 20 percent in comparison with the pre-crisis predictions. Similarly, large losses are predicted for the Philippines, here caused in part by considerably lower remittances from guest workers, one of the most important sources of the country's national income.

Whether it is the Philippines, Bangladesh in Asia, Ethiopia in Africa, the countries of Central America or almost all small

island states, many of the economies badly affected by the pandemic are also disproportionately threatened by climate risks. This undermines their resilience, increases the cost of accessing capital, forces debt upwards and results in a dangerous downward spiral, unless determined steps are taken together with international assistance to counteract this. The Association of Small Island States has consequently called for the introduction of a multidimensional vulnerability index in order to recalculate country risks. On this basis, debts should then be cancelled and further financial support be targeted towards those countries which are through no fault of their own facing particularly high risks. By the 2030s, developing countries are forecast to be facing annual climate losses of 428 billion US dollars, increasing to 1.67 trillion US dollars by 2050 if temperatures continue to rise at the same rate as present (Brot für die Welt 2021). The countries hit hardest are again the small island states. That means that for these countries the costs of accessing loans will further increase. By 2030, island states are likely to be paying an additional 150 billion US dollars in interest because their high exposure to climate risks is considered a credit risk, resulting in higher interest.

Of the 125 developing countries which were critically indebted even before the start of the pandemic many of their economies will become debt distressed unless debts are cancelled. The suspension of debt payments granted by creditor states in 2020 is not enough to prevent this debt distress. Even a debt moratorium over a period of several years would not provide sufficient relief, as the interest due is not cancelled, merely suspended. In a report published in March 2021, the United Nations Conference on Trade and Development (UNCTAD) demonstrated convincingly that maintaining the existing course in relation to the debt crisis together with a business as usual recovery strategy for billions of people would lead to a new normality characterised by ongoing economic insecurity, high vulnerabilities to further pandemics and a worsening climate crisis (UNCTAD 2021). Conversely, that means that debt relief, financial assistance above all for the poorest states in building social infrastructure and ongoing high levels of investment in decarbonisation and the prevention of climate risks must go hand in hand in order to counter such a catastrophe scenario with global repercussions, in other words, the principle must be »build forward better« and not »build back«.

1.4 BUILD FORWARD BETTER

Without a basic safety net for the poor, in the majority of countries humanitarian emergencies, social upheaval and economic collapse threaten, such that realisation of the Sustainable Development Goals (SDGs) recedes well into the future. Also essential for the realisation of these goals are major investments in health systems (in many places completely overstretched), assistance for micro, small and medium-sized businesses, which form the economic backbone of most national economies, economic stimulus programmes and structural reforms leading to greater sustainability, decarbonisation, the promotion of decent jobs and a reduction in social inequality, fuelled further by

the crisis. Over one billion school pupils have been affected by continuing school closures and the cancellation of teaching. In Africa, there is a risk of additional 100,000 deaths due to malaria (Schwikowski 2020) because the necessary preventive and treatment measures cannot be given for COVID reasons. The number of starving people is growing faster than it has in many years, with many urban dwellers employed in the informal sector now without a job and returning in their droves to rural areas, eking out a meagre existence in agriculture.

The signs are now increasing that the pandemic is leading, at least gradually, to the development of new economic structures, starting from the local level through to a realignment in the international division of labour. Structures that have been destroyed will not simply re-emerge. The world of tomorrow will no longer be the world we knew before COVID. Many of our habits and approaches to solving problems are up for negotiation. In the case of health care systems and global value chains, which were previously trimmed for efficiency and cost minimisation, flexibility and resilience will, in the future, have to play a much greater role. Pandemics such as COVID are likely to be repeated as for many wild animals – from which potential pathogens can jump to humans – habitats are shrinking. In addition, climate change continues and, even before the end of the present decade, could present us with challenges eclipsing those of the COVID pandemic.

The past few months have demonstrated, not only in Germany but throughout the world, that in many areas working from home is not only possible but also productive and cost-efficient; that a large proportion of meetings and conferences can take place online, saving millions of hours in travel time and kilometres of business journeys; that supply chains can be shortened and, as a result, that the mobility patterns of individuals and goods and demands for office and conference infrastructure are likely to have changed on a permanent basis. What is true on a small scale, applies on a large scale too. Africa has painfully experienced that even a short-term fall in demand from China and reductions in freight can have serious economic consequences across almost the whole continent. In Europe major efforts are underway in relation to products such as medicines, which are essential in a crisis, to reverse the outsourcing carried out in the name of globalisation and re-establish production sites nearer to home. Steps taken by the pharmaceuticals industry (Pharmainitiative Bayern 2020) are likely to be only the beginning (GoingPublic 2020). In addition, many industrial companies are working to diversify their supply chains in order to strengthen resilience. Similarly, experts in disaster relief are considering increased stockpiling of food supplies. In many regions, cash transfers, a popular tool in humanitarian assistance in recent years, proved disadvantageous during long periods of lockdown. As a result of supply shortages, food prices increased in some cases to such an extent that the financial assistance provided was inadequate, as investigations on the densely populated Indonesian island of Java have shown¹.

In the Horn of Africa, in many countries in East Africa and in parts of South and South-East Asia extreme climate events additionally exacerbated the consequences of the pandemic. In Sudan, more than 100,000 homes were destroyed by historic flooding of the Nile. Here and in neighbouring countries huge areas of land were under water for weeks. East Africa was hit by a serious plague of locusts, which experts likewise consider to be connected to climate change. The Philippines, Vietnam and parts of Laos were all hit by several typhoons and in Bangladesh and the Indian state of West Bengal super-cyclone Amphan wreaked a broad trail of destruction during a lockdown. Shortly afterwards the monsoon brought considerably heavier rains than in recent years.

The year 2020 shows very clearly how dramatic the effects of the climate crisis are also in the Global North. At the start of the year, as a result of exceptional drought, Australia was troubled for months by the worst forest fires in the country's history, bringing death to over a billion creatures. In early summer, previously never recorded temperatures of over 30 degrees Celsius were experienced in Siberia, with the Arctic ice melting faster than ever. Overall, in Europe, 2020 was the warmest year since the start of weather recording. Also droughts are increasing. Research shows that in 2018 and 2019 central Europe experienced the worst drought in 250 years with crops failing on half of the land under cultivation and lasting damage across hundreds of thousands of hectares of woodland (Tominski 2020).

The prospects for the future give little room for optimism. The latest climate research suggests that greenhouse gases are increasing the temperature more significantly and that climate change is taking place more rapidly and on a larger scale than was previously thought. This increases the probability that the worst possible scenario considered by the Intergovernmental Panel on Climate Change (IPCC) in its reports becomes reality. This would mean, for example, that global warming becomes irreversible, that countless processes such as the melting of the glaciers and the resulting increase in sea levels would continue for millennia and that disastrous changes such as massive species loss, ongoing instability of regional climate systems, widespread crop failure and many more would materialise. Climate science urges, therefore, that an immediate increase in short-term climate targets in the Nationally Determined Contributions (NDCs) under the Paris climate agreement and the complete decarbonisation of all economies by 2050 is essential, in other words: »build forward better«.

1.5 IS THE PANDEMIC ACCELERATING THE END OF THE FOSSIL FUEL ERA?

The COVID crisis could accelerate the end of the fossil fuel era, if states refrain from introducing massive support programmes for traditional energy firms. The considerable fall in demand for fossil fuels, above all during the first lockdown, changed mobility patterns such as the major drop in the number of flights taken and reductions in commuting (as a result of working from home) and, finally, the timid

¹ The investigations carried out by the farmers' organisation Jamtani are unpublished.

recovery in most countries will all have a massive impact on many of the (often highly indebted) traditional energy firms. The financing of coal-fired power stations is already difficult, even in countries such as Vietnam, Indonesia, the Philippines, India or Bangladesh which up to now have relied heavily on coal to meet their growing energy needs. As a consequence, expansion targets have often been missed. Even Chinese, Korean and Japanese banks appear to be undergoing a rethink and the present economic slump during the pandemic could result in an exit from the financing of coal-power if recovery is not quickly forthcoming. It appears unlikely that governments such as those in the Philippines or Bangladesh would step in to cover that exit, as their financial headroom has reduced as a result of the pandemic and, at the same time, financing requirements are increasing for social programmes or to support hard-hit export industries, such as the textile sector in Bangladesh. In addition, both during the lockdown and the recent severe cyclone Amphan (Bangladesh, June 2020) and typhoon Goni (Philippines, November 2020), decentralised power production using photovoltaics proved to be far less vulnerable to disruption than coal-fired power stations which rely on regular fuel imports and stable distribution networks. It is not surprising therefore that the Philippines recently decided to implement a temporary coal moratorium. Many energy firms such as BP are therefore accelerating the shift to renewable energy as a viable area of business.

That would be good news in the fight against climate change. Namely, although greenhouse gas emissions fell in 2020 as a result of the pandemic by 2 billion tonnes or 5.8 percent (the biggest fall in decades), on its own, this has no lasting effect on the climate. To achieve the target of limiting the increase in temperatures to 1.5 degrees Celsius by 2030, this reduction in percentage terms must be repeated every year until 2030. Whether this can be done depends essentially on the recovery strategies adopted by the G20 members for the coming years. If they invest in the modernisation and hence the decarbonisation of industry, power generation, transport and sustainable infrastructure development and in resilience and a just transition, creating decent jobs, this will accelerate the social and ecological transformation and contain climate change. If, on the other hand, climate policy objectives are relegated to the back seat and generous financial assistance is given to coal, oil, combustion engines and carbon-intensive industries, the fossil fuel era could be artificially prolonged and climate change further accelerated. Thus, the question of which recovery strategies are chosen will have a major impact on how the climate crisis is tackled and, consequently, determine the existence or demise of our ecosystems and the preservation or destruction of the basis of existence for billions of people.

1.6 LIVING IN THE RISK SOCIETY

If we continue as before, the risks associated with climate change are incalculably great. However, the pandemic has changed how risks are perceived. Following the end of the Cold War, in the Global North – unlike the case in most

developing countries – the awareness that we are all living in a risk society has virtually disappeared. However, with the COVID pandemic, a feeling for risks – which seemingly render the individual powerless – has returned. These risks are, however, and this is what we are currently experiencing, not an issue of fate. Combating these risks requires preventive societal action and not collective denial. Changes, even painful ones, can be creative if they are aimed towards a new start.

The pandemic and our response to it has changed the world. The climate crisis will do so in far greater manner. The upheavals it will cause in terms of damage and its global spread far exceed those of the COVID crisis in that, after a certain point, they will become irreversible. The process by which the ice in glaciers and in the Arctic and Antarctic melts will, once underway, continue for millennia, with the same applying to the rise in sea levels. A rise in temperatures of between 1.5 and 2 degrees Celsius will also lead irreversibly to the extinction of tropical coral reefs, an ecosystem that is crucial to marine life. In the COVID outbreak, with the exception of a few countries such as Taiwan, the strategy of early containment was unsuccessful because most countries did not take the threat seriously enough at an early stage and were not adequately prepared with preventive measures. As a result, many people experienced incalculable suffering and economic damage and must bear the financial costs.

This example from the pandemic ought to teach us to correct this mistake as quickly as possible in the containment of climate change, where the problems of delay are all too familiar. This means that the rise in temperatures must be limited effectively and decisively at 1.5 degrees Celsius. To do this, we have little under 10 years – exactly the period it will probably take to overcome the economic and financial consequences of the COVID pandemic. That means that the strategies for tackling the crises resulting from the pandemic and climate change must be implemented at the same time and in an integrated manner in order to be successful. To attempt now, in the first instance, to tackle the COVID crisis alone, using traditional recipes and ignoring the need for transformation in the face of climate change, is a strategy that is condemned to fail. First, any further delay in implementing ambitious climate policy takes us beyond the narrow window of opportunity in which limiting the rise in temperature to 1.5 degrees Celsius is still possible. Second, the costs of recovery are so great that to raise similar or even greater investments for climate change immediately afterwards will be barely possible. And, third, stimulus programmes of the traditional kind coupled with a lack of climate policy ambition will, in light of the climate damage then to be expected, lead inevitably to investment errors and insolvencies, as business models are no longer viable, and to unemployment, disintegration, poverty and further political polarisation.

Which will we go for: social-ecological transformation or climate crisis? Fatih Birol, executive director of the International Energy Agency (IEA), warns that the stimulus packages of the next three years will determine the course of the next three decades (Climate Home News 17.3.2020). If the right

course is set today, i.e. if stimulus packages are adopted that provide targeted assistance for business models that are sustainable and viable in the long-term, we may succeed in tackling not only the COVID crisis but also the climate crisis. To achieve this, the level of ambition in climate policy must be raised and not abandoned, the transformation of energy production, construction, transport systems, industry, agricultural production and urban planning must be accelerated and not frustrated and the stimulus packages must be linked intelligently with long-term structural reforms. If this is done, this crucial decade could become a decade of transformation. If we seize this opportunity now, humanity will emerge strengthened from the COVID and climate crises. The success of such a strategy is, however, dependent on certain conditions, which will be outlined below. The alternative to this would not be good: the climate targets would be missed and the climate crisis intensified.

2

AT THE TURNING POINT – BUILDING BLOCKS FOR A SUCCESSFUL TRANSFORMATION

2.1 ECONOMIC STIMULUS POLICIES FOR GREENHOUSE GAS NEUTRALITY, EMPLOYMENT AND SOCIAL JUSTICE

Throughout the world, but especially where there has been one or more lengthy lockdown, without the greatest stimulus programme in history, countless businesses will enter insolvency through no fault of their own, tens of millions of jobs will be lost and the living conditions of hundreds of millions of people will take a turn for the worse. Hardest hit are the poorest countries in the Global South where few jobs have any formal protection and social protection systems are, at best, rudimentary, where people have few or no savings and where supply chains are the first to be cut, for example in the textile sector.

That can all be avoided if stimulus or recovery programmes accelerate the shift to a zero-emissions and climate resilient economy, encourage the transformation of agriculture and protection of biodiversity, make cities more resilient and more attractive places to live, promote digitalisation and ensure fair remuneration in systemically important services such as the health care system, thus addressing simultaneously both social and ecological aspects. In this way, sustainable jobs are created and the economy grows in a viable manner. In the first six months of the pandemic alone, 12 trillion US dollars of financial resources were approved worldwide. In addition, a debt moratorium was agreed for highly indebted developing countries. With regard to further International Monetary Fund (IMF) measures, Managing Director, Kristalina Georgieva, made it clear in April 2020: »(...) we are prepared to use our full toolbox and \$ 1 trillion firepower (...) to assist (...) low income countries, we plan to triple our concessional lending. We will (...) support a speedy recovery (...) to help our members come out of [the crisis] more resilient.«

At the 2020 Petersberg Climate Dialogue, Georgieva emphasised that these measures must also tackle the climate crisis: »It would be a mistake to ›pause‹ action on climate change while responding to coronavirus. We are about to deploy enormous, gigantic fiscal stimulus and we can do it in a way that we tackle both crises at the same time. If our world is to come out of this [coronavirus] crisis more resilient, we must do everything in our power to make it a green recovery« (Climate Home News 29.4.2020). In April 2020,

the World Bank too began to align its decisions on recovery programme investment in accordance with the factors of increased resilience, climate-related adaptive capacity, decarbonisation and sustainable growth. For these purposes it developed a sustainability checklist for assessing recovery interventions to determine to what extent these contribute to achieving the Paris climate goals and accelerate a social and ecological transformation in all sectors. Were these criteria to be applied strictly, using measurable indicators, this would be an extremely important stimulus for an accelerated decarbonisation.

This would make sense in economic terms and create many new decent jobs as IRENA, the International Renewable Energy Agency, demonstrated in its Global Renewables Outlook (2020 edition). According to IRENA, although the complete decarbonisation by 2050 of energy production alone would cost 120 trillion US dollars, at the same time tens of millions of new jobs would be created and with a gain in world GDP between now and 2050 of 98 trillion US dollar in comparison with a business as usual scenario.

Unfortunately, the reality is very different. The recovery programmes adopted since the outbreak of the pandemic are only to a modest extent »green« or aligned with the Paris climate goals. This is the sobering conclusion reached by the Global Recovery Observatory, a joint project of the United Nations Environment Program (UNEP) and Oxford University. According to the first report published in March 2021, only 18 percent of the 2020 spending on long-term recovery programmes could be characterised as »green«. In figures, that is 368 billion US dollars of a total spending of 1.9 trillion US dollars. Of the world's 50 largest economies examined, only Turkey's recovery spending was 100 percent green, followed by Norway with 71 percent. Germany is at 47 percent, the United States at 25 percent, the United Kingdom at 17 percent, Japan and China are both at 12 percent and India at merely 5 percent. In addition, long-term recovery spending accounted for only 13 percent of the 14.6 trillion US dollars announced in fiscal measures. That means that the vast majority of the spending was directed to immediate assistance, financial guarantees, social programmes and health protection (Global Recovery Observatory 2021). By the end of 2020, in world terms, China had spent the most on recovery programmes (419 billion US dollars), followed by the United Kingdom (380 billion US dollars),

Japan (192 billion US dollars), France (123 billion US dollars) and Germany (98 billion US dollars). Following the adoption of Biden's 2021 stimulus package, the United States, which under Trump had spent only 38 billion US dollars, now leads the international list. In relative terms, however, the United Kingdom has spent the most, amounting to 13.44 percent of GDP (Germany 2.55 percent) (Global Recovery Observatory 2021).

In light of this far too modest »green« share of total spending, the UNEP has called on states to invest more in sustainability and to fight the growing inequalities with greater determination. UNEP's Executive Director, Inger Andersen said: »Humanity is facing a pandemic, an economic crisis and an ecological breakdown – we cannot afford to lose on any front. Governments have a unique chance to put their countries on sustainable trajectories that prioritize economic opportunity, poverty reduction and planetary health at once« (UN Environment Program 10.3.2021).

Ensuring that the recovery programmes are strictly focused on net-zero emissions, jobs and social justice is also a question of intergenerational justice. If trillions of fiscal resources are being deployed now to tackle the crisis and thus considerably limiting the scope for new public spending for the next ten years or more, it is only more than legitimate that these investments are profitable also for millennials and subsequent generations, for whom the climate crisis is a much greater problem than the COVID crisis.

2.1.1 GERMANY'S RECOVERY PROGRAMME

In their report *Der Doppelte Booster* published in May 2020 (Agora Energiewende and Agora Verkehrswende 2020), the think tanks Agora Energiewende and Agora Verkehrswende proposed a 100 billion euro stimulus programme to bridge the gap between COVID short-term assistance and the reforms that are in any event necessary to achieve the climate goals. Climate neutrality (net-zero emissions) was the unifying theme of this stimulus programme, which incorporates the following elements: reduction in the renewables surcharge to strengthen consumer spending and reduce the costs for small and medium-sized businesses, measures to accelerate the modernisation of buildings, making them more energy efficient, state aids to improve energy efficiency in the industrial sector, support to establish the green hydrogen economy as a key future technology, support for electromobility, a European investment programme and further elements including accelerated approvals procedures and qualification programmes. Unfortunately, the Federal Government took this proposal on board only in part.

On 3 June 2020, the government coalition agreed on a 130 billion euro stimulus programme investing in the future (decarbonisation, digitalisation and other future technologies), flanked by various social policy measures. In addition to a VAT reduction for a limited period, an additional child benefit payment, bridging assistance for small and medium-sized businesses, a solidarity pact for municipalities and a reduc-

tion in the renewables surcharge used to finance the expansion of renewable energy, at the heart of the recovery programme, added to several times in the course of the pandemic, is a 50 billion euro package for strategic investment in future infrastructure, including additional resources for Germany's Energy and Climate Fund. In addition to a subsidy for a limited period for the purchase of an electric vehicle, expansion of the charging station infrastructure for electromobility and additional funds for the building modernisation programme, the package includes investment to develop a green hydrogen economy and considerable funds for research in particular in the areas of artificial intelligence and quantum technology.

A particularly positive feature is the broad consensus that exists among democratic political parties, trade unions, trade associations, academia and NGOs that the stimulus package must also address climate protection and not simply tackle the economic consequences of the pandemic and the need to overcome structural deficits in the German economy and infrastructure (e.g. fragile, China-centred supply chains and the massive backlog in infrastructure investment) (Borgnäs and Kellermann 2020).

In terms of developing a green hydrogen economy, Germany (like the EU) is investing considerable resources in green (i.e. free of CO₂) hydrogen technologies which are considered key to the decarbonisation of industrial production processes, in other words »power to X« processes, in which gas, heat, mobility and fuels are generated using electrolysis, methane pyrolysis and other innovative approaches. These hydrogen technologies are crucial for the medium and long-term viability of Germany as an industrial producer; however, their contribution to achieving short-term climate goals is limited because the development of the necessary infrastructure needs time and, under current market conditions, green hydrogen is not yet competitive.

The German greenhouse gas reduction target of -55 percent by 2030 was adopted in December 2019 as a binding measure. Following the raising of the European climate protection target in 2020 and given the above-average contribution that Germany must make towards achieving the target under the EU's effort sharing scheme, the Federal Government must readjust its own target. Here the target should be a 70 percent reduction in greenhouse gases, as already set out in the Green Party manifesto, but not yet in the manifesto of the Social Democrats. To achieve this target, further climate protection measures are needed in all sectors. Above all because of a pandemic-related decline in emissions of 8.7 percent in 2020, Germany succeeded, on the final lap, in reaching its previous target of a reduction of 40 percent by 2020 (in comparison with 1990) (actual reduction: -40.8 percent). The decline in 2020 was the greatest since 1990.

Whereas a positive trend above all in the energy sector continues, thanks to the steady expansion of renewables (although further acceleration is needed), and in the buildings sector measures are starting to have an effect (although

progress in the modernisation of existing buildings remains too slow), the considerable decline in the transport sector results more from the pandemic than structural change. Hence, the promises set out in the Social Democrats' manifesto of 15 million electric cars by 2030 and a speed limit of 120 km/h on motorways are important steps in the right direction. However, overall it remains the case that Germany must do considerably more to achieve a level of ambition that may be considered fair in international comparison i.e. a greenhouse gas reduction target of 70 per cent by 2030.

2.1.2 THE EUROPEAN UNION'S RECOVERY PROGRAMME

According to the forecasts, the EU will need at least one year longer than the United States or China to overcome the economic crisis of 2020. GDP is forecast to grow by 3.8 percent in 2021 and 2022, which is slower than in those countries, with elevated risks and uncertainty. The third wave of the pandemic in spring 2021 could further dampen the economic recovery (European Commission 2021).

A sustainable economic recovery can only succeed if the upturn occurs across the whole EU on the basis of European cooperation. That requires all Member States to place the common interest above the welfare of the individual state. In the short term, the economically more advanced countries must make greater financial contributions. On the other hand, the economically less advanced countries must accept that such assistance is earmarked for a specific purpose. A powerful start for the Green Deal mobilising a total volume of 1 trillion euro over ten years, in conjunction with the programme of the European Central Bank to buy a similar massive amount of bonds by the end of the year, can provide the European economy with the necessary impulse not only to emerge from the recession but also to move a good step forward on the path to greenhouse gas neutrality.

Ottmar Edenhofer, director of the Potsdam Institute for Climate Impact Research, has called for a European investment fund as part of the European recovery programme, which would grant very long-term (50-year) low-interest (e.g. one percent) loans and provide venture capital for investment in sustainable, climate-friendly projects (Handelsblatt 10.5.2020). Unfortunately, this good suggestion has not yet been taken up. Nonetheless, it must be observed that in the pandemic the EU has proved to be relatively capable of acting, at least in relation to the European Green Deal, which has prevented its further weakening. This would have been a loss for everyone, including the solvent Member States. Even Germany, as the economically strongest member, would on its own be too weak, in the face of global competition, to hold its ground. That would apply in particular if the geopolitical rivalry between the United States and China for global supremacy were to further intensify. Precisely in those circumstances Europe requires deeper cooperation in order to maintain a certain degree of independence in the global power struggle.

Under the German Presidency of the EU in the second half of 2020, a compromise was finally reached in relation to the stimulus assistance and the EU's seven-year budget. However, there was a severe scaling back of the Just Transition Fund. Whereas the European Commission had originally proposed to equip the fund with 40 billion euro, it was ultimately reduced to less than half that and given only 17.5 billion euro of resources. Also the EU climate targets for 2030 require reworking in order to set a reduction path that is compatible with a 1.5 degree Celsius rise in temperatures. Unfortunately, in the deal reached in April 2021, the European Parliament was unable to get the climate target raised to 60 percent. However, the last word has still not been said on this.

Although the EU now has a Green Deal, its members are not agreed on the shape of future industrial policy. EU budgetary resources and the Green Deal together total some 1.8 trillion euro – a tremendous level of funding. To achieve the new climate target, according to the European Commission's calculations, also in the industrial sector emissions must fall by 20 percent. That will be possible if industrial policy is aligned much more so than in the past with climate targets, in line with the US example (see below). Also in relation to competitiveness, the EU must as a matter of urgency adopt an industrial policy that is more clearly targeted and less a reflection of fragmented individual interests in order not to lose ground further against the United States and China. Between 2005 and 2018, the global market share taken by European industrial production already fell from 25 percent to 15.5 percent.

A first step in this direction would be to give greater priority in the objectives of the Green Deal to a climate-neutral economy and a just transition pursued in all Member States and flanked by a corresponding industrial policy and legally binding climate targets for all Member States. Just transition implies above all that investments in technology and infrastructure must go hand in hand with the qualification of workers and the strengthening of social protection. For these purposes, trade unions, which are increasingly committed to a social and ecological transformation, are an important partner (on this see also Hochscheidt et al. 2021). At the same time, it must be ensured that a sustainable European economy can survive in international competition, for example, through the use of border tax adjustments.

2.1.3 THE UNITED STATES RECOVERY PROGRAMME

After economic output fell in the United States in April 2020 by a never previously experienced 40 percent, the Chair of the Federal Reserve (the US central bank) warned that if a second wave of infections were to follow in the autumn the United States would see a recession of a kind unknown to modern history. And, indeed, the country did enter recession, although not the recession of a century. Meanwhile, the United States has successfully turned the corner. For 2021, growth of 6.5 percent is predicted. This would mean the United States going ahead of China for the first time in years. In March 2021, the US Senate adopted a 1.9 trillion US dollar

stimulus package, the sixth of its kind. In quantitative terms, nothing comparable has ever been adopted. It will turn the United States into the greatest motor of global growth. The design of the programme, as a bottom-up stimulus, marks a radical departure from the measures taken by the Trump administration in counteracting the pandemic, which consisted primarily in tax cuts for the rich. The one-off payment of 1,400 US dollars for every household, assistance for parents with young children and for municipalities and significant investments in a vaccination and testing programme (which allowed Biden shortly afterwards to double the vaccination target from 100 million to 200 million vaccinations within 100 days, whereas in Europe the targets were revised downwards because of supply shortages) are all evidence for the current spirit of optimism in the United States.

Biden intends to follow the stimulus programme consisting primarily of short-term immediate measures with a two trillion US dollar climate and infrastructure investment plan, promised during his election campaign. This will create the infrastructural basis to supply the United States with 100 percent renewable energy in the power sector by 2035. Hence, the United States is seeking to harness industrial policy in a major way in order to accomplish the transformation.

Climate Action Tracker (CAT) has calculated that the target of decarbonising the US power sector by 2035 is compatible with the 1.5 degree Celsius target provided that emissions fall rapidly. Hence, the climate target adopted by the Biden administration for 2030 will be crucial. For the US to demonstrate international climate leadership, CAT analysis demonstrates that a reduction target of at least -55 percent by 2030 (from 2005 levels) excluding forestry and other carbon sinks (or -57 to -63 percent including those sinks) is necessary (Climate Action Tracker 2021). To achieve that in addition to the projected transformation of power supply, transformation must also succeed in particular in the areas of heat and transport. In the buildings sector, by 2035 emissions need to be around 60 percent lower for residential buildings and 70 percent lower for commercial buildings. In its current climate plan, the Biden administration has targeted a reduction of only 50 percent. In the transport sector, the largest source of emissions in the US, the targets are not yet clear. Here, CAT calculates that a target of 95 to 100 percent of new car sales to be zero-emissions models by 2030 is needed. In other words, there is still a long road ahead. Nonetheless year on year CO₂ emissions fell in the US in 2020 by more than ten percent – above all as a result of the pandemic.

2.1.4 CHINA'S RECOVERY PROGRAMME

If the global economy is to grow in 2021 by 4.7 percent, China, with a projected growth of 6 percent, is, after the US, the second-largest growth motor. To achieve this, China is relying on massive investments in future technologies such as a 5G network and a charging infrastructure for electromobility. In doing so, China could in these and other areas such as artificial intelligence, biotechnology and renewable energy

technologies become undisputed world leader by 2030. At this year's session of China's National People's Congress, Premier Li Keqiang announced the extension of the special rules allowing companies to deduct from tax an extra 75 percent of research and development expenses, in the case of manufacturing companies increased to an extra 100 percent. The success of the Chinese growth strategy can be seen from the 60 million new jobs created in its cities, according to the Premier's figures, over the last five years. Under the fourteenth five-year plan (2021-2025) greater support is planned for rural areas and agriculture, with improvements to air, water and soil quality. China aims to have 70 percent of homes in northern China using cleaner heating – this includes a switch from coal to gas. However, anyone who had expected or simply hoped that China would raise its climate targets was left disappointed. Greenhouse gas intensity, the amount of CO₂ produced in relation to each unit of GDP, is to be reduced by 18 percent, as in the last five years. However, this does not imply a reduction in absolute terms, rather emissions will continue to rise, as was the case in 2020. In other words, China is a long way off from becoming a leader in international climate policy. Words and deeds remain far apart, with no answer from the government as to how the decarbonisation target is to be achieved.

First a period of economic growth and climate protection only from 2035? This would appear to be the strategy chosen by the Chinese leadership, in line with suggestions made by the country's own experts (Bloomberg News 2021). This would be very bad news for the climate and the world. Even during the pandemic, China's consumption of gas and oil continued to rise. Green measures account for only 12 percent of the country's 419 billion US dollar recovery package (2.92 percent in GDP terms). That is far too little for a transformation – China is clearly failing to mobilise its full potential.

2.1.5 ACCELERATE THE END OF THE FOSSIL FUEL ERA

The almost six percent decline in global CO₂ emissions in 2020 follows the greatest fall in demand in history for fossil fuels. The negative prices at which crude oil briefly traded in spring 2020 as futures contracts expired sent shock waves through fossil energy companies, whose business model is already in decline thanks to the growth of more competitive renewable fuels.

For the oil industry, things did not turn out as bad as was feared in spring 2020 when as a result of the first lockdown in many countries demand collapsed, storage facilities worldwide were at full capacity and oil tankers acted as floating depots. The average price across the year for a barrel of OPEC crude oil was 41 US dollars, around a third lower than in 2019. In the first quarter of 2021, the price has continued to rise to almost 58 US dollars and is now only 10 percent below its pre-pandemic level (Statista 2021). Nonetheless, no one anticipates that new heights will be reached and the present situation could rapidly prove to be a flash in the pan.

For the aviation industry in particular the pandemic implies a radical turning point. A considerable proportion of the airliners that are currently parked will not fly again. Above all the older generation of wide-bodied aircraft with high fuel consumption, which was barely profitable before the crisis, will be withdrawn from service. But also on European short-haul routes and especially on German domestic routes, the timetable is likely to remain much slimmer even after the pandemic is over. Short-haul flights are simply no longer in keeping with the times.

In the fight to remain competitive many fossil energy companies have taken on considerable risks and increasing levels of debt. That applies especially for the fracking industry in the US. The 27 largest companies in this sector, whose total debt commitment is over 100 billion US dollars, had to repay 26 billion US dollars in maturing loans in 2020. Given the fall in the oil price, this was too much for some companies – they went bankrupt. These included, alongside hundreds of small companies, Chesapeake Energy, a pioneer in shale gas extraction. In total, more than a million jobs could be lost in the US oil and gas industry (Tagesschau 11.9.2020).

Also the coal industry has its back to the wall. It has been hit hard by a collapse in demand especially from major industrial customers, reduced consumer confidence as result of increased unemployment, a continued stream of divestment decisions from institutional investors as well as increasing debt and higher risk premiums on new loans. Together this acts as a millstone. To this must be added the competition from renewables, which are becoming ever cheaper, major investments in the hydrogen economy as well as the increased price for CO₂, which together will, in the long term, force coal and coke out of the market, even in the industrial sector. As a result of the COVID crisis, the end of the fossil energy era is now a lot nearer. For many companies in the fossil energy sector, it has become a question of their very survival. This will only happen if they adapt their business models and accelerate the switch to renewable energy sources and green hydrogen. One can only wish that the companies succeed in this on account alone of the many jobs that are under threat. A study produced by the University of California, Berkeley, concludes that by 2035 at least 90 percent of US electricity can be carbon-free if public policy mandates and supports the change (Berkeley Public Policy 2020). Over the same period, this would lead to a ten percent reduction in electricity prices.

Governments would be well advised, as part of the stimulus packages, now to make strategic investments in future technologies in the areas of energy, energy efficiency, mobility and infrastructure. In doing so, they could support the long overdue transformation of the energy sector and ensure that energy supply, even during the period of transformation, remains reliable and cheap. At the same time, the economy will be stimulated, decent and sustainable jobs will be created and the transformation to a carbon-neutral world will be accelerated, which is essential for keeping the rise in temperatures to a maximum of 1.5 degrees.

In Canada, too, the ticking of the clock is unstoppable. In July 2020, the oil company Total announced a write-down of over 9 billion US dollars of investments in Canada in the exploitation of tar and oil sands, as these had become economically unviable. One of the sites had been opened up only two and a half years earlier. In June 2020, Shell also announced global write-downs of some 40 billion US dollars; this followed a similar announcement from BP two weeks earlier concerning over 16 billion US dollars of write-down. Both companies justified this step on the basis that, even after the end of the pandemic, further decline in the demand for oil had to be expected. Investors know that fossil energy has gone from being a business that is stable and safe to one that is risky. Oil companies have to pay risk premiums when they take out loans. In contrast, record investment amounts are flowing into renewable energy sources (IRENA 2020).

Quite simply, if fossil energy were not subsidised, the shift to the solar era would be achieved more rapidly. The direct and indirect global annual subsidies for fossil energies are still higher than the sums invested in renewables. Coal-fired power stations continue to be built – especially in China and India. In 2020 China approved the construction of as many new power stations as it last did in 2015. If all the approvals are realised, this will create 40 GW of additional generating capacity, as much as the capacity in the whole of South Africa. In India, in order to encourage investments and thereby counteract the current serious economic crisis, new coal mine concessions were issued, environmental standards lowered and the approvals process for power stations streamlined. However, it is an error to believe that economic recovery can be fired with coal-generated power. It is not only money that is being burnt, the climate is also being destroyed, leading to a further worsening of the already miserable air quality in dozens of Indian cities. As a result of the smog, 120,000 people died in 2020, almost half of them in Delhi, followed by the cities of Mumbai, Bangalore, Hyderabad and Chennai (Hindustan Times 18.2.2021). In addition, in cities with high levels of air pollution, the proportion of serious COVID-19 cases and other respiratory diseases is much higher. The greatest air polluter – even before the burning of coal – is the unstoppable volume of private urban transport. Without a transformation of mobility, Indian cities will remain places where there is hardly any air to breathe.

2.1.6 INCREASE SYSTEMIC RESILIENCE

The COVID crisis has unsparingly revealed the vulnerability of the globalised world. »Build forward better« implies improving resilience against future risks by taking preventive action such that the harm caused by foreseeable external shocks can be avoided and reduced as far as possible. It implies that we are prepared to tackle the unavoidable residual risks. With a view to dealing with future pandemics, discussions are taking place throughout the world on how improved crisis reaction capacity, social protection systems and health care systems can be established. It is being decided that states should have the capacity to supply their own population with basic medicines and other essential products. It is being acknowledged that one-sided economic

dependencies must be reduced and supply chains rebuilt with few vulnerabilities.

However, it is fundamentally important also to improve climate resilience. Although avoiding emissions is the most important aspect and remains indispensable, rapid decarbonisation alone is not enough to achieve this aim. It is already the case that not all climate risks can be avoided. On the contrary, risks will continue to increase over the coming decades even if the target of limiting the rise in temperatures to 1.5 degrees Celsius is achieved – albeit much less dramatically than if the 1.5 degree threshold is exceeded. For that reason, it is necessary in all cases to increase investment in the climate resilience of critical infrastructure, of coasts and cities and above all of agriculture and water supplies.

Stimulus programmes must reflect that adequately, by supporting measures to increase resilience both against disease and against climate change. Such measures include a more robust health care system accessible to all, a secure drinking water supply, a modern sewage system, decent homes that are protected against floods, green areas in inner cities and infrastructure that enables cities of short distances. All this would make cities considerably more resilient – against pandemics and against heavy rain and flooding, heatwaves or periods of drought. The strengthening of social protection systems reduces the vulnerability of the population in any crisis situation. The protection of ecosystems mitigates the consequences of climate change, preserves habitats for wild animals and separates these more markedly from land under anthropogenic cultivation. This reduces the likelihood that new pathogens can jump to humans. Where factory farming is ended in favour of ecological farming methods this also discourages disease jumping from animals to humans, reduces emissions and encourages the adaptability of agriculture in face of climate change. Many further co-benefits are possible if measures to increase resilience are adopted. Conversely, stimulus programmes should avoid everything that undermines resilience and climate protection.

2.2 RETURN TO MULTILATERALISM

»No country can resolve this crisis alone«, said Chancellor Angela Merkel in a message to mark the opening of the World Health Assembly in May 2020. According to an opinion poll carried out by Forsa, this view was shared by three quarters of all Germans who, for that reason, were in favour of more international cooperation in tackling the COVID crisis. The pandemic has brought into sharp focus the vulnerability of modern societies and the globalised economic system. No nation can resolve such a crisis alone. Global society is interconnected to such an extent that individual states cannot detach themselves without serious consequences and welfare losses.

That applies all the more in dealing with the climate crisis. No country is immune to the consequences of climate change and no country is capable of tackling the climate crisis alone. Enhanced multilateral cooperation is therefore a necessity. To achieve greenhouse gas neutrality by the middle of the

century and develop climate resilience as rapidly as possible, the Paris climate agreement, with its targets and cornerstones for an implementation strategy, provides a framework for cooperation that is suitable and fair. Those who undermine its integrity, refuse to follow its rules and rely on unilateral approaches are blind to the challenge faced, damage themselves and others and are condemned to fail. Concerted implementation of the Sustainable Development Goals (SDGs) adopted by the United Nations also constitutes an indispensable step towards greater global justice and enhanced climate resilience.

Whatever the issue, whether we are dealing with climate change, ending the pandemic, overcoming poverty or ensuring peace, in a globally networked world, multilateralism is more indispensable than ever. However, as the world has become increasingly bipolar or multipolar, multilateralism has faced fierce criticism. 2015 was the last year in which three groundbreaking multilateral agreements were reached: the SDGs, the Sendai Framework for Disaster Risk Reduction and the Paris climate agreement. 2021 offers the chance to build on these.

2.3 INTERNATIONAL SOLIDARITY: A GREEN MARSHALL PLAN FOR THE GLOBAL SOUTH

A society is as resilient as its most vulnerable members. The same applies for global society. The greatest health risk is faced by risk groups, the greatest economic risk is faced by the poorest. If, out of sheer necessity, this latter group fail to observe contact restrictions, the pandemic is barely stoppable – just as borders will not hold back those who have to flee the climate crisis. This implies that we are all sitting in the same boat. Consequently, the weakest link in the chain must be strengthened so that it does not snap. Unless we act in solidarity both within and between societies, neither the pandemic nor the climate crisis can be overcome. Whether this is driven by altruism or self-interest, it only works if we act together.

The poorest are hit the hardest. They deserve our particular solidarity. The International Monetary Fund predicts that in developing and emerging market economies with the exception of China the economic crisis will be longer lasting and the recovery slower than in industrial economies. Thus further increasing social inequality. Further, the pandemic threatens to reverse 30 years of progress in narrowing the gender pay gap. This follows from the fact that women are more likely than men to work in the informal sector and in service sectors that are particularly affected by temporary shutdowns, job losses and insolvencies. In addition, young girls are the first to be withdrawn from education when poor families are forced to make savings.

In the climate crisis, the situation is comparable. Those who need to invest in climate resilience because they are facing particularly high risks are often those least able to afford the protection.

It is also in the interest of western democracies to show solidarity now and to establish a green Marshall plan supporting developing countries specifically to invest in renewable energy sources, sustainable land and resource use, climate resilient infrastructure, health and digital networks. This will mean that they recover more rapidly from the crisis. At the same time western democracies can strengthen their international partnerships both in economic and political terms, thus removing the breeding ground for authoritarianism and populism and allowing democracy to regain ground in the competition with authoritarian forms of rule.

Ottmar Edenhofer's proposal to establish as part of a European recovery programme a European investment fund which grants very long-term low-interest loans and provides venture capital for investment in sustainable climate-friendly projects could be realised also as a Global Green Recovery Fund. This would enable the financing of projects in the Global South which are aimed at implementing the Paris climate agreement, the 2030 Agenda for Sustainable Development (SDGs) and the protection of biodiversity and the oceans. A fund of this kind should be open on the donor side, in accordance with the model of the Global Fund to Fight AIDS, Tuberculosis and Malaria, to participation by foundations, private investors and institutional investors from emerging market economies and for contributions from the Global South itself. Cooperation with multilateral development banks could strengthen the investment fund further and result in a green Marshall Plan for the Global South.

The fund should have an initial capitalisation of at least 100 billion euro, to kick-start investments. Similar to the approach taken under the Marshall Plan following World War II, the fund should aim to leverage considerable private and public resources in the Global South, thereby increasing the investment volume.

A fund of this kind would be an important complement to the existing short-term immediate assistance, emergency loans and debt moratoria which, although crucial for social safeguards and stabilising the economy, do not in themselves contribute to transformation and sustainable economic revival. In contrast, the fund could make investments which are connected with longer-term reforms, for example, removing subsidies for fossil fuels, a decarbonisation strategy and strategies for 100 percent renewable energy sources.

An investment fund of this kind would also be a suitable response to the call made by UN Secretary-General Guterres, who urged world leaders in the following terms: »Done right, we can steer the recovery towards a more sustainable and inclusive path. (...) We have a framework for action – the 2030 Agenda for Sustainable Development and the Paris Agreement on Climate Change. We must keep our promises for people and planet.« (United Nations 2020).

2.4 RAISING THE CLIMATE TARGETS BEFORE THE CLIMATE SUMMIT IN GLASGOW (COP26)

Even before the outbreak of the COVID pandemic, the ticking of the climate clock could be heard loud and clear. At the climate change conference in December 2018 in Katowice, Poland, UN Secretary-General called on all states to increase the ambition of their NDCs in advance of a special UN climate summit convened in New York in September 2019 specifically for that purpose. However, that call went virtually unheeded, above all amongst the G20 states, which together account for around 80 percent of all emissions. The climate change conference in Madrid in December 2019 also resulted in disappointment with the increase in the level of ambition of individual states deferred until 2020. Following the pandemic-related postponement of the UN climate change conference COP26 in Glasgow by one year to November 2021, further valuable time is being lost without a significant increase in the climate protection targets being achieved – despite the ever more compelling calls from scientists, NGOs, small island states and member countries of the Climate Vulnerable Forum (CVF).

Although the EU has adopted increased climate targets for 2030, agreeing to reduce greenhouse gases by at least 55 percent in comparison with 1990, this is not sufficient. In Germany, these discussions are still outstanding. Here, to achieve a reduction path compatible with the Paris Agreement, and which ensures that the burden is shared fairly amongst European countries, a 70 percent reduction in greenhouse gases needs to be the target. At present, the target for 2030 is still -55 percent.

Although China has announced that it aims for carbon neutrality by 2060 (Germany, EU and US: 2050), this remains a non-binding declaration of intent. Questions remain as to which areas and gases are included, no implementation plan with intermediate targets exists and, above all, no increase has been announced to the modest climate targets for 2030. The hope that this step would be taken with the adoption of the new five-year plan in spring 2021 has not been fulfilled. Given ever rising emissions in China and no foreseeable end to the construction of new coal-fired power stations doubts are increasing whether the target of decarbonising the world's largest emitter of greenhouse gases by 2060 is at all realistic.

The Biden administration in the United States is also facing the litmus test. Following its successful rejoining of the Paris climate agreement, the publication of an ambitious reduction target for 2030 is scheduled for April 2021. At the same time, the new President is calling on all states to increase their targets. He has invited 40 heads of state, including Vladimir Putin and Xi Jinping, to an online climate summit. According to experts, the US target for 2030 must be to reduce emissions by at least 55 percent, or 63 percent, depending on the calculation method, in comparison with 2005 if the target of limiting temperature increase to 1.5 degrees Celsius is to be achieved.

Unless the world's largest emitters, which includes the other G20 states, are swift to increase their climate ambition, the chance will be lost to limit temperature increase to 1.5 degrees Celsius. In any event, according to the IPCC, the window remaining, in which the world must halve global emissions, if a realistic chance of achieving that 1.5 degree target is to be retained, is extremely limited – we only have until 2030. On the other hand, when, if not now, is there a chance of that succeeding, given the massive stimulus packages and other special funds that central and development banks, governments and international organisations are currently pumping into the markets to stimulate the economy?

2.4.1 CLIMATE POLICY EXPECTATIONS FOR DECISIONS TO BE TAKEN IN 2021

Experts are generally agreed on what must happen in 2021 in order to make the climate change conference COP26 a success following several years of climate policy standstill:

- Significant raising of the targets and greater detail for the Nationally Determined Contributions, in particular by the largest emitters.
- Focusing COVID recovery programmes on achieving the Paris climate goals.
- Completing the negotiations and agreeing the outstanding details of the Paris Climate Agreement, such as the rulebook for carbon markets.

In addition to these three headline objectives, there are three further important areas in which progress is absolutely essential, also with a view to achieving the abovementioned priorities:

- Delivering the 100 billion US dollar international climate finance commitment for developing countries and achieving progress in the negotiations on a target corridor for further expansion of climate finance beyond 2025; this also involves encouraging rich non-OECD countries (e.g. Saudi Arabia), development banks and the private sector to make a greater contribution.
- Making significant progress in the financial and technical support for the Global South in adapting to climate change, risk prevention and in dealing with climate-related loss and damage.
- Accelerating and expanding the implementation of programmes to support a just transition to a greenhouse gas neutral economy on a cross-industry and transnational basis.

Success in these areas will generate a momentum comparable to that experienced in Paris in December 2015. It will give new impetus to the Paris climate agreement, so that six years after its adoption implementation can finally begin.

An important lever towards achieving fair conditions of competition between states would be to introduce and gradually increase carbon prices, which by 2030 should have reached a uniform minimum of 75, better 150, US dollars per tonne. In addition, by 2023 at the latest, all subsidies for fossil fuels and emission-intensive goods should be eliminated. Development banks and the international donor community should in turn commit to providing developing countries with financial support and technology and knowledge transfer to assist them in giving a climate-friendly focus to their stimulus programmes.

2.5 ACCELERATE SOCIAL AND ECOLOGICAL TRANSFORMATION AS A RESPONSE TO THE PANDEMIC

The pandemic constitutes a fundamental global threat of a kind not seen since World War II. The behavioural changes in the private sphere are profound and the socio-economic consequences disruptive. This allows for a systemic change to happen.

The market as the only scheme of economic governance, as is propagated above all by neoliberal dogmatists, has failed. In the crisis, neither deregulated health care systems nor supply chains streamlined for cost efficiency were capable of standing the test. In the absence of state support, many companies would not have survived. Where they exist, short-term working schemes proved to be a blessing. Countries where they do not exist are considering their introduction. Functioning social protection schemes have provided support to millions of people. In the first few months, the state which was strong and capable of taking action proved to be a stable anchor. Governments which ignored the crisis, for example in Tanzania or Brazil, failed. At the same, as the crisis continued, the German political system increasingly revealed its weaknesses in crisis management. To evaluate and eliminate these has become a central challenge – also to restore the confidence that has been lost amongst the country's residents.

Although the popularity of the liberal, democratic order has recovered somewhat during the pandemic, the crisis in which democracy finds itself is not yet over. That has consequences also for the fight against the climate crisis. Without the support of the majority, it is not conceivable in a democracy to implement the social and ecological transformation from the fossil fuel to the solar era. The pandemic may contribute to a significant acceleration of this transformation. Crises generate a willingness to undertake radical steps and to take the risk of major changes. This opens a window of opportunity for drives of innovation.

The International Energy Agency (IEA), certainly not known for being a green institution, is calling on governments to use the »historic opportunity« to swiftly accelerate the transition to clean energy. Mark Carney, governor of the Bank of England, refers to the zero-emissions target as the greatest commercial opportunity of our time, adding

»We need fifty shades of green to catalyse and support all companies toward net zero« (Climate Home News 27.2.2020).

Digitalisation will advance further. Mobility patterns will change. To ensure that the opportunity for innovation is used, the conditions for transformation must be improved permanently. One-off stimulus packages are not enough. To make sure that their effects do not evaporate, long-term structural reforms are necessary. For example, in the energy sector, in order to reach the target of 100 percent renewable energy, a continuous improvement to the transmission network, an upgrade to provide better storage capacity and an innovation campaign for intelligent energy users are needed. This must be accompanied by appropriate technical, regulatory and economic conditions for the electrification of the heat sector, transport and industrial processes, in particular, in entering the green hydrogen economy.

3

CONCLUSION: FOR A DECADE OF NEW BEGINNINGS

KNOWLEDGE-BASED SOLUTIONS INSTEAD OF PROPAGANDA AND LIES

The credo of the Enlightenment and the signum of the Modern era that evidence-based facts, and not invented truths, should determine political decisions and how risks are dealt with has been put to the test as we react to COVID as it has with climate change. In both cases, myths and false information are being deliberately spread and disseminated rapidly through social media to discredit scientific knowledge. These disinformation campaigns, which take advantage of the uncertainty of many people, are fuelled not only by followers of bizarre conspiracy theories but by a craving for recognition, and by power and profit interests. It is essential to take determined action against these and to ensure that political decisions and risk reduction strategies are based on scientific knowledge both for the purposes of suppressing the pandemic and in containing climate change.

GAINING AN ADVANTAGE THROUGH PREVENTION

Preventing a catastrophe avoids suffering and is safer and less costly than dealing with its consequences. Using different but highly rigorous prevention strategies Taiwan, Vietnam and New Zealand have been able to prevent a major outbreak of COVID-19. As a result, their health care systems were never overwhelmed. It was also possible to limit the economic consequences.

In the containment of the climate crisis, the aim must also be to gain an advantage through prevention. To avoid the risks of an uncontrollable and unstoppable climate change, bringing with it unforeseeable consequences for every continent and extending over many generations, it is worth making every effort to decarbonise needed to limit global warming to 1.5 degrees Celsius.

LET US FOLLOW THE LOST DECADE OF THE 2010s WITH A DECADE OF NEW BEGINNINGS

The 2010s were characterised by a re-emergence of nationalism, plunging multilateralism into a serious crisis; by a renaissance of populism and conspiracy theories which sought to undermine the role of science and the significance

of knowledge-based politics; by a growing aggression and disinhibition in society at the expense of tolerance, democracy, minorities and human rights; by a dramatic increase in wealth inequality to the benefit of a tiny global class of the superrich; and finally by a dramatic intensification of climate risks as a result of ten lost years in the reduction of global emissions. The 2020s can put a stop to and reverse this trend and become a decade of new beginnings as we move towards a new era.

The COVID crisis can accelerate these new beginnings as we have shown. Our risk awareness has changed, increasing our willingness to make major efforts to ward off catastrophes with preventive measures. Considerable staying power and the participation of very many is needed to overcome the dual crises of COVID and climate change. Crucial in shaping the course are the recovery programmes. These have to be made greener, as a matter of urgency, throughout the world. Otherwise this last opportunity still to achieve the 1.5 degree Celsius target for global warming will be lost. For that reason, the responsible, ethical imperative of political and societal action is »build forward better«.

The SDGs and the targets of the Paris climate agreement establish the political coordinates to be followed. A heightened awareness for the major importance of risk avoidance, for solidarity as the necessary social bond within and between societies and for multilateralism as the only promising strategy to tackle global crises are the basic principles.

The policy emphases will vary from country to country. In Germany's case, given the competitive effects that are achievable in the short term and the predicted doubling of electricity demand in the longer term in the course of decarbonising the economy by 2050, the renewables surcharge should be reduced. In addition, further investments in an accelerated modernisation of buildings, to make them more energy efficient, would be excellent in climate and employment policy terms, as it would reduce emissions immediately and create green jobs. Likewise, major investments are necessary now in future technologies such as green hydrogen, electromobility, storage technology and smart grids. In addition to support for research and development, joined up thinking is essential, combining policies for industry, economic growth, employment and the climate, with a view to achieving a sustainable long-term transformation.

Economic stimulus programmes should specifically support transformation processes that have already started and are highly relevant in strategic terms but which can now be accelerated in order to stabilise the economy. Support is also necessary for continuing and advanced vocational training in order to facilitate a just transition for workers in the move from the fossil fuel to the solar era and to avoid skill shortages in sunrise industries.

Given their different starting points, other countries will have different policy emphases. Nonetheless, certain universal principles apply.

- Recovery programmes must be compatible with the Paris climate agreement and the SDGs. They should encourage an increase in ambition for the Nationally Determined Contributions and the development and implementation of strategies for greenhouse gas neutrality by 2050, in order to achieve the target of limiting temperature increase to 1.5 degrees Celsius because of the undisputed benefits this involves for the preservation of our ecosystems and the basis of existence for billions of people globally.
- In many places, social protection and health care systems have failed the stress test triggered by the COVID crisis. Investments to increase the resilience of these systems are essential. They must be focused on improving the resilience, above all, of the most vulnerable groups in society. That helps both in the case of a pandemic and climate-related natural catastrophes.
- Short-term economic and labour market measures (e.g. grants, tax deferrals, loans and short-time working benefits), medium-term stimulus programmes (to stabilise and reinvigorate the economy) and long-term structural reforms with a view to achieving a social and ecological transformation (e.g. an increasing CO₂ price, the phasing-out of subsidies harmful to the climate, ending the use of coal, a climate act, etc.) must be linked consistently. Only by doing this can stimulus programmes make an effective contribution to accelerating social and ecological structural reforms and increasing the resilience of socio-economic systems against future pandemics, climate change and other foreseeable perils.

Transformative action is not only an imperative for politics and business. Society too is called upon. Let us play our part.

REFERENCES

- Agora Energiewende and Agora Verkehrswende**(2020): Der Doppelte Booster: Vorschlag für ein zielgerichtetes 100-Milliarden-Wachstums- und Investitionsprogramm; available at: <https://www.agora-energiewende.de/veroeffentlichungen/der-doppelte-booster/> (last accessed on 3.5.2021).
- Berkeley Public Policy** (8.6.2020): The US can reach 90 percent clean electricity by 2035, dependably and without increasing consumer bills; available at: <https://gssp.berkeley.edu/faculty-and-impact/news/recent-news/the-us-can-reach-90-percent-clean-electricity-by-2035-dependably-and-without-increasing-consumer-bills> (last accessed on 3.5.2021).
- Bloomberg News** (6.3.2021): China's Top Leaders Leave Tough Climate Decisions to Bureaucrats; available at: <https://www.bloomberg.com/news/articles/2021-03-06/china-s-top-leaders-leave-tough-climate-decisions-to-bureaucrats?srnd=green&ref=ngpqUbFL> (last accessed on 3.5.2021).
- BMZ (Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung)** (2021): Zusammen gegen Corona Weltweite Impfkampagne bietet Weg aus der Krise; available at: <https://www.bmz.de/de/entwicklungspolitik/corona-pandemie/covid-impfungen-weltweit> (last accessed on 3.5.2021).
- Borgnäs, Kajsa and Kellermann, Christian** (2020): Deutschlands Recovery-Strategie. Auf dem Weg in eine klimaneutrale und digitale Zukunft? FES Paris; available at: <https://library.fes.de/pdf-files/bueros/paris/17121.pdf> (last accessed on 3.5.2021).
- Brot für die Welt** (Hrsg.) (2021): Climate change, Debt and Covid-19; available at: https://www.brot-fuer-die-welt.de/fileadmin/mediapool/downloads/fachpublikationen/analyse/Analyse_102_English.pdf (last accessed on 3.5.2021).
- Burrow, Sharan** (2021): Speech at World Economic Forum 2021; available at: https://www.facebook.com/watch/live/?v=405771093985751&ref=watch_permalink (last accessed on 10.5.2021).
- Climate Action Tracker** (2021): To show climate leadership, US 2030 target should be at least 57–63 %; available at: https://climateactiontracker.org/documents/846/2021_03_CAT_1.5C-consistent_US_NDC.pdf (last accessed on 3.5.2021).
- Climate Home News** (27.2.2020): Net zero goal »greatest commercial opportunity of our time,« says Mark Carney; available at: <https://www.climatechangenews.com/2020/02/27/net-zero-goal-greatest-commercial-opportunity-time-says-mark-carney/> (last accessed on 3.5.2021).
- Climate Home News** (17.3.2020): Governments have historic opportunity to accelerate clean energy transition, IEA says; available at: <https://www.climatechangenews.com/2020/03/17/governments-historic-opportunity-accelerate-clean-energy-transition-iea-says/> (last accessed on 3.5.2021).
- Climate Home News** (29.4.2020): IMF chief: \$1 trillion post-coronavirus stimulus must tackle climate crisis; available at: <https://www.climatechangenews.com/2020/04/29/imf-chief-1-trillion-post-coronavirus-stimulus-must-tackle-climate-crisis/> (last accessed on 3.5.2021).
- European Commission** (2021): European Economic Forecast Winter 2021; available at: https://ec.europa.eu/info/sites/default/files/economy-finance/ip144_en_1.pdf; (last accessed on 3.5.2021).
- FAO** (2020): The State of Food Security and Nutrition in the World 2020; available at: <http://www.fao.org/documents/card/en/c/ca9692en> (last accessed on 10.5.2021).
- Global Recovery Observatory** (2020): Green Recovery Spending by Country; available at: <https://recovery.smithschool.ox.ac.uk/tracking/> (last accessed on 3.5.2021).
- Global Recovery Observatory** (2021): Are we building back better? Evidence from 2020 and Pathways to Inclusive Green Recovery Spending; available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/35282/AWBBS_ES.pdf (last accessed on 3.5.2021).
- GoingPublic Redaktion/tv** (7.9.2020): Rückverlagerung nach Europa; available at: <https://www.goingpublic.de/going-public-und-being-public/rueckverlagerung-nach-europa/> (last accessed on 3.5.2021).
- Hindustan Times** (18.2.2021): Over 120K died due to air pollution in India in 2020: Greenpeace; available at: <https://www.hindustantimes.com/india-news/over-120k-died-due-to-air-pollution-in-india-in-2020-greenpeace-101613628725846.html> (last accessed on 3.5.2021).
- Hochscheidt, Lukas, Wixforth, Susanne and Rohde, Jan Philipp** (2021): Die sozial-ökologische Transformation der Europäischen Wirtschaft. Gewerkschaftliche Perspektiven. Friedrich Ebert Stiftung; available at: <http://library.fes.de/pdf-files/id/ipa/17484.pdf> (last accessed on 3.5.2021).
- IMF (International Monetary Fund)** (January 2021): World Economic Outlook; available at: <https://www.imf.org/en/Publications/WEO/Issues/2021/01/26/2021-world-economic-outlook-update> (last accessed on 3.5.2021).
- IPCC** (2018): Special Report. Global Warming of 1.5°C; available at: <https://www.ipcc.ch/sr15/> (last accessed on 10.5.2021).
- IRENA (International Renewable Energy Agency)** (2020): Global Renewables Outlook: Energy Transformation 2050; available at: <https://www.irena.org/publications/2020/Apr/Global-Renewables-Outlook-2020> (last accessed on 3.5.2021).
- Lawton, Sarah** (2020): EU strebt einen gerechten Übergang in der Industrie an, aber Hürden bleiben, in: EURACTIV.de (11.12.2020); available at: <https://www.euractiv.de/section/finanzen-und-wirtschaft/news/eu-strebt-einen-gerechten-uebergang-in-der-industrie-an-aber-huerden-bleiben/> (last accessed on 3.5.2021).
- mondovisione** (15.4.2020): Remarks by IMF Managing Director Kristalina Georgieva; available at: <https://mondovisione.com/media-and-resources/news/remarks-by-imf-managing-director-kristalina-georgieva-during-the-g20-finance-min> (last accessed on 3.5.2021).
- Pharmainitiative Bayern** (2020): Bayerischer Pharmagipfel 2020; available at: http://www.pharmainitiative-bayern.de/index.php?id=24&tx_ttnews%5Btt_news%5D=25&cHash=1a731a116c9e9b2f6e5c3842c05b0f76 (last accessed on 3.5.2021).
- Schwikowski, Martina** (2020): COVID-19 hinders fight against malaria in Africa, in: Deutsche Welle (30.11.2020); available at: <https://www.dw.com/en/covid-19-hinders-fight-against-malaria-in-africa/a-55772311> (last accessed on 3.5.2021).
- So, Anthony D.** (2020): Reserving coronavirus disease 2019 vaccines for global access: cross sectional analysis, in: BMJ 371, m4750; available at: <https://www.bmj.com/content/371/bmj.m4750> (last accessed on 3.5.2021).
- Statista** (2021): Preisentwicklung ausgewählter OPEC-Rohöle von März 2020 bis März 2021; available at: <https://de.statista.com/statistik/daten/studie/218658/umfrage/preisentwicklung-ausgewaehliter-opec-roehole-monatsdurchschnittswerte/> (last accessed on 3.5.2021).
- Tagesschau** (11.9.2020): Krise der US-Ölindustrie: Verwaiste Bohrlöcher nach Corona-Crash; available at: <https://www.tagesschau.de/wirtschaft/us-oelindustrie-in-der-krise-101.html> (last accessed on 3.5.2021).
- Tominski, Katrin** (2020): Klima-Prognose: Extreme Dürren in Mitteleuropa werden zunehmen, in: mdr Wissen (6.8.2020); available at: <https://www.mdr.de/wissen/klimawandel-prognose-extreme-duerre-in-mittleuropa-wird-zunehmen-100.html> (last accessed on 3.5.2021).
- UNCTAD** (18.3.2021): Global economy gets COVID-19 shot from US stimulus, but pre-existing conditions worsen; available at: <https://unctad.org/news/global-economy-gets-covid-19-shot-us-stimulus-pre-existing-conditions-worsen> (last accessed on 3.5.2021).

UN Environment Program (10.3.2021): Are we on track for a green recovery? Not yet; available at: <https://www.unep.org/news-and-stories/press-release/are-we-track-green-recovery-not-yet> (last accessed on 3.5.2021).

United Nations (19.3.2020): Secretary-General Remarks on Covid-19: A Call for Solidarity; available at: http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ERI/pdf/SG_remarks_on_COVID-19_En_19_March_2020.pdf (last accessed on 3.5.2021).

LIST OF ABBREVIATIONS

AOSIS	Association of Small Island States
CAT	Climate Action Tracker
CVF	Climate Vulnerable Forum
IEA	International Energy Agency
IRENA	International Renewable Energy Agency
IMF	International Monetary Fund
NDC	Nationally Determined Contribution
SDG	Sustainable Development Goal
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environmental Program

ABOUT THE AUTHORS

Thomas Hirsch Thomas Hirsch is the Founding Director of Climate & Development Advice, an international consultancy network specialized in climate and development policies

Manuela Mattheß was a Policy Advisor for International Energy and Climate Policy at Friedrich-Ebert-Stiftung. She previously worked for the foundation as a project assistant in Senegal and as a policy officer in the department for Central and Eastern Europe in Berlin.

Translation: Dr. Paul Skidmore

IMPRINT

Published by:

Friedrich-Ebert-Stiftung e.V.
Godesberger Allee 149
53175 Bonn
Germany

Email: info@fes.de

Register no.: VR2392
Bonn Register of Associations
Bonn Local Court

President: Martin Schulz
Secretary General: Dr Sabine Fandrych

Responsible for content and editing:
Yvonne Blos | International Climate and Energy Policy

Contact | Order: Christiane.Heun@fes.de

Satz: Anne Eichhorn
mail@anne-eichhorn.de

The views expressed in this publication are not necessarily those of the Friedrich-Ebert-Stiftung. Commercial use of media published by the Friedrich-Ebert-Stiftung (FES) is not permitted without the written consent of the FES. Publications by the Friedrich-Ebert-Stiftung may not be used for electioneering purposes.

GLOBAL AND EUROPEAN POLITICS

The Department of Global and European Policy provides advice on key European and international policy issues to policymakers, trade unions and civil society organizations in Germany, Brussels and at the UN offices in Geneva and New York. We identify areas of transformation, formulate concrete alternatives and support our partners in forging alliances to implement them. In doing so, we reflect on national as well

as European and international policy. The 2030 Agenda for Sustainable Development with its far-reaching political claim to promote a social-ecological transformation provides a clear orienting framework for pursuing our work. Coordinator responsible for the publication: Yvonne Blos, yvonne.blos@fes.de

BUILD FORWARD BETTER!

The Global Fight Against the Climate Crisis in Times of the Pandemic



The present paper investigates what consequences emerge from the COVID-19 pandemic for fighting the climate crisis, what options exist to mobilise synergies between the strategies for tackling each of the crises and what the risks are if the stimulus packages for post-pandemic recovery are not aimed towards the Paris climate targets.

Build forward better. The paper shows that recovery programmes, if correctly conceived, have the potential to accelerate massively the social and ecological transformation. The pandemic's disruptive force encourages a willingness to change and can be harnessed to advance the exit from fossil fuel and the restructuring of the economy and society with an increased focus on sustainability and resilience. Particularly in the first few months of the pandemic many politicians and decision makers signalled a determination to embark on



transformation and a new tendency to question established structures. However, one year on from the start of the pandemic, this willingness to innovate is in places now flagging – this is the sobering conclusion from a comparative analysis of the stimulus measures adopted to boost recovery in China, the United States and the European Union

Nonetheless, the paper finds that the pandemic has led to a heightened awareness of risks and initiated changes in economic, societal and political spheres, many of which will persist because they have proven effective. Overall the authors conclude that the pandemic has expanded the window of opportunity to make the 2020s a decade of social and ecological transformation.



This implies that notwithstanding increasing geopolitical rivalry, especially between the United States and China, multilateral solutions can be found. The climate conference in Glasgow is the first litmus test for this. It marks the final realistic opportunity to raise national climate targets such that the overall target of limiting global warming to 1.5 degrees Celsius remains achievable. For this a concerted targeting of the global recovery programmes on achieving the Paris climate targets is needed. This makes COP26 the most important climate conference since Paris in 2015.

Further information on the topic can be found here:
<https://www.fes.de/themenportal-die-welt-gerechtgestalten/klimawandel-energie-und-umwelt>