### KR Foundation 10th Anniversary 2024





# TABLE OF CONTENTS

2 Contents





The change we make



Linking extreme weather events to climate change



Global fossil fuel production

26



The path to a fossil fuel phaseout

Transitioning to a sustainable econom

sustainable economic paradigm

38

A flourishing community of green neighborhoods **46** New think tank to

New think tank to A I help design a Danish we wellbeing economy



A Danish alliance for wellbeing economy



A carbon tax on industry



in the world to introduce a carbon tax on livestock farming







Board of Directors



Supporting ambitious climate action in Denmark



Supporting a rapid phase-out of fossil fuels



A growing Danish climate movement



New economic models that account for our impact on nature and climate



Danish students are rethinking economics





### FOREWORD

### **A DECADE OF CLIMATE ACTION**

PARIS, FRANCE - DECEMBER 12, 2015: Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC) Christiana Figueres (L 2), Secretary General of the United Nations Ban Ki Moon (C). Foreign Affairs Minister and President-designate of COP21 Laurent Fabius (R 2), and France's President Francois Hollande (R) raise hands together after adoption of a historic global warming pact at the COP21 Climate Conference in Le Bourget, north of Paris, on December 12, 2015.

(Photo by Arnaud BOUISSOU/COP21/ Anadolu Agency/Getty Images)



Since its founding in December 2014, KR Foundation has focused on addressing the root causes of climate change and environmental degradation. Over the past decade, with the support of a diverse network of partners, the Foundation has funded almost 500 projects in over 80 countries projects that have contributed to global efforts to tackle the climate crisis. Guided by science, collaboration, and creativity, these projects have sought to disrupt the systems that drive environmental harm and, in turn, to pave the way for sustainable alternatives.

KR Foundation was established by the Villum Foundation and the descendants of Villum Kann Rasmussen, inventor of the VELUX window and founder of the VELUX company. In many ways, KR Foundation has strived to operate in alignment with Villum Kann Rasmussen's spirit and overall philosophy by supporting organisations that are industrious, anchored in science, and experiential in their approach. This has been at the core of how KR Foundation has operated in the past decade.

Consequently, in developing a grant strategy for KR Foundation, the very first question was obvious: What does the science tell us? In 2014, The Fifth Assessment Report (AR5) of the United Nations Intergovernmental Panel on Climate Change (IPCC) provided a significant part of the answer. More than 800 experts from across the globe concluded that a continued rise in emissions would lead to severe, and possibly irrevocable, damage to the globe and its inhabitants<sup>1</sup>. This conclusion informed three initial directions for KR Foundation grants: One was to communicate the scientific

consensus about climate change and convince decisionmakers worldwide that they need to act on this. Another was to accelerate the phaseout of fossil fuels, which are unequivocally the main source of CO2 emissions (approx. 90 pct.)<sup>2</sup>. The third was to look at the very economic systems and models that underpin our unsustainable production and consumption patterns, leading to ecological overshoot and the climate crisis.

The groundwork for supporting climate communications had already been laid by the Villum Foundation, which in 2012 provided a substantial grant to help set up the Global Strategic Communications Council (GSCC) – a global network of communications professionals dedicated to promoting knowledge about climate science. Since the beginning of 2014, KR Foundation has funded the GSCC and other organisations, which over the past ten years have helped establish climate science firmly in the mainstream media and combat the many false narratives about climate change.

KR Foundation's work in support of fossil fuel phaseout initially included interventions in a broad range of areas such as sustainable behaviour, fossil fuel divestment, climate diplomacy, green trade, and even faith-based interventions. As this strategic focus area evolved and became more refined over the years, the Foundation's grants became more directed toward diverting finance away from fossil fuel companies and combatting industry greenwashing. These efforts have produced significant results highlighted in this publication - perhaps, most notably, the COP28 agreement in which nearly every country in the world agreed to "transition away from fossil fuels". This was the first time fossil fuel philanthropy has been central to the Foundation's efforts and phaseout had even been mentioned in a COP agreement. impact. In 2024, global climate philanthropy is expected to A great many of the organisations that KR Foundation has contribute USD 4b to climate change mitigation, which is supported over the years played a role in making this happen. approx. 2 pct. of total global philanthropy<sup>3</sup> – a figure that is still too low, given the magnitude of the climate crisis.

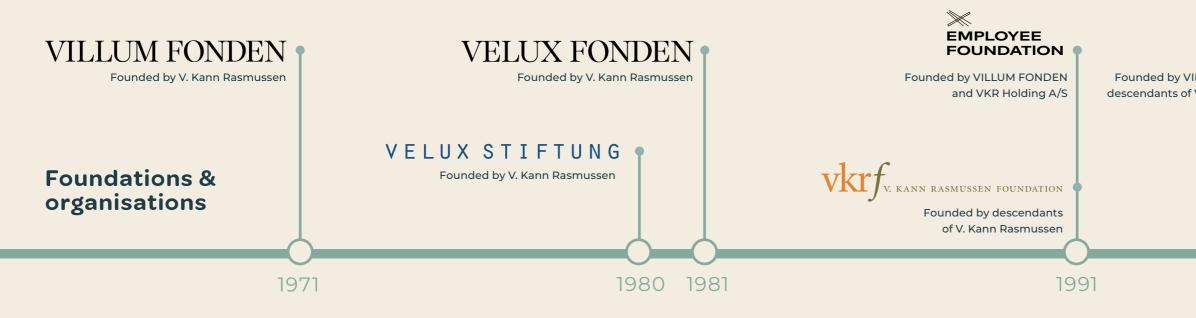
The Foundation's work on new economic models rests on the conclusion that the current GPD growth-based global Since 2024 will still most likely be the hottest year ever economy is one of the root causes of climate change and recorded<sup>4</sup> with extreme weather getting worse and more that developing new economic models and systems is frequent, it is obvious that the climate crisis is here. And absolutely key to tackling the climate crisis. One pioneering we are currently not on track toward solving it: There is a dire achievement in this field was the introduction of a Green need for more philanthropic resources and a much greater GDP in Denmark, launched in 2023. This work was funded effort across all areas of society if we are to have any chance by KR Foundation, and the model has gained international of staying within the temperature limits set in the attention. Denmark's Ministry of Finance has presented it to Paris Agreement. the U.S. Biden administration, and the Organisation for Economic Co-operation and Development (OECD) has recom-Although the future may at times look bleak, we must never mended it to other countries. Several nations have indicated give up but keep working to address the looming climate interest in developing and adopting similar models. crisis. The latest IPCC report made if perfectly clear: We find ourselves at a critical crossroads for climate.

Over the past decade, KR Foundation has tried to catalyse and enable change by setting agendas and funding new We look forward to continuing our mission to support a initiatives in all of these areas. To the extent that we have rapid phaseout of fossil fuels. been successful, it is because of the people and the projects, which initiate concrete change on an everyday ba-Now, let's get on with the work! sis. We want to convey our deepest gratitude to all of the incredibly smart, passionate, and dedicated people with whom the Foundation has been fortunate to interact and to support throughout the years. This also goes for our cherished partners in global climate philanthropy. At the heart of KR Foundation's approach is collaboration, and working Katrine Krogh Andersen together with more than 25 foundations in global climate Chair

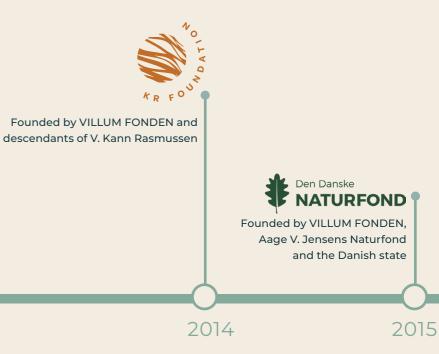
# HOW IT ALL STARTED

Born on the pastoral Danish island of Mandø in 1909, Villum Kann Rasmussen – a visionary entrepreneur, experimental scientist, and inventor – grew up close to nature . At the end of World War II, when millions were in need of immediate and inexpensive housing, he developed and marketed the VELUX roof window. This invention, along with better insulation materials and central heating systems, made it possible to economically expand living space by turning dark and gloomy attics into comfortable rooms with natural daylight and fresh air. Villum Kann Rasmussen founded his first company in 1941, and in 1942 he developed the VELUX roof window, driven by a vision of creating products that enhance indoor environments by leveraging natural light. His work was rooted in a deep appreciation for innovation and sustainable design-values that continue to define the company and have a lasting impact on architecture and building practices.

Villum Kann Rasmussen established several Danish foundations to pursue activities beneficial to society – most notably, Villum Foundation and VELUX FOUNDATION, which were founded in 1971 and 1981, respectively. Several other foundations have since followed, and KR Foundation was founded in 2014 with a specific mission to address the root causes of climate change and environmental degradation.







### **KEY FIGURES** 2014-2024

# Granted **DKK 1,029,003,871**

Number of grants:

Location of activities of KR Foundation grantees

#### **Receiving countries**

Arg

Bel

ania	Bosnia and Herzegovina
ola	Brazil
entina	Bulgaria
tralia	Canada
tria	Central Africa
gladesh	Central America
celona	Chile
arus	China
gium	Colombia
arade	Côted'Ivoire



#### Croatia

- Czech Renublia
- Democratic Republic of the Congo
- Denmar
- England
- Estonia
- Finlanc
- France
- Germany
- Unana

Hong Kong Hungary Montenegro Nigeria Pakistan Peru Poland Portland Portugal Singapore South Korea United Kingdom United States

### **THE BOARD**

KR Foundation's Board of Directors has 6 members:

### PRESENT



Katrine Krogh Andersen (Chair) Dean of Faculty of Science at the University of Copenhagen



Astrid Kann-Rasmussen (Vice-Chair and Co-founder)



Maja Göpel Political Economist, Transformation Researcher, and Sustainability Scientist

### PAST



Connie Hedegaard (Chair) Former European Commissioner for Climate Action and Danish Minister for Climate and Energy



Johan Rockström Professor in Earth System Science at university of the Potsdam Institute for Climate Impact Research



Per Espen Stoknes Director of Centre for Sustainability and Energy at the Norwegian Business School



Naomi Oreskes Professor of the History of Science and Affiliated Professor of Earth and Planetary Sciences at Harvard University



Nina Jensen CEO of REV Ocean, the world's largest Research and Expedition Vessel (REV)



**Tim Jackson** Director of the Centre for the Understanding of Sustainable Prosperity



**Eva Zeuthen Bentsen** Hospital Director of Mental Health Services in the Capital Region





Anthony A. Leiserowitz Senior Research Scientist and Director of the Yale Program of Climate Change Communication

### **SUPPORTING A RAPID PHASE-OUT OF FOSSIL FUELS**

The why

We find ourselves in a climate crisis caused by human-made greenhouse gas emissions.

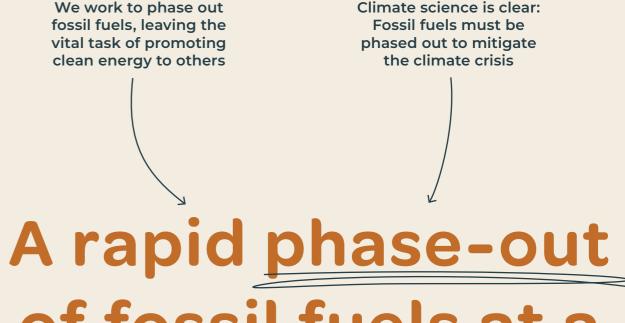
> It is one of the greatest and most urgent threats humanity and our planet have ever faced.

We are currently not on track to mitigate this crisis. We work to phase out fossil fuels, leaving the vital task of promoting clean energy to others

of fossil fuels at a



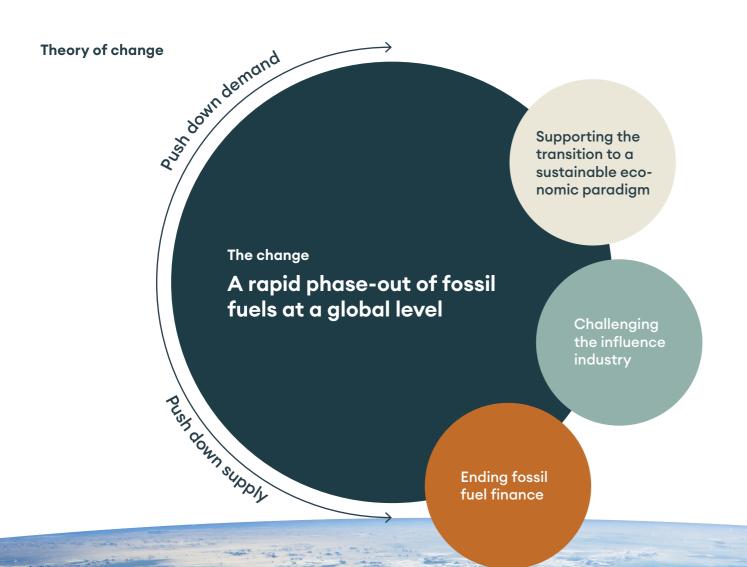
avert a climate disaster



# **obal level**

Our scope is global, as is the climate crisis

### THE CHANGE WE MAKE



KR Foundation's purpose is to address the climate crisis by pushing for a rapid phase-out of fossil fuels at a global level. In line with the Paris climate agreement, as signed by governments, and backed by industry and society.

We do this by challenging the ongoing financing of fossil fuels, challenging the social and political influence of the fossil fuel industry, and by supporting the transition to a sustainable economic paradigm.



### How we push

- ► Diplomacy & political advocacy
- ► Campaigns & mobilisation
- ► Industry engagement
- ▶ Data & evidence
- ▶ Communication
- Litigation
- ► Field-building & networking



### **HELPING CLIMATE** SCIENCE ENTER THE PUBLIC DEBATE

Over the past decade, the narrative surrounding climate change has evolved significantly.<sup>5</sup> In 2013, the Intergovernmental Panel on Climate Change (IPCC) released its Fifth Assessment Report, emphasizing the need for immediate action to limit global warming to below 2°C. Nevertheless, public understanding and political will to address climate change were still relatively low. A range of KR Foundation grantees have spent the past decade getting climate science and data into the public debate and onto the political agenda across the globe. By training spokespeople, developing clear narratives, doing extensive polling to understand audiences, and pitching tens of thousands of articles to media across the world, these organisations have helped move climate change from being a fringe issue to being broadly accepted as one of the most important challenges of our time. Some of the key moments that helped change the public perception are laid out in the following pages.

#### Grantees.

Global Strategic Communications Council **Climate Central** Climate Outreach Climate Action Against Disinformation Center for Countering Digital Hate Check My Ads Our Common Home **Climate Tracker Digital Climate Coalition UN** Foundation

#### What is the Global Strategic Communications Council?

The GSCC has been key to changing the narrative on climate change, and the organisation has now grown into a large global operation with a presence in 26 countries, and working with a spectrum of climate related issues. The concept and approach of the GSCC was born in 2009, out of the need to support the Intergovernmental Panel on Climate Change (IPCC) during the 'Climate-gate' email hacking scandal that severely damaged the credibility of climate scientists during and after COP15 in Copenhagen. The IPCC itself had no communications capacity, and no NGO was in a position to help because it would have made the communication less credible. The team that later went on to found the GSCC assisted the IPCC in

communication, by supporting the organisation's leadership, writing and organising press briefing materials, training individuals, managing key events from a communications perspective, and playing a key role in improving the IPCC's reputation. This effort culminated in the 2014 partnership to support the communication of The Fifth Assessment Report (AR5) of the United Nations Intergovernmental Panel on Climate Change (IPCC). Building on that model, the primary objective of the GSCC network is to work with partners across the spectrum of civil society, business, finance, healthcare, and beyond to increase political space for ambitious climate action and counter false narratives about climate science.

### Key moments that changed the narrative on climate change

Over the past ten years, key moments have helped change the conversation about climate change and propel it to the top of the political agenda. GSCC and other grantees in the climate communications field have played a role in how these moments have been covered and perceived in the global media landscape. As the media landscape has changed significantly over the past decade, these organisations have increasingly built digital communications capacities and knowhow in order to communicate effectively on social media platforms and, at the same time, to counter the vast amount of disinformation that is being spread through those channels. This also made an impact on how the public has perceived some of these key moments.

#### 1. Paris Agreement (2015)

treaty brought together nearly 200 countries in a unified commitment to limit global warming to below 2°C with aspirations for 1.5°C. The agreement's businesses, energy sectors, and public awareness by emissions.

### 5. Mainstream adoption of "net zero" targets (2020 - 2022)The early 2020s saw a surge in countries and major corporations committing to net-zero emissions by mid-century. This shift was spurred by mounting scientific evidence, public pressure, and economic incentives tied to sustainable development. Key players such as the European Union, China, and the United States declared ambitious plans to achieve carbon neutrality. Companies in sectors from energy to finance followed suit, integrating climate risk into their business models. These pledges marked a turning point at which climate science began to inform economic strategy directly on a large scale. 6. COVID-19 Pandemic's impact on climate perceptions (2020-2022) The global pandemic had an unexpected side effect of spotlighting environmental concerns. The initial lockdowns led to temporary drops in air pollution and greenhouse gas emissions, revealing a glimpse of what a lower-carbon world might look like. The crisis underscored the importance of listening to science and preparing for global threats. As countries started planning for economic recovery, many discussions revolved around "green recovery" strategies, linking pandemic recovery funds to sustainable infrastructure and clean energy investments. 7. COP28 in Dubai (2023) COP28 was a pivotal moment for the global narrative surrounding the phaseout of fossil fuels. In the final text of COP28, the mention of the phaseout of fossil fuels marked a significant step forward.

### Signed in late 2015, its reverberations continued well into the following decade. This landmark international impact extended beyond policy and influenced global mandating transparency and action on greenhouse gas IPCC Special Report on Global Warming of 1.5°C (2018) The Intergovernmental Panel on Climate Change (IPCC) published a detailed report emphasizing the urgent need for dramatic emissions reductions to limit global warming to 1.5°C above pre-industrial levels. The report presented stark evidence showing that even half a degree of difference could significantly exacerbate the impact of climate change on ecosystems, weather patterns, and human health. The report's conclusion-declaring that human-caused warming had already reached 1°C-fuelled international calls for accelerated climate action and was instrumental in shifting conversations from "if" to "how" nations would achieve ambitious climate goals. 3. The rise of the youth climate movement and Greta Thunberg's Influence (2018-2020) Greta Thunberg's school strike for climate, initiated in 2018, sparked a worldwide youth-led movement that brought climate change into mainstream consciousness. Her speeches at forums such as

the UN Climate Action Summit in 2019, where she famously declared "How dare you?" to world leaders, galvanized millions and underscored the generational urgency of addressing climate change. The global "Fridays for Future" protests saw widespread participation and pushed climate conversations into newsrooms, classrooms, and legislative chambers around the world.

# CLIMATE CHANGE IS EXACERBATING EXTREME WEATHER EVENTS

Over the past decade, the public conversation on climate change has undergone a profound shift, both in tone and scope. The dialogue has expanded from scientific and activist circles to mainstream media, policy debates, and everyday conversations as climate change has become a bigger part of people's lived experiences worldwide. Extreme weather events such as hurricanes, wildfires, floods, and heatwaves have altered the public perception of climate change by making it more tangible and immediate. As regions have experience record-breaking temperatures, massive wildfires, prolonged droughts, and catastrophic storms, the connection between extreme weather and human-induced climate change has become clearer.<sup>6</sup> In 2015, KR Foundation provided one of the first grants to Climate Central. Climate Central is an independent group of scientists and communicators who research and report the facts about our changing climate and how it affects people's lives. They are a policy-neutral 501(c)(3) nonprofit. Climate Central uses science, big data, and technology to generate thousands of local storylines and compelling visuals that make climate change personal and show what can be done about it. They address climate science, sea level rise, extreme weather, energy, and related topics.



Millions of people displaced from their communities



Infrastructure devastated across continents

### Extreme weather events linked to climate change

#### 2017

### Hurricane Maria

Hurricane Maria struck Puerto Rico and other Caribbean islands as a Category 5 hurricane, causing widespread destruction.

#### DEATHS

Estimated to be over 3,000 people in Puerto Rico alone.<sup>7</sup>

**COST** Approximately USD 92b<sup>8</sup>

#### IMPACT

Destroyed infrastructure, caused prolonged power outages, and highlighted vulnerabilities in climate resilience, especially in island nations.





### 2020

### California wildfire season

The 2020 wildfire season in California was one of the most severe on record with wildfires fuelled by a combination of high temperatures, prolonged droughts, and dry vegetation. Lightning strikes, combined with these conditions, ignited numerous fires that spread rapidly across the state.

#### DEATHS

At least 44 people died due to the direct impact of the fires with many more affected by related health complications<sup>12</sup>.

#### COST

Damages and economic losses were estimated to exceed USD 12b<sup>13</sup>.

#### IMPACT

Thousands of homes and structures were destroyed, displacing tens of thousands of residents and creating long-term challenges for recovery and rebuilding. Air quality across California and neighbouring states deteriorated significantly due to widespread smoke, leading to public health warnings and respiratory issues for millions.



### 2019-2020

### Australian bushfires

An unprecedented series of wildfires ravaged vast areas of Australia, fuelled by extremely dry conditions and record temperatures.

### DEATHS

Over 30 people directly with indirect health impacts affecting thousands<sup>9</sup>.

### COST

Estimated economic impact of over USD 100b (including ecosystem damage)<sup>10</sup>.

### IMPACT

Over a billion animals perished, and smoke pollution affected air quality globally. $^{11}$ 





### 2021 Texas winter storm

Unusually cold temperatures and a massive winter storm led to a state-wide power crisis in Texas.

**DEATHS** Approximately 246 people<sup>14</sup>.

**COST** Estimated USD 195b<sup>15</sup>.

**IMPACT** Power and water supplies failed across the state.





### 2021 Floods in Germany

In July 2021, severe flooding affected western Germany, particularly the Rhineland-Palatinate and North Rhine-Westphalia regions, following extreme rainfall.

**DEATHS** Approximately 200 people<sup>16</sup>.

**COST** Estimated at USD 43b in damages<sup>17</sup>.

#### IMPACT

The floods destroyed homes and infrastructure, which led to significant economic losses, underscoring the increasing frequency of such extreme weather events in Europe.

### 2022 Pakistan floods

Intense monsoon rains, worsened by climate change, led to catastrophic flooding across Pakistan.

**DEATHS** Over 1,700 people<sup>18</sup>.

**COST** Estimated economic impact of over USD 40b<sup>19</sup>.

#### IMPACT

Destroyed homes, crops, and infrastructure, displacing millions and creating an enduring humanitarian crisis.





### 2024 **Spain floods**

In late October 2024, eastern Spain, particularly the Valencia region, experienced unprecedented flash floods due to torrential rains.

#### DEATHS

At least 205 confirmed fatalities so far<sup>20</sup>.

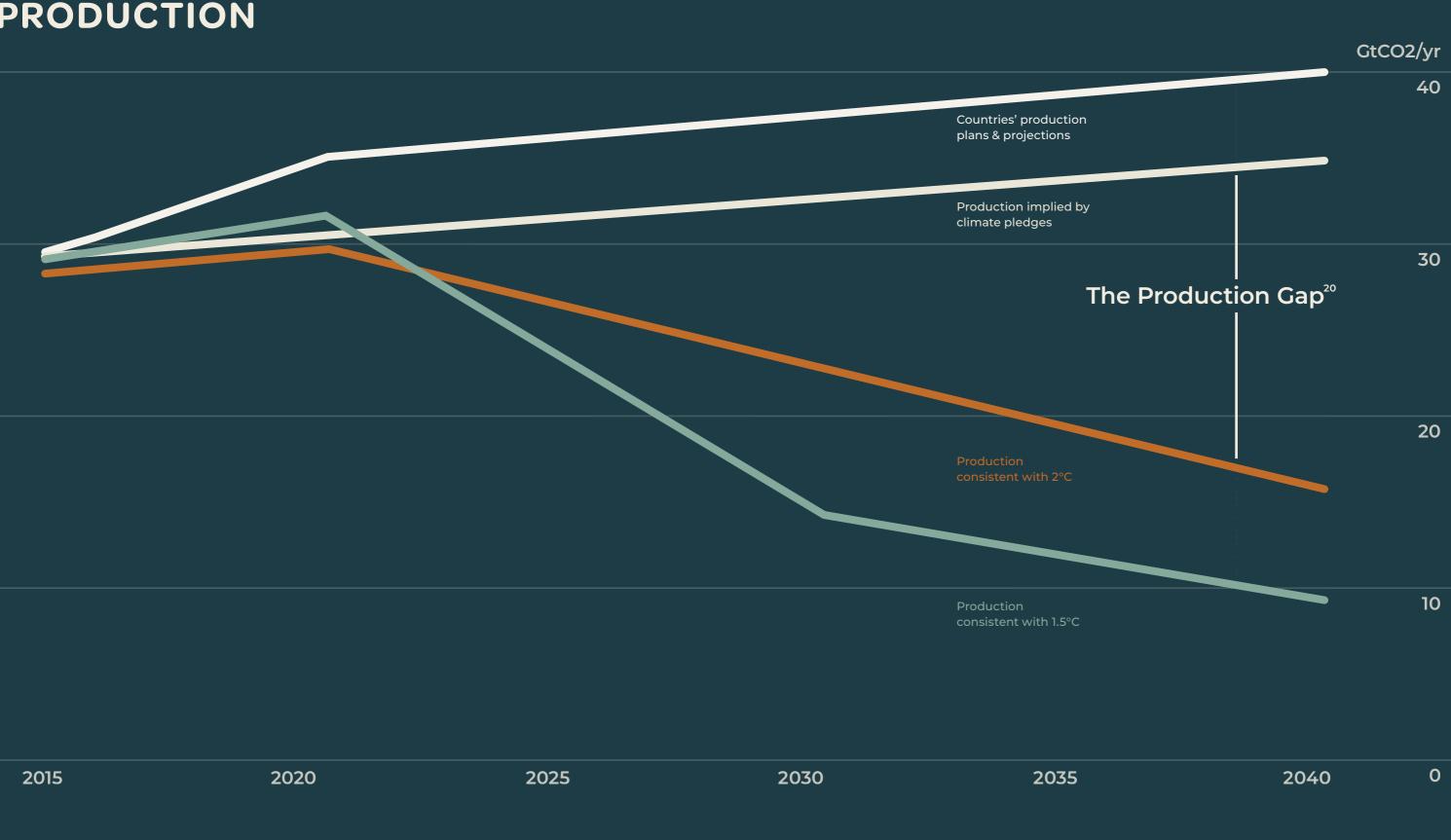
#### COST

Economic losses are substantial, though assessment of exact figures is pending.

### IMPACT

The floods caused widespread destruction of infrastructure, homes, and businesses, displacing thousands and highlighting vulnerabilities to flood.

# GLOBAL **FOSSIL FUEL** PRODUCTION



### **THE PATH TO A FOSSIL FUEL** PHASEOUT

The science is clear. To limit the increasingly devastating consequences of climate change, there is a need to reduce the world's dependence on fossil fuels rapidly. Fossil fuels currently account for approximately 90 pct. of global CO2 emissions, and a managed phaseout is an absolute necessity to reach the goals of the Paris Agreement. Supporting strategies and efforts that can achieve this goal has been at the heart of KR Foundation 's grant distributions for the past ten years, and a lot has been accomplished in this period. It has been a persistent and taxing effort for the more than 60 organisations KR Foundation has supported in this field, but important progress has been made. Despite the challenging geopolitical changes and global economic fluctuations, the resolve to push for an accelerated phaseout remains.

Here are some of the key achievements that the ecosystem of grantees has helped accomplish.

### GLOBAL GAS &

### MAY 2018 **Global Gas** and Oil Network established

The Global Gas and Oil Network (GGON) is a dedicated network of organisations and activists working together to challenge the global expansion of gas and oil. By connecting more than 300 civil society organisations and developing collective strategies, GGON has become a critical platform in global efforts to transition away from fossil fuels.

Grantees working on phasing out fossil fuels and combatting industry greenwashing: Act Climate Labs, ActionAid Denmark, BankTrack, Both ENDS, C40 Cities, Carbon Tracker Initiative Limited, Center for International Environmental Law, Centre for Climate Reporting, ClientEarth, Climate Accountability Lab, Climate Action Network Europe, Climate Action Network International, Climate Social Science Network at Brown University, Comms Declare, Conservation Law Foundation, Corporate Accountability, Creatives for Climate, Culture Unstained, Drilled, Environmental Defenders Office, European Climate Foundation, F Minus, Fossil Free Football, Foundation Development Yes Open-Pit Mines NO, Friends of the Earth, Frontrunners, Futerra Solutions Union, Glimpse, Global Energy Monitor, InfluenceMap, Institute for Advertising Ethics, Institute for Energy Economics and Financial Analysis, Institute for Global Environmental Strategies, International Institute for Sustainable Development, Japan Center for a Sustainable Environment and Society, Law Students for Climate Accountability, Market Forces, New Weather Institute, NRDC, Oil Change International, Overseas Development Institute, Plan B, Purpose Disruptors, Rainforest Action Network, Re-generation, Reclaim Finance, Recourse, Rockefeller Philanthropy Advisors - Corporate Knights, ShareAction, Solutions for Our Climate, Stand.Earth, Stichting Den Haag Fossielvrij, Stichting Funder Forum, Stockholm Environment Institute U.S., Stop the Money Pipeline, The Good Lobby, The Sunrise Project Australia Limited, Third Generation Environmentalism Ltd., UPLIFT, Urgewald, We Mean Business Coalition, WWF European Policy Office.

### **NOVEMBER 2019 The first Production Gap Report is** launched

The Production Gap Report, launched in 2019, revealed the stark gap between fossil fuel production plans and global climate targets, emphasizing the need for urgent policy shifts. The report is published on an annual basis and has become a key frame of reference for those making a science-based case for a rapid fossil fuel phaseout.

### 2017

### AUGUST 2017: Lofoten **Declaration**

The Lofoten Declaration in 2017 called for a managed decline of fossil fuel production. This declaration, today supported by over 500 organisations, set the stage for broader efforts to challenge the global reliance on fossil fuels.



2018

2019

### 2020

### DECEMBER 2019 **Funder Forum** on Oil and Gas established

In late 2019, funders in climate philanthropy agreed on the need for collaborating more closely on strategies to promote oil and gas phaseout. This then led to the establishment of a new funder collaborative, the Funder Forum on Oil and Gas (FFOG), which now includes around 100 philanthropies.

### lea

### MAY 2021 The International Energy Agency (IEA) called for a halt to new oil, gas, or coal exploration projects

Another milestone came in 2021 when the International Energy Agency (IEA) released its landmark Net Zero by 2050 report. For the first time, the IEA accentuated the need to stop any new oil, gas, or coal exploration projects if the world is to meet its climate goals. This influential report has been pivotal in shaping global energy policies, marking a significant step in halting fossil fuel expansion and reinforcing the urgency of the transition to renewable energy.

### NOVEMBER 2021 Launch of Clean Energy Transition Partnership

During the COP26 summit, the Clean Energy Transition Partnership was launched with 34 countries and five multilateral institutions committed to end international financing of coal, oil, and gas. Since the launch of the Clean Energy Transition Partnership, these public institutions have reduced their finance to fossil fuels by two-thirds.



2021

### SEPTEMBER 2021 South Korea, Japan, and China cut public finance for international coal

Coordinated civil society efforts have over the years contributed to a significant shift in public policy around fossil fuel financing. In 2021, South Korea, Japan, and China some of the world's largest financiers of overseas coal projects—committed to ending public finance for coal.



### NOVEMBER 2021 Beyond Oil and Gas Alliance launches

In 2021, the Beyond Oil and Gas Alliance (BOGA) was launched at COP26 with 11 governments pledging to phase out oil and gas production. Denmark was appointed as one of two co-chairs leading the initiative.

### FEBRUARY 2022 Fossil fuel divestment movement hits USD40t in represented assets

Over 1,500 institutions globally, representing more than USD 40t in assets, committed to fossil fuel divestment.<sup>21</sup>.

### 2022

### MARCH 2022 Withdrawal from Energy Charter Treaty

In March 2022, eight EU countries began the process of withdrawing from the Energy Charter Treaty, a legal framework that has long protected fossil fuel investments. These withdrawals represent major victories in global climate campaigning.



### **DECEMBER 2023 COP28**

After years of dedicated efforts, a major milestone was realized last December at the COP28 summit, where nearly every country agreed to transition away from fossil fuels. This agreement underscores the growing global consensus that phasing out fossil fuel reliance is critical to meeting the 1.5°C target set by the Paris Agreement.



### **Secretary-General** of the United Nations makes a call to the world to ban fossil fuel advertising

António Guterres, Secretary-General of the United Nations, made a call to the world to ban fossil fuel advertising: "I urge every country to ban advertising from fossil fuel companies. And I urge news media and tech companies to stop taking fossil fuel advertising."

Photocredit: Quirinale.it

2023

### 2024

### APRIL 2024 More than 1.000 PR and ad firms cut ties with the fossil fuel industry

More than 1,000 PR and ad agencies signed the Clean Creatives pledge that they will not take fossil fuel clients.





### OCTOBER 2024 100 cities and institutions drop fossil fuel advertising and sponsorships

Just as advertisements for tobacco are banned in many countries, a ban on fossil fuel sponsors and advertising is being implemented around the globe. More than 50 cities from Sydney to Amsterdam, The Hague, Liverpool, Edinburgh, and Montreal have put an end to fossil fuel advertising, and more than 100 institutions have cut ties with fossil fuel advertising and sponsorship including newspapers such as The Guardian, universities such as the University of Toronto, and sport bodies such as the Australia Open.

### **Danske Bank oil** and gas policy

Another important win occurred in 2024 when Danske Bank's asset management division and the Danske Bankowned Danica Pension fund updated their fossil fuel policy, leading to an exclusion of more than 1,700 firms from their investment portfolios, a divestment totalling USD 1b in upstream oil and gas companies. This makes the bank an international frontrunner.

### TRANSITIONING TO A SUSTAINABLE ECONOMIC PARADIGM



Jo Swinson, Director of Partners for a New Economy (P4NE)

#### International speakers hosted by KR Foundation

Amanda Janoo Eric Beinhocker Gaya Herrington Jakob Hafele Jason Hickel Jeremy Grantham Jo Swinson John Fullerton Joshua Farley Kate Raworth Katherine Trebeck Maja Göpel Rosie Collington Steve Keen Tim Jackson With a mission to address the root causes of climate change and environmental degradation, an obvious starting place for the KR Foundation has been to look at the current economic system. Many of the underlying principles, mechanisms, and forces driving our current economic system are deeply entangled with and fuel the crises we face now. To this day, GDP growth, energy consumption, and natural resource use are highly correlated despite attempts to decouple economic growth from ecological pressures. These intrinsic relationships point to the conclusion that a continuation of business as usual for our global economic system is entirely incompatible with the ambition to curb unsustainable resource and energy use that would allow us to return to the planetary boundaries that define a safe operating space for humanity.

That is why the KR Foundation since 2015 has been supporting organisations that are rethinking our economic system to address the climate and environmental crises. From 2015 up until 2024, the foundation's New Economy grantmaking have predominantly been made through the funder collaborative Partners for a New Economy (P4NE), which sets the strategic direction in collaboration with the other partners. Moving forward, New Economic Thinking will be the focus for KR Foundation grants in Denmark.

The field around new economic thinking has evolved significantly over the past decade, moving from the fringes of academia and increasingly towards the centres of new political practice. One manifestation of this was the Bevond Growth 2023 Conference in the European Parliament that was opened by the EU President Ursula von da Leyen and attended by more than 2,500 academics, politicians, and civil society organisations. An ecosystem consisting of a variety of actors including think tanks, organisers, movement builders, and strategic communicators continues to grow in and around Europe with epicentres in the UK. Germany, and Brussels. Noteworthy outcomes include the development of new economic frameworks, indicators, and models that add nuance to discussions around economic progress, such as the economic resilience index, operationalisation of 'doughnut economics', and the development of the green GDP and GreenReform in Denmark. Another major accomplishment has been the establishment of mechanisms that embed long-term thinking in policymaking processes, such as the recent appointment of a European Commissioner for Intergenerational Fairness.

In addition to grant activities, the KR Foundation has regularly organised conferences and events to bring attention to the necessity of rethinking our economic system to address the climate crisis. Over the years, the foundation has hosted several international keynote speakers who have helped move this conversation into the mainstream.



Kate Raworth, Economist and author of Doughnut Economics

#### Emerging as a top issue in the EU

The Beyond Growth 2023 Conference, organised by 20 Members of the European political groups, marked a pivotal moment in the conversation on post-growth economies and demonstrated that Held in May 2023 in the European Parliament, this conference brought together a vibrant and large community of more than 2,500 to reflect on the progress already made by scholars, civil society, and change agents towards moving beyond traditional 20thcentury economic models, and discuss forward pathways for bringing about economies, that serve the needs of the planet and all people. Presidents of the and the European Parliament Roberta Metsola welcomed all attendees to the conference with the following words:

Jason Hickel, Author and Professor at the Institute for Environmental Science & Technology (ICTA-UAB) at the Autonomous University of Barcelona



"Today, we are leaving the fossil fuel growth model behind us. The new lands are still blurred, but they are visible, we can reach them. We know that our children's future depends not only on GDP indicators but on the foundations of the world we build for them."



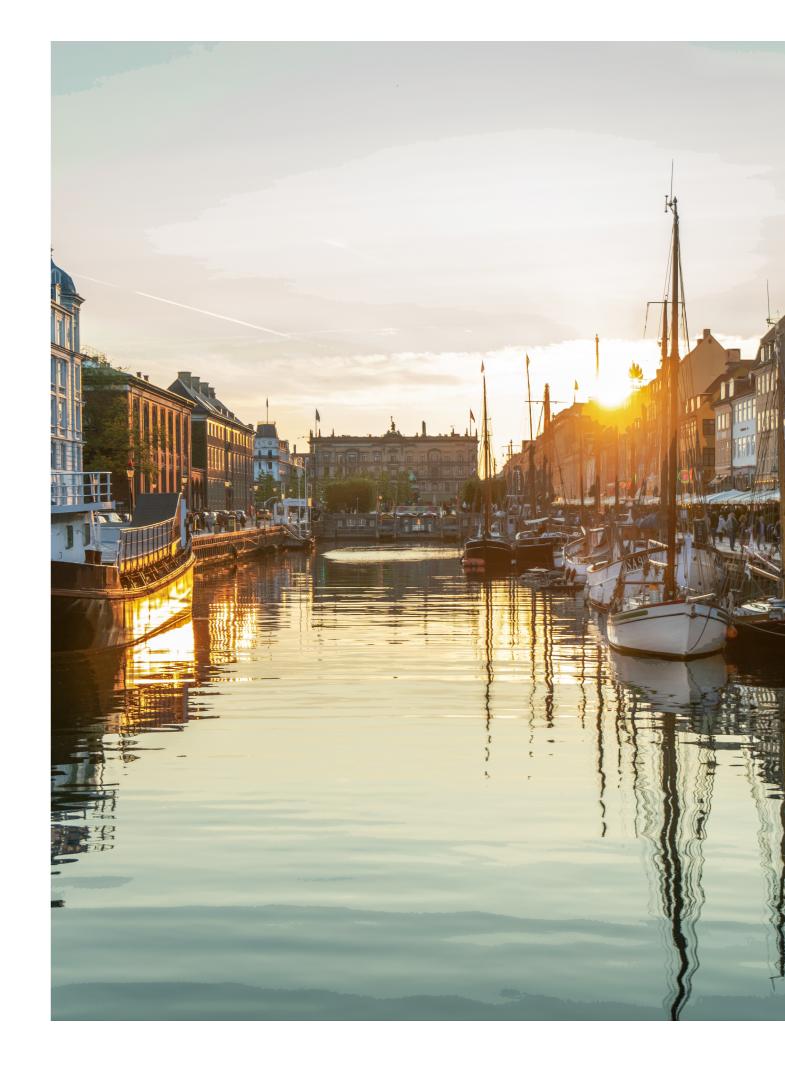
Ursula von der Leyen Presidents of the European Commission

# SUPPORTING AMBITIOUS CLIMATE ACTION IN DENMARK

KR Foundation was established in late 2014 with an international mandate. In 2021, a decision was also made to focus on Denmark as part of the so-called 70by30 project. In this project, KR Foundation, the VELUX FOUNDATION, and the Villum Foundation collaborated on a joint funding strategy and collectively allocated DKK 320m over 5 years to support the realization of the very ambitious Danish climate goal that had been approved by the Danish Parliament the previous year. The Danish civil society organisations supported through this joint effort have had a significant impact on Danish climate policy and action, including the implementation of a carbon tax on industrial production and, subsequently, on agriculture.

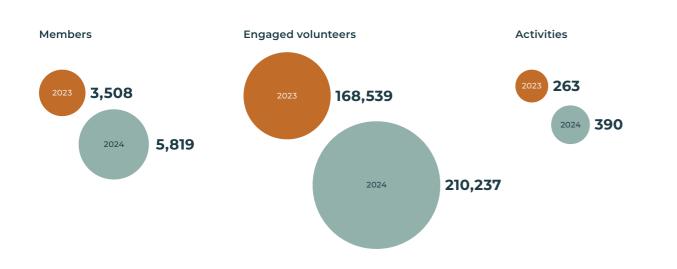
Looking ahead, KR Foundation 's work in Denmark will focus on strengthening the growing ecosystem of new economy actors and promote an economic paradigm shift. Establishing the think tank Wellbeing Economy Lab (WELA) and supporting the Wellbeing Economy Alliance Denmark have been important first steps in this work. "We can see that our national climate goals are helping to provide a sustained political focus on climate policy. We would like to extend that effect to also apply to our global efforts. We can do much more to combat climate change if we also set targets to reduce our global climate footprint and increase our positive influence. Goals that motivate us to follow up with concrete action"

Peter Møllgaard, Chairman, Klimarådet



### A GROWING DANISH CLIMATE MOVEMENT

The Climate Movement in Denmark (CMD - Klimabevægelsen i Danmark) is an umbrella organisation for eight grass roots organisations working to mitigate the climate crisis. CMD was instrumental in getting the Danish Parliament to pass the Climate Act in 2020, which committed the Danish government to reduce the country's emissions by 70 pct. by 2030. CMD has been fighting vigorously ever since to ensure a fair and science-based implementation of the law. In 2021, KR Foundation awarded its first grant to CMD to set up a secretariat that could help grow and professionalise the movement and increase the impact of its activities by growing its membership base, engaging volunteers, and hosting a range of activities (leadership training, climate marches, activist events, and more). In 2022, VELUX FOUNDATION, Tuborgfondet, and KR Foundation collaborated to provide a three-year grant to CMD to grow and sustain their activities further.



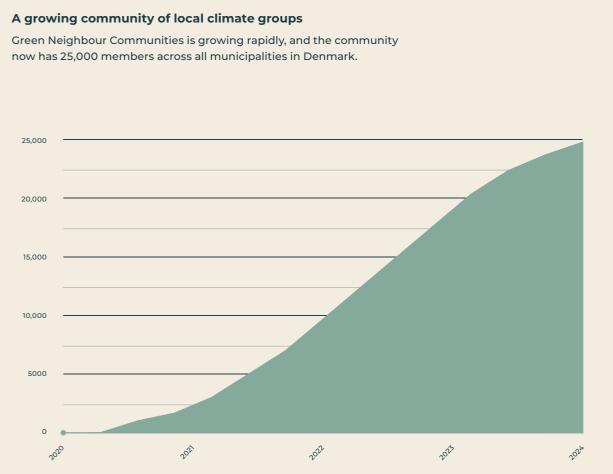




## **A FLOURISHING COMMUNITY OF GREEN NEIGHBORHOODS**

The climate law that was passed in 2020 has catalysed the transformation of society at all levels. While a great deal of emphasis has been placed on technology, government policy, and economic incentives, the importance of enabling citizens to participate in meaningful ways has been less prioritised. For the past four years, KR Foundation grantee DeltagerDanmark has been working with municipalities and citizens across the country to promote public participation in climate change issues and to enable people to make meaningful sustainable choices in their own communities. DeltagerDanmark aims to alter personal beliefs and give

politicians a stronger mandate to make needed changes. One of the key pillars of its work is engaging citizens, municipalities, and workplaces in a National Climate Action Day in April 2023. Another key pillar in DeltagerDanmark's work has been to assist the grassroots movement called Green Neighbour Communities, enabling local communities to participate in the green transition through everyday lifestyle changes and activities. Green Neighbour Communities is growing rapidly, and the community now has 25,000 members across all municipalities in Denmark





### A CARBON TAX ON INDUSTRY

Throughout 2022, Danish CSOs (among others, KR Foundation and VELUX FOUNDATION grantees CONCITO, the Danish Climate Movement, the Green Youth Movement, and the Global Strategic Communications Council), trade organisations and parliamentarians all pushed for an ambitious carbon tax on industry in Denmark.

In June 2022, a green tax reform was agreed upon in the Danish Parliament with a broad political coalition behind it. The reform implements a tax on CO2 emissions from industrial production and is a vital part of the roadmap toward achieving the Danish goal of reducing CO2 emissions by 70 pct. KR Foundation and VELUX FOUNDATION grantees have continued to provide decisionmakers with analyses on science-based pathways and policies to help inform the content of this reform. This was accompanied by frequent polling on the public's thoughts about climate change and various climate policies, which also provided politicians with an incentive to act.



### THE FIRST COUNTRY IN THE WORLD TO INTRODUCE A CARBON TAX ON LIVESTOCK FARMING

In the first round of green tax reforms, agriculture was exempt. The plan was to negotiate separately. After a very long series of negotiations among the government, the Danish Agriculture and Food Council, the Danish Society for Nature Conservation, several trade unions, the employers' organisation Danish Industry, and Local Government Denmark, an agreement was reached to implement a tax on livestock emissions and convert large areas of agricultural land to nature. KR Foundation grantees (The Green Youth Movement, The Climate Insights Association The Climate and Transition Council, The Danish Climate Movement, KRAKA, CONCITO, Danwatch and GSCC Nordic Desk) all played a role in reaching a deal that was as ambitious as possible.

The hope is that the deal, as a first of its kind in Europe, may pave the way for agricultural reform in other EU countries. However, the deal is not seen as an unequivocal win for climate and nature by the Danish CSO community, and a plan for implementation has yet to be fleshed out. The final agreement is still being negotiated at the time of writing this.

# **NEW ECONOMIC MODELS THAT ACCOUNT FOR OUR IMPACT ON** NATURE AND **CLIMATE**

In 2016, the Economics and Political Science Departments at the University of Copenhagen partnered with researchers from Aarhus University, the DREAM group at the Danish Ministry of Finance, and Statistics Denmark to develop ways to describe the interaction between climate, environment, and the national economy. With support from KR Foundation and Carlsbergfondet, the group of researchers developed a measure of Denmark's green GDP, which accounts for the costs of environmental impacts caused by economic activity. Subsequently, they developed the GreenREFORM model, a macroeconomic model for the Danish economy that allows for integrated assessment of the environmental and climate effects of economic policies. Both tools were launched in January 2023.

The green GDP calculates the cost of loss of biodiversity, emission of greenhouse gases, and pollution of the air and water environment. It can shed light on the degree to which economic growth has occurred at the expense of the climate and the environment, which traditional GDP overlooks.

The GreenREFORM model simulates the environmental impact of economic policy and the socioeconomic effects of climate and environmental policy. The model may guide policymakers on necessary measures to meet climate targets and help evaluate the effectiveness of various initiatives (which was used to inform negotiations on a carbon tax on agriculture). The model has gained international attention. Denmark's Ministry of Finance presented it to the U.S. Biden administration, and the OECD recommended it to other countries. Several nations have indicated interest in developing and adopting similar models.



Peter Birch Sørensen, Professor of economics at the University of Copenhagen, has been one of the driving forces behind developing Denmark's green GDP and the GreenREFORM model.

considerations more systematically in the planning of economic and systems that have had difficulty talking to each other"

Peter Birch Sørensen, Professor of Macroeconomic Theory and Policy at the University of Copenhagen

#### If nature could send us a bill

Net National Income, and the new 'Green GDP' - the Green National Income.

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	Gross Domestic Product (GDP)	
	GRAPH: For 30 years, we have cons	istently

count for everything we owe nature for depleting its resources, we are in deficit by 245 billion kroner. Source - Peter Birch Sørensen, Professor, University of Copenhagen.

# "Hopefully, we will be able to integrate environmental and climate policy. Until now, policy work has often taken place in different boxes



# DANISH STUDENTS ARE RETHINKING ECONOMICS

Rethinking Economics Danmark (RE:DK) is a network for economists, students, and anyone with an interest in the economy. The network works for pluralism in economics education and the economics profession in general – theoretically, methodologically, and in practice. RE:DK is the Danish chapter of the global Rethinking Economics network, which KR Foundation has supported with various grants from 2018-2023.

RE:DK has a small team based in Copenhagen. The organisation's member base consists of affiliated local groups of economics students across four Danish universities as well as approximately 150 individual members. With ongoing support from KR Foundation, RE:DK has expanded its outreach efforts by hosting events and courses on new economic thinking. The aims of these events have been to highlight the shortcomings of mainstream economics from a climate and environmental perspective and to explore ways to rethink our economies, so they may help mitigate the current crises rather than accelerating them. They have established the Inge Røpke award, bestowed annually to the best thesis in ecological economics at a Danish university and named after Denmark's most renowned ecological economist. Finally, RE:DK has facilitated a network of approx. 15 Danish climate and environmental civil society organisations to discuss the possibilities of engaging with economics and economic policy as a climate organisation. To respond to the demands of this network, RE:DK also published a "Climate Economics Manual" to synthesise and disseminate basic insights and differences across ecological and environmental economics in collaboration with partners.







### NEW THINK TANK TO HELP DESIGN A DANISH WELLBEING ECONOMY

WELA (Wellbeing Economy Lab) was established in 2024 with support from KR Foundation, Roskilde Festival Fonden, and Østifterne. WELA is as an independent, science-based Danish think tank focused on advancing research and policy innovation for a transition to Nordic wellbeing economies. Their work is focused on developing relevant research, tools, and policy analysis that can inform a reorientation of our economies to serve the common good and help people to live well within the limits of the planet.



Mads Falkenfleth Jensen, Founder & Director at Wellbeing Economy Lab and Michael Birkjær Co-founder & Head of Analysis at Wellbeing Economy Lab



#### What is a wellbeing economy

Human activity has compromised Earth's resilience, pushing it far beyond a safe operating space that ensures the liveability of the planet for most species. Six of nine planetary boundaries (climate change, deforestation, biodiversity loss, synthetic chemicals including plastics, freshwater depletion, and nitrogen use) are deep in the red zone as a direct consequence of human activity. The many challenges of the 21st century, such as climate change, biodiversity loss, deteriorating social cohesion, growing inequality, and mental health crises are interconnected and systemic. They are not isolated issues but rather symptoms of an outdated economic system that overly relies on GDP growth as its sole measure of success, disregarding the wellbeing of the planet and its inhabitants.

While definitions vary, a wellbeing economy may be described as an economy designed deliberately to work for people and the planet, not the other way around. In a wellbeing economy, the rules, norms, and incentives that shape the economy are set up to encourage activities that deliver quality of life and flourishing for all people in harmony with our environment by default.

It is a system that empowers communities to take a greater stake in the economy with more wealth generated, circulated, and retained within local communities while protecting and investing in the natural environment for generations to come. It provides opportunities for everyone to have access to fair, meaningful work and values and supports responsible, purposeful businesses to thrive and innovate. It supports the transformations in the economy and society needed to thrive within the planet's sustainable limits and leverage the opportunities this creates for improving people's mental and physical health and wellbeing, tackling inequalities and supporting green jobs and businesses.

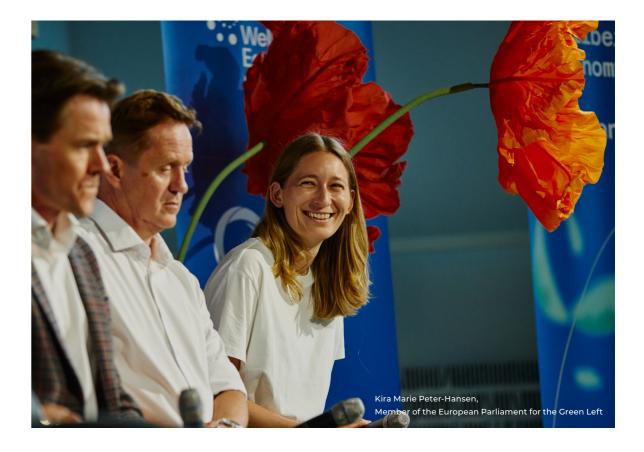
# A DANISH ALLIANCE FOR WELLBEING ECONOMY

Wellbeing Economy Alliance Denmark (WEAII DK) is the official Danish hub for the global Wellbeing Economy Alliance and forms the national platform for Danish stakeholders pushing for the transition to a wellbeing economy. The international Wellbeing Economy Alliance (WEAII) is a collaborative organisation consisting of experts, decisionmakers, companies, organisations, and citizens who work to promote the wellbeing economy as a solution to related crises. The aim of the platform is to develop a strategy for coordinating collective work to promote the wellbeing economy agenda in Denmark and to help focus the interests of planet and people in policymaking. WEAII DK's core team includes representatives from CONCITO, Danmarks Naturfredningsforening, Nyt Europa, WELA, Sund By Netværket, Rethinking Economics Danmark, and Oxfam Danmark.

WEAll DK was created in 2024 with support from KR Foundation and has gotten off to a great start. On 30-31 May, WEALL DK hosted a firstof-its-kind conference on wellbeing economics, bringing together more than 40 thought leaders, attracting an audience of more than 1,400 people. The conference featured renowned international speakers such the anthropologist Jason Hickel, political economist Kathrine Trebeck, and former member of the UK Parliament Jo Swinson. The conference received wide publicity across Danish media platforms.







### WEALL DK conference on wellbeing economics May 30-31, 2024













# LIST OF GRANTEES

#### Grantees

Grantees
2° Investing Initiative
350.org
92-gruppen – Forum for Bæredygtig Udvikling
Aalborg University
Act Climate Labs
ActionAid Denmark
As You Sow
Asset Owners Disclosure Project
Bæredygtig Scenekunst NU
Bank Information Center
BankTrack
BEUC
Bioregional
Both ENDS
C40 Cities
Capital Institute
Carbon Market Watch
Carbon Tracker Initiative Limited
CDP
Center for Countering Digital Hate
Center for International Environmental Law
Centre for Climate Reporting
Ceres, Inc.
Chatham House
Check My Ads
Children's Radio Foundation
China Dialogue Trust
Citizens' Climate Education
ClientEarth
Climate Accountability Lab
Climate Action Network International
Climate Action Network Europe
Climate Analytics GmbH
Climate Central
Climate Interactive, a project of New Venture Fund
Climate Outreach
Climate Policy Initiative
Climate Social Science Network at Brown University
Climate Spring
Climate Strategies
Climate Strategies Poland Foundation
Climate Tracker
ClimateWorks Foundation
Collaborating Centre on Sustainable Consumption and Production gGmbH
Comms Declare
Conservation Law Foundation
Coopération internationale pour le Développement et la Solidarité
Copenhagen Business School
Copenhagen Doughnut
Corporate Accountability
Creatives for Climate
Culture Unstained
Danish Board of Technology Foundation
Danish Science Journalist Association
Danmarks Naturfredningsforening
Danwatch
DemocracyX
Demokrati i Europa Oplysningsforbundet
Den Grønne Ungdomsbevægelse
Det Grønne Forskernetværk
Doughnut Economics Action Lab
Drilled
Energiakademiet

Euro	pean Climate Foundation
Euro	pean Council for an Energy Efficient Economy
	pean Foundation Centre
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	ningen Klimaindsigt
	ningen Regenerativt Jordbrug
	ningen Roskilde Festival
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	al Energy Monitor
	Penge
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	npeace Danmark
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	th and Environment Alliance
	or Cool Institute gGmbh
	eGlobalGoals
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	tut du développement durable et des relations internationales
	tut for Future-fit Economies
	tute for Advertising Ethics
	tute for Energy Economics and Financial Analysis
	tute for Global Environmental Strategies
	tute for Governance & Sustainable Development
	tute of Development Studies
	national Center for Trade and Sustainable Development
	national Institute for Sustainable Development
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	n Center for a Sustainable Environment and Society
	a- og Omstillingsrådet
	aakademiet
	abevægelsen
	akaravanen
	akysset
	Students for Climate Accountability
	e My Money Matter
	let Forces
	ernes Forsknings- og Innovationscenter - Syddansk Universitet
	ur Andelskasse
	lelfart Kommune
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	in Common Polska
	rens Retshjælp

NRDC Nyt Europa	
New Weather Institute NRDC Nyt Europa	
NRDC Nyt Europa	
Nyt Europa	
Oil Change International	
Økotopia	
One Earth	
Open Government Partnerships	
Organization for Economic Cooperation and Development	
OuiShare	
Our Common Home	
Overseas Development Institute	
Digital Climate Coalition	
Generous Films	
Pathways	
Physicians for Social Responsibility	
Pivot Point	
Plan B	
Planet Tracker	
Positive Money	
Possible	
Private Equity Stakeholder Project	
Public Interest Research Centre	
Purpose Disruptors	
Purpose Foundation	
Queen Mary Center	
Rådet For Grøn Omstilling	
Rainforest Action Network	
Re-generation	
Re-Set	
Re-set Reclaim Finance	
Recourse	
Rethinking Economics	
Rethinking Economics Denmark	
Rockefeller Philanthropy Advisors	
Climate Champions	
Climate Nexus	
Earth HQ	
RydFladen	
Så er det nu	
Samso Energy Academy	
Sandbag Climate Campaign	
ShareAction	
Smith School of Enterprise and the Environment, University o	f Oxford
SoCentral	
Local Story Exchange	
Media Bounty	
Global Climate and Health Alliance	
TerraJusta	
Solutions for Our Climate	
Stand.Earth	
Stichting Bank Information Center	
Stichting Den Haag Fossielvrij	
Stichting Funder Forum	
Stockholm Environment Institute U.S.	
Stop Funding Heat	
Desmog	
Fossil Free Media	
GGON	
Project InsideOut	
Project InsideOut Stop the Money Pipeline	

SustainableEnergy
Swiss Philanthropy Foundation
Syli CIC
Tænketanken Prospekt
Tearfund
The Arctic Cycle
The Associated Press
The Chancellor, Master and Scholars of the University of Oxford
The Climate Bonds Initiative
The Club of Rome
The Good Lobby
The Meliore Foundation
The Norwegian Climate Foundation
The Resurgence Trust
The Rules Foundation
UPLIFT
The Sunrise Project Australia Limited
The Years Project
Third Generation Environmentalism Ltd.
ClimateVoice
Together for Future
Transition Network
Transparency International
Transport & Environment
UN Foundation
UNEP DTU Partnership
Ungdommens Røde Kors
UngEnergi
Union of Concerned Scientists
United Charitable - fiscal sponsor of DearTomorrow
United Nations Environment Programme
United Nations Secretary General's Climate Change Support Team
University of Aberdeen
University of Cambridge
University of Copenhagen
University of Sussex
UNPRI
Urgewald
Utrecht University
Verdens Skove
VIA University College
WCMC
We Mean Business Coalition
WEAII DK
Wellbeing Economy Lab - WELA
WildAid
Windward Fund
World Resources Institute
Wuppertal Institute for Climate, Environment, Energy
WWF European Policy Office
Zero Waste Europe
ZOE - Institute for Future-fit Economies

### REFERENCES

- <sup>1</sup> IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.
- <sup>2</sup> Friedlingstein, P. et al. (2022) Global Carbon Budget 2022, Earth System Science Data. doi:10.5194/essd-14-4811-2022
- <sup>3.</sup> Climate Works 2023: Funding trends 2023: Climate change mitigation philanthropy, By Helene Desanlis, Narine Esmaeili, Karolina Janik, Tim Lau, Megan Turnlund. By Helene Desanlis, Narine Esmaeili, Karolina Janik, Tim Lau, Megan Turnlund
- <sup>4</sup>·2024 will be the first year on record to smash a warming limit scientists warned about, By Brandon Miller and Ella Nilsen, CNN. Retrieved November 19, 2024. https://edition.cnn.com/2024/11/06/ climate/warmest-year-on-record/index.html#:~:text=New%20 data%20confirms%202024%20will,both%20at%20home%20and%20 abroad.
- <sup>5.</sup> Carman, J., Verner, M., Rosenthal, S., Ballew, M., Leiserowitz, A., Wood, E., Thulin, E., Ordaz Reynoso, N., Marlon, J., & Buttermore, N. (2024). Global Warming's Six Audiences: International Update, 2023. Yale University. New Haven, CT: Yale Program on Climate Change Communication.
- <sup>6</sup>. Hurricane Maria: Keellings, D., & Hernández Ayala, J. J.(2019). Extreme rainfall associated with Hurricane Maria over Puerto Rico and its connections to climate variability and change. Geophysical Research Letters, 46, 2964–2973. https://doi. org/10.1029/2019GL082077

Australian bushfires: van Oldenborgh, G.J et al. (2021) Attribution of the Australian bushfire risk to anthropogenic climate change. Natural Hazards and Earth System Sciences. doi: https://doi. org/10.5194/nhess-21-941-2021

California wildfire season: Turco, M., Abatzoglou, J. T., Herrera, S., Cvijanovic, I., & Others. (2023). Anthropogenic climate change impacts exacerbate summer forest fires in California. Proceedings of the National Academy of Sciences, 120(25), e2213815120. https:// doi.org/10.1073/pnas.2213815120

Texas winter storm: Cohen, J., Pfeiffer, K., & Francis, J. (2021). Linking Arctic variability and change with extreme winter weather in the United States. Science, 373(6559), 1116-1121. https://doi.org/10.1126/ science.abi9167

Germany floods: Tradowsky, J.S et al. (2023) Attribution of the heavy rainfall events leading to severe flooding in Western Europe during July 2021. Climatic Change 176, 90. https://doi.org/10.1007/s10584-023-03502-7

Pakistan floods: Otto, F.E.L et al. (2023) Climate change increased extreme monsoon rainfall, flooding highly vulnerable communities in Pakistan. Environmental Research: Climate. doi: 10.1088/2752-5295/acbfd5

Spain floods: Extreme downpours increasing in southeastern Spain as fossil fuel emissions heat the climate. World Weather Attribution. 4 November, 2024 https://www.worldweatherattribution.org/ extreme-downpours-increasing-in-southern-spain-as-fossil-fuelemissions-heat-the-climate/. Retrieved on November 11.

- <sup>7</sup> Richard J. Pasch; Andrew B. Penny; Robbie Berg (April 5, 2018). Tropical Cyclone Report: Hurricane Maria (PDF) (Report). Miami, Florida: National Hurricane Center. Archived (PDF) from the original on April 20, 2018. Retrieved November 19, 2024.
- <sup>8.</sup> Costliest U.S. tropical cyclones tables update (PDF) (Report). United States National Hurricane Center. January 26, 2018. Archived (PDF) from the original on November 29, 2019. Retrieved November 19, 2024.
- <sup>9</sup>. Henriques-Gomes, Luke (24 January 2020). "Bushfires death toll rises to 33 after body found in burnt out house near Moruya". The Guardian. ISSN 0261-3077. Retrieved November 19, 2024.
- <sup>10.</sup> Australia wildfire damages and losses to exceed \$100 billion, By John Roach, January 8, 2020, https://www.accuweather.com/en/ business/australia-wildfire-economic-damages-and-losses-toreach-110-billion/657235#:~:text=AccuWeather%20estimates%20 the%20total%20damage,on%20a%20variety%20of%20sources. Retrieved November 19, 2024.

- <sup>11</sup> Ten impacts of the Australian bushfires, UNEP, https://www.unep. org/news-and-stories/story/ten-impacts-australian-bushfires, Retrieved November 19, 2024.
- <sup>12</sup> Why the 2017 fire season has been one of California's worst, Priya Krishnakumar and Joe Fox, LA Times, October 13, 2017, https://www. latimes.com/projects/la-me-california-fire-seasons/. Retrieved November 19, 2024.
- <sup>13.</sup> Cost of California wildfires in 2017, Statista, https://www.statista. com/statistics/943498/cost-california-wildfires-cause/ Retrieved November 19, 2024.
- <sup>14.</sup> Patrick Svitek (January 2, 2022). "Texas puts final estimate of winter storm death toll at 246". The Texas Tribune. Retrieved November 19, 2024

<sup>15.</sup> Lee, CC., Maron, M. & Mostafavi, A. Community-scale big data reveals disparate impacts of the Texas winter storm of 2021 and its managed power outage. Humanit Soc Sci Commun 9, 335 (2022). https://doi.org/10.1057/s41599-022-01353-8

- <sup>16.</sup> After the floods: Germany's Ahr valley then and now, Agence France Presse and Associated Press, https://www.theguardian.com/ world/2022/jul/13/floods-then-and-now-photographs-germany-ahrvalley-flooding-disaster-july-2021, Retrieved November 19, 2024
- <sup>17.</sup> German Floods Cost a Record \$40 Billion, Bloomberg January 2022, https://www.bloomberg.com/news/articles/2022-01-10/germanfloods-cost-a-record-40-billion-munich-re-estimates?embeddedcheckout=true, Retrieved November 19, 2024
- <sup>18.</sup> Pakistan Floods, Center for Disaster Philanthropy. https:// disasterphilanthropy.org/disasters/2022-pakistan-floods/ Retrieved November 19, 2024. Retrieved November 19, 2024.
- <sup>19.</sup> SEI, Climate Analytics, E3G, IISD, and UNEP. (2023). The Production Gap: Phasing down or phasing up? Top fossil fuel producers plan even more extraction despite climate promises. Stockholm Environment Institute, Climate Analytics, E3G, International Institute for Sustainable Development and United Nations Environment Programme. doi.org/10.51414/sei2023.050

Limiting warming to 1.5°C is one of the greatest asks of the modern era. We may not make it, but the only certain path to failure is not trying. And we must remember that we are operating on a sliding scale of disruption. 1.5 is better than 1.6 is better than 1.7. Every fraction of a degree matters in terms of lives saved, economies protected, damages avoided, biodiversity conserved and the ability to rapidly bring down any temperature overshoot."

 Inge Andersen, Under-Secretary-General of the United Nations and Executive Director of the United Nations Environment Programme