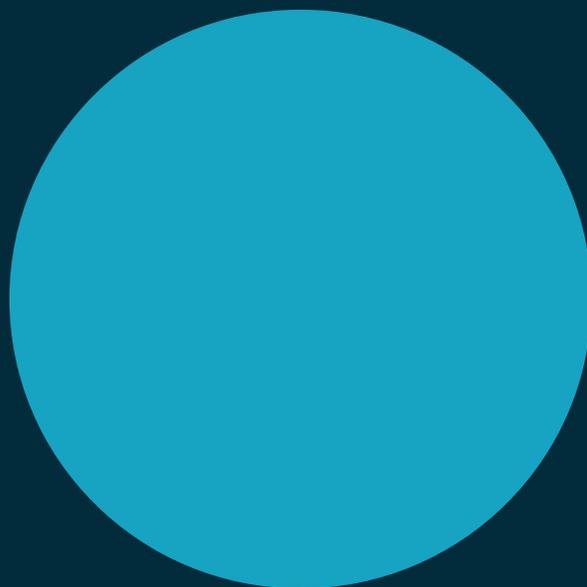


Annual Report 2016
Embracing Tipping Points



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CHAIRPERSON'S NOTE



2016 MARKED A YEAR OF MAJOR POLITICAL CHANGES AND CHALLENGES, BOTH FOR THE CLIMATE CHANGE MITIGATION AGENDA AND IN WIDER SCIENTIFIC, SOCIAL AND POLITICAL SPHERES.

In addressing this changing landscape, our many initiatives have included close collaboration with diverse partners and stakeholders to bridge ideological and interest divides and a collaborative approach to leadership in thematic clusters. Our people are at the heart of our success. As the European Climate Foundation has grown, its leadership team and Supervisory Board have paid special attention to organisational and personal development. We believe that fostering diversity and developing individuals' talents, both in-house and in the wider network of grantees and partners, are crucial if we are to meet the challenges of the transition to a low greenhouse gas society.

In collaboration with our strong network of partners, this inclusive approach has allowed us to achieve a number of significant milestones that we have the pleasure of sharing with you in this annual report.

They range from the establishment of the Agora Mobility Transition (a new platform for exploring low-carbon mobility) together with Stiftung Mercator, to the articulation of a robust system of European governance that reflects the outcomes of the Paris Agreement. Thanks to the generosity of our funders and the dynamism of our grantees, the ECF has been able to step up its efforts with an increase in funding to 50 million euros, and a further increase is foreseen for 2017.

In the summer of 2016 our CEO, Johannes Meier, informed the Board that he would need to resign in early 2017 for family reasons. Johannes deserves major credit for the quality of the organisation and its strategic direction. Under his strong leadership, the ECF's activities have tripled in size and it has built a solid reputation for excellence and innovation, both in the climate field and with funders. Following a comprehensive search process, we were proud to announce in December that Laurence Tubiana would take over the leadership of the ECF on 1 March, 2017. Laurence is a leading thinker on the transformation of the economy necessary to mitigate dangerous climate change and is globally recognised for her role in securing the Paris Agreement.

I would like to take this opportunity to express our gratitude to Johannes and offer all our best wishes for him and his family.

Thank you for your interest in the ECF and for your support.

A handwritten signature in black ink that reads "Caio Koch-Weser". The signature is written in a cursive, slightly stylized font.

Caio Koch-Weser

SUPERVISORY BOARD

(as of 1 March 2017)

Caio Koch-Weser

Chair

Board Member, World Resources Institute; Board Member, ClimateWorks Foundation; Member of the Global Commission on the Economy & Climate

John McCall MacBain

Founding Chair & Vice-Chair

President, McCall MacBain Foundation and Pamoja Capital

Susan Bell

Vice-Chair

Principal, Susan Bell & Associates

Stephen Brenninkmeijer

Founder and Principal, Willows Investments UK

Kathleen Cravero-Kristoffersson

President, Oak Foundation

Kate Hampton

Chief Executive Officer, Children's Investment Fund Foundation

Connie Hedegaard

Chair, KR Foundation

Charlotte Pera

President and Chief Executive Officer, ClimateWorks Foundation

Mary Robinson

President of the Foundation and Chair of the Board of Trustees, Mary Robinson Foundation – Climate Justice

Tom Steinbach

Executive Director, Tempest Advisors

LEADERSHIP TEAM

EXECUTIVE MANAGEMENT TEAM

Laurence Tubiana

Chief Executive Officer
(as of 1 March 2017)

Johannes Meier

Chief Executive Officer
(until 28 February 2017)

Christoph Wolff

Managing Director

Chris Barrett

Executive Director, Finance and Economics

Tom Brookes

Executive Director, Strategic Communications

Emmanuel Guerin

Executive Director, Global Policies
(as of 1 March 2017)

Martin Porter

Executive Director, Industry and Innovation and EU Affairs

Sharon Turner

Executive Director, Governance and Law

EXTENDED LEADERSHIP TEAM

Keith Allott

Director, UK

Kelly Clark

Director, Finance Dialogue

Rebecca Collyer

Director, Power

Benoit Faraco

Director, France

Patty Fong

Director, Energy Efficiency

Thomas Fricke

Chief Economist

Pete Harrison

Director, Transport

Thomas Legge

Director, External Relations

Matt Phillips

Director, International Energy

Julia Reinaud

Director, Industry and Innovation

Martin Rocholl

Director, Germany
Senior Advisor, Transport

Tomasz Terlecki

Director, Central Europe and Eastern Europe

Mayta Villafane

Chief Operating Officer

FELLOWS

Bert Metz

Julian Popov

Princess Laurentien van Oranje-Nassau

FAREWELL MESSAGE FROM THE OUTGOING CEO



Looking back at 2016, I am grateful for and proud of what we have achieved at the ECF but I also look with apprehension towards the future given the changing context and political uncertainties.

2016 started with excitement over the Paris Agreement, which has provided a new context and level of ambition for the climate change mitigation movement. 2016 ended on a much more sombre note with a deeper challenge to the mainstream political system of liberal democracies and governance posed by the threat of Brexit, the election of Donald Trump, the rise of populism and scepticism towards the European Union. Many of the strategies for the environmental movement and philanthropy rely on a functioning, fact-based political system. Therefore, it is vitally important to understand the climate change agenda as embedded in wider societal dynamics, fears and politics that determine the current agendas.

That is why it has been critical for our work to better understand the psychology of large-scale change and help build confidence that deep and accelerating change towards a low-GHG society is not only possible but can become a self-fulfilling prophecy. We believe that a focus on non-linear change is especially important given how far away we still are from a pathway that will robustly keep the world well below 2 degrees Celsius of warming.

In this context, “tipping points” can provide hope that non-linear change can be achieved. A tipping point is the critical moment in an evolving situation that leads to a new and irreversible development. Tipping points tend to be characterised by strong economic, social and behavioural forces. Close to tipping points emotions fly high, fundamental value and system preferences come into play and hard choices need to be made. This calls for innovative strategies that combine technical with political and even sociological thinking. We cannot address the deeper transformation challenges of society effectively from within narrow silos.

Over the past few years, the ECF has gained a reputation for being an innovator. I believe that the ECF is one of the best places for philanthropic investment, partly because of our strategic and organisational strengths and partly because Europe remains a highly relevant place to learn about low-GHG pathways, especially now that the political contexts have become more complex.

Given all of the above, I am very happy that the ECF could attract Laurence Tubiana as my successor, as family circumstances mean I will no longer be able to commit my full energy to the ECF in 2017. Laurence brings to the ECF political understanding, thought leadership and a global network that is of extreme importance in our turbulent times. I know that I leave the ECF in the best hands and I look forward to helping her in the transition and beyond.

I want to end my last message as CEO with a sincere thank you to my colleagues at the ECF, to our partners for their hard work, and to our funders for their essential support. I remain impressed by the commitment, energy and hope that everybody around me brings to the continuously difficult fight against climate change. It has been an honour to be part of this team for six years.

Johannes Meier
(CEO, 1 March 2011 – 28 February 2017)

“Europe has an essential role to play. It will need to reaffirm even stronger international climate leadership.”



Laurence Tubiana (left), representing the COP 21/CMP 11 Presidency, celebrates the adoption of the Paris Agreement along with (left to right) UNFCCC Executive Secretary **Christiana Figueres**, UN Secretary-General **Ban Ki-moon**, French foreign minister and COP 21/CMP 11 President **Laurent Fabius** and French president **François Hollande**

MESSAGE FROM THE INCOMING CEO



Taking over as ECF CEO from Johannes Meier is a great pleasure and an honour. I met Johannes shortly after he became CEO. I will always remember the clear vision he had for the ECF's development from day one. In my various capacities over the years, including as an ECF Board member, I enjoyed working with him enormously, as well as with the rest of the team and my Board colleagues.

It is therefore with much excitement, as well as a sense of responsibility, that I am taking on this new role. Excitement first, because I know the ECF is well recognised as a very effective organisation, with an outstanding team, a Board that is always looking for new opportunities and is not shy of taking risks and, most importantly, a large network of talented and dedicated grantees and partners. But a sense of responsibility also, because delivering on a new strategy for ECF will not be easy, given the challenging geopolitical and political context and the scale of the challenge we face in limiting dangerous climate change.

It was never going to be easy. First, because although the Paris Agreement commitments represent a significant increase of ambition, they are not enough to give a plausible chance of limiting the average temperature increase to well below 2 degrees Celsius, even less so to 1.5 degrees Celsius. Second, because there is a long way between setting targets and actually delivering on those commitments.

Recent political developments may have made the task even more complex. The prospects for the upcoming elections across Europe will be an important factor in our strategy. But I am not known to be a fatalist or a pessimist. I am, relentlessly, an activist and an optimist. These are exceptional times. But I know they will be met by an exceptional commitment from the ECF family at large, as well as the broader climate movement.

In the coming years, the ECF will work hard to support the delivery of the commitments made in Paris, while further increasing ambition. This is a race against time, and we need all hands on deck. We will need to identify and support new leadership. We will also have to pay more attention to the social costs of the transition and demonstrate that tackling climate change is an agenda that brings socio-economic benefits to all strata of society including those facing poverty and the working class.

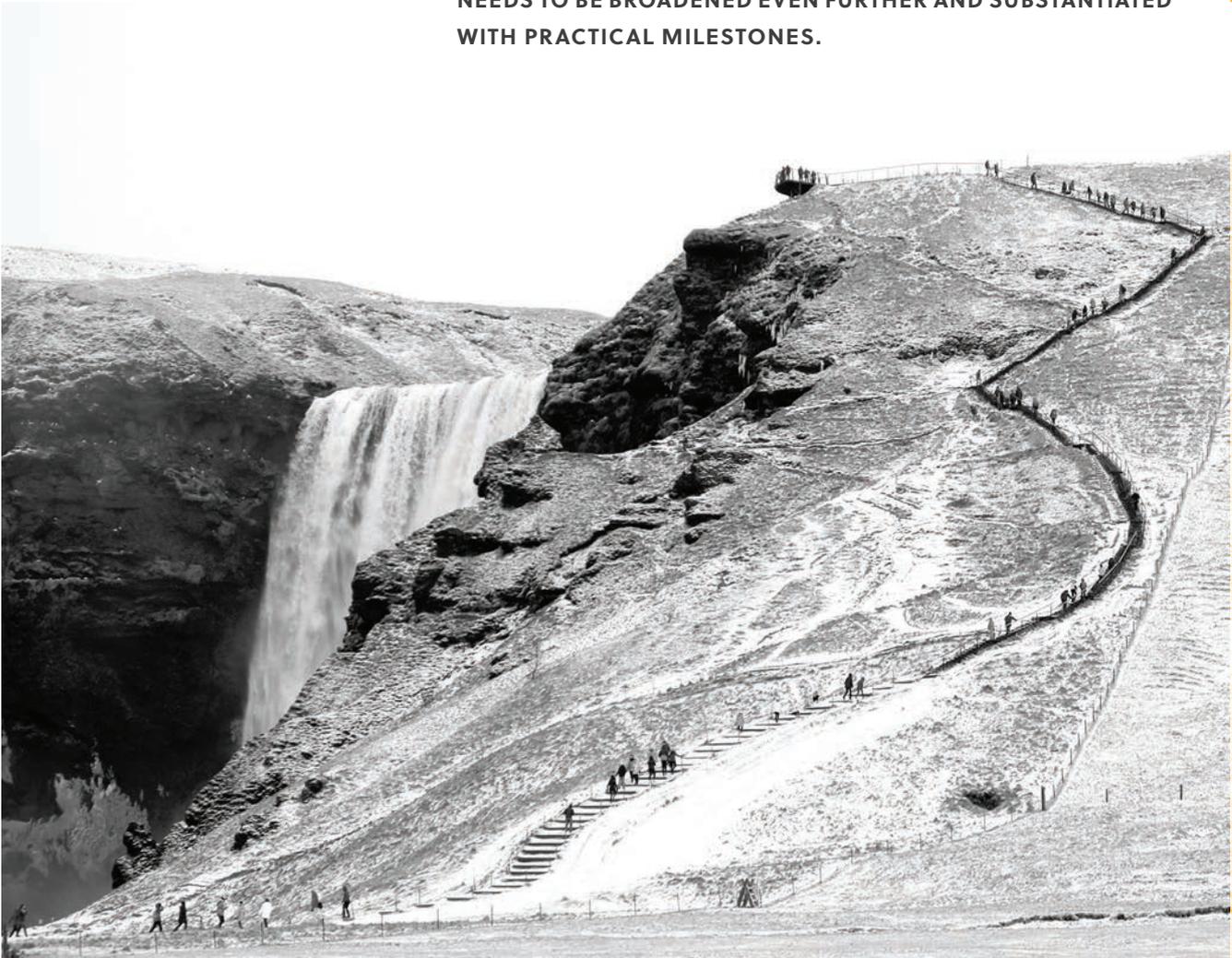
Europe has an essential role to play. It will need to reaffirm even stronger international climate leadership. It will also have to put the transition at the core of its new political project. And I am convinced that, even after Brexit, we need to build strong links between the UK and Europe on energy and climate policy.

We always knew that the post-Paris Agreement phase would be more decentralised than the phase leading up to its adoption. Current political events only add to this trend. It is more important than ever to support positive cooperation between national and local governments, businesses and investors, and NGOs and think tanks. I also think that, in the absence of clear political leadership, philanthropy has an even more important role to play—both through financial support and intellectual leadership. This is why I am very excited to take up this this new role.

Laurence Tubiana

HOW THE PARIS AGREEMENT REQUIRES EUROPE TO ACCELERATE THE TRANSITION TO A LOW GREENHOUSE GAS SOCIETY

WE RIGHTLY CELEBRATED THE IMPORTANT MILESTONE OF THE PARIS AGREEMENT AT THE END OF 2015. THE AGREEMENT IS THE RESULT OF A MOMENTUM-BUILDING PROCESS ACROSS GOVERNMENTS, BUSINESSES, CITIES AND NGOS THAT NOW NEEDS TO BE BROADENED EVEN FURTHER AND SUBSTANTIATED WITH PRACTICAL MILESTONES.



WE WORKED ON MANY IMPORTANT MILESTONES IN 2016, INCLUDING:

- Advocating for a constructive low-emissions mobility roadmap by the European Commission in the wake of “Dieselgate” and establishing the Agora Verkehrswende (Mobility Transition) together with Stiftung Mercator.
- Growing momentum to phase out the use and carriage of heavy fuel oils as marine fuel in the Arctic by 2020.
- Demonstrating that coal is no longer a viable investment in the face of health risks, financing trouble and the risk of stranded assets.
- Supporting an active debate on coal exit in Germany and a decision to exit coal before 2025 in the UK.
- Providing inputs into the European Commission’s comprehensive “clean energy for all Europeans” package of legislative proposals, which has set up 2017 as a year of important policy developments for climate, energy, mobility, energy efficiency, innovation and carbon pricing.
- Encouraging investors to take a more active role in the low-GHG transition with the ECF hosting the Finance Dialogue on Climate Change and Environmental Risk, a collaboration of nine foundations targeting institutional investors.
- Hosting the Secretariat of the Global Covenant of Mayors, a collaboration of Bloomberg Philanthropies and the European Commission.

These milestones give us hope that significant change is possible and that GHG tonnes can be reduced effectively as we pull together and align the different stakeholders necessary for reaching crucial tipping points in the culmination of many ongoing policy cycles.

But we must go further. Europe needs to develop an EU governance framework that is compatible with the Paris Agreement in order to limit warming to well below 2 degrees Celsius. To meet this challenge, Europe will have to phase out fossil fuels almost entirely by mid-century. Europe’s future governance framework must turn the Paris Agreement into action by regularly ratcheting up ambition with country-specific implementation plans that cover all sectors and all levels of society.

The scale of the challenge is daunting and requires a much faster pace of change than we have seen to date. This will be disruptive to some sectors of society and there is a risk that this disruption could eventually be self-defeating without broad support from stakeholders, including in those sectors affected by the transition. For this reason, in order to complete our understanding of non-linear change we must focus on a managed and just transition.

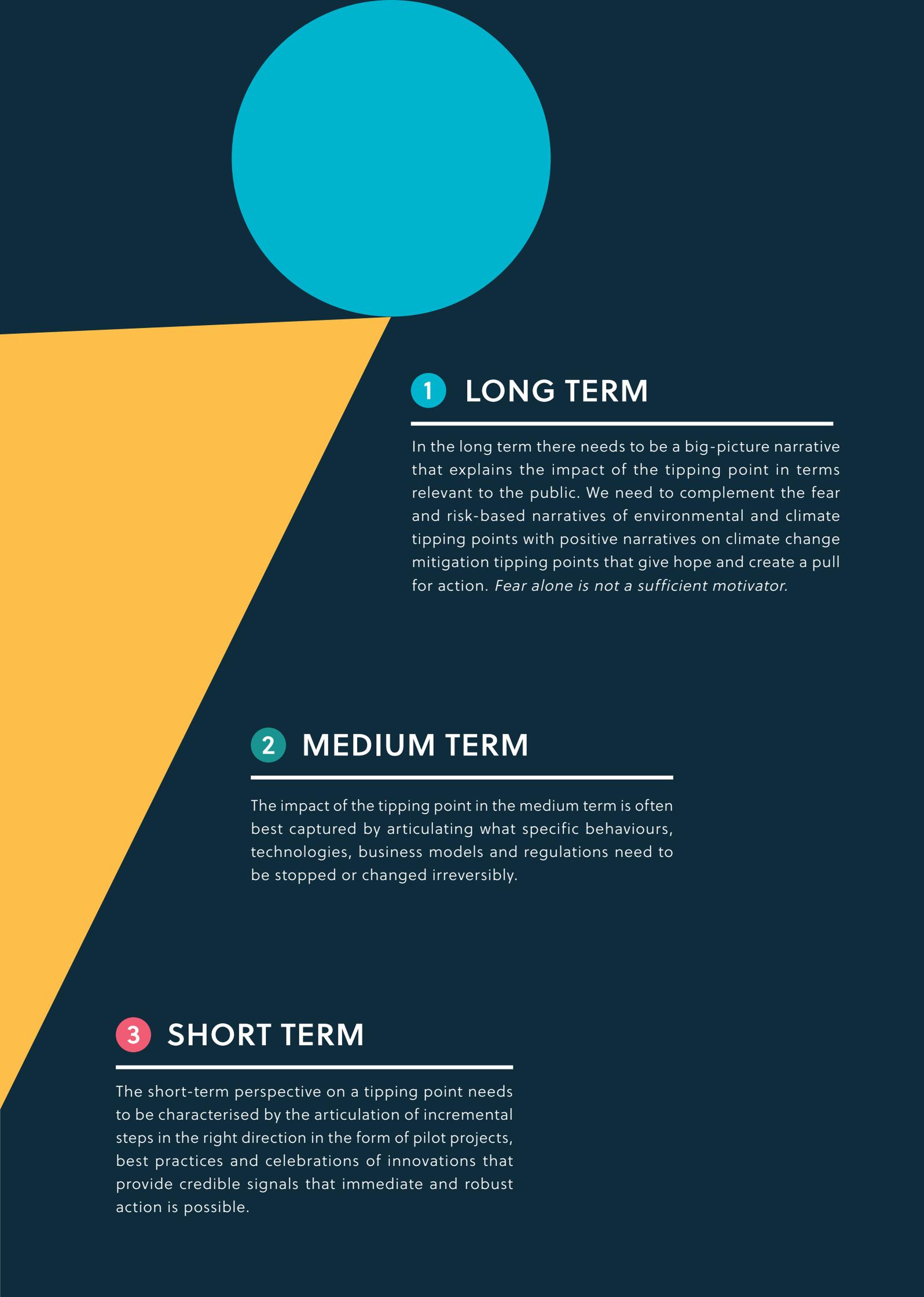
In 2017 and beyond, the ECF will address the critical question of how to connect what climate science tells us is necessary to avoid dangerous tipping points in nature with the ability of societies to embrace social, technological and economic tipping points.

TIPPING POINTS INTO ACTION

IT IS HELPFUL TO DESCRIBE TIPPING POINTS FROM A LONG-TERM, MEDIUM-TERM AND SHORT-TERM PERSPECTIVE:

The need for a whole-economy transition to a low-GHG society challenges us to imagine deep and non-linear structural changes in mobility, housing, nutrition and material resource usage.

To identify potential tipping points, it helps to look for system shifts where a wide-ranging set of stakeholders need to fundamentally change and realign their interpretations, expectations and behaviours. Both the range of stakeholders and the degree to which hard choices have to be made by the stakeholders are indicators of the distance to a tipping point. If a lot of stakeholders agree that they need to change their behaviour, business models and essential regulations, then we may well be in tipping-point territory and key metrics may turn non-linear.



1 LONG TERM

In the long term there needs to be a big-picture narrative that explains the impact of the tipping point in terms relevant to the public. We need to complement the fear and risk-based narratives of environmental and climate tipping points with positive narratives on climate change mitigation tipping points that give hope and create a pull for action. *Fear alone is not a sufficient motivator.*

2 MEDIUM TERM

The impact of the tipping point in the medium term is often best captured by articulating what specific behaviours, technologies, business models and regulations need to be stopped or changed irreversibly.

3 SHORT TERM

The short-term perspective on a tipping point needs to be characterised by the articulation of incremental steps in the right direction in the form of pilot projects, best practices and celebrations of innovations that provide credible signals that immediate and robust action is possible.

PROVIDING A LONG-TERM PERSPECTIVE

TRANSFORMATIVE CHANGE CALLS FOR CLEAR LONG-TERM PERSPECTIVES WHILST SIMULTANEOUSLY EMBRACING THE INEVITABLE UNCERTAINTIES ALONG MANY POTENTIAL PATHWAYS. THAT IS WHY WE ARE INVESTING IN TOOLS, PROCESSES AND FRAMEWORKS THAT WILL STRENGTHEN THE CONTEXT FOR THE REDUCTION OF GHG EMISSIONS ACROSS SOCIETY, RATHER THAN EMBARKING ON A FOOL'S ERRAND OF TRYING TO PREDICT THE LONG-TERM FUTURE.



BRINGING PARIS TO EUROPE

The Paris Agreement has set a new framework for global climate ambition. The EU has an opportunity in 2018, when countries will undertake a global “stock-take” of commitments, to build confidence that accelerated change is possible. This is all the more important as political realities in many countries have changed since the Paris Agreement was signed in December 2015. The agreement invites governments and non-state actors to publish their long-term, mid-century pathways for GHG-neutrality in 2020. This creates a unique opportunity for the EU to demonstrate the kind of rapid, non-linear changes that will be necessary to keep global warming well below 2 degrees Celsius and realise the vast economic and social potential of the transition.

The ECF’s new **Net-Zero Emissions 2050 (NZE50)** project is designed to answer this call. It will bring together representative stakeholders from all sectors of society to look at the potential and implications for the rapid transformation of all emitting sectors across all EU Member States. By developing and building trust and confidence among stakeholders about the possible scale and speed of change and the key issues to be addressed from all perspectives, the project will set out new thinking on how to approach the transition. In transport, buildings, power and land use, the NZE50 project will look for ways to understand, create and accelerate tipping points.

In contrast to a conventional roadmap approach, which extrapolates linear pathways backwards from a future target, the NZE50 project uses the lens of tipping points to focus on the near term. This allows us to build on the dynamic interdependence of factors like the rapid decline in technology costs and behavioural changes in a sharing economy (as well as many other factors) to create a stronger, more realistically embedded plan.

An accelerated change becomes more possible if civil society (including citizens, stakeholders and policymakers) understands, embraces and, most importantly, desires it. The key question is: How can policy and politics accelerate the tipping points towards a net-zero GHG emissions society?

The NZE50 team is working alongside academics, policymakers and civil society actors who are leading the thinking on implementation of the Paris Agreement. Cambridge Econometrics, Element Energy, and Oxford INET will bring new economic thinking to the challenge.

Emerging insights will also be provided on governance (creating a “toolkit” of policies and institutions to implement the Paris Agreement in every country) and finance (shifting the trillions of euros in future financial flows away from high-GHG and towards low-GHG investments).

The project’s flagship activity is to convene expert stakeholders in transport, power, buildings and land use, who will guide the assumptions and hypotheses for rapid and non-linear GHG reductions. Socio-economic analytics will evaluate the impact of tipping point scenarios on jobs, prosperity and growth within the EU. The project will stress-test these scenarios by investigating the possible implications of megatrends—protectionism, digitisation and new investment paradigms—for the low-GHG transition.

Beyond the four stakeholder communities, the project will assemble a high-level group of political analysts and opinion leaders to ensure that the project’s results are politically relevant and ambitious.

DRIVING AN INNOVATIVE ECONOMIC TRANSITION THROUGH A LOW-CARBON INDUSTRIAL POLICY

The ECF’s **Industry and Innovation Initiative** explores how Europe can deliver supportive policy and investment along the whole low-carbon innovation cycle (from basic research to large-scale market uptake). It explores also how Europe can lead and benefit from the industrial economic-related innovation challenges to come in the transition to a new, inclusive, smart, low-carbon and circular economy. In 2016 the ECF’s **Industrial Innovation for Competitiveness** (i24c) platform worked with the consultancy Cap Gemini on a new study, *Scaling Up Innovation in the Energy Union to Meet New Climate, Competitiveness and Societal Objectives*.



The report gained prominent attention and is strongly referenced in the final European Commission strategy, *Accelerating Clean Energy Innovation*. By pointing at effective ways to link the enabling of innovation to the reaping of competitive advantage, the insights help underpin decarbonisation with smart economic strategy. These ideas are at the heart of the ECF’s approach to this broad and newly politically powerful agenda, which is also taking root nationally in industrial strategies under development in Germany and the UK.

MEDIUM-TERM BOUNDARIES ON HARMFUL PRACTICES

IN THE MEDIUM TERM WE NEED TO SET BOUNDARIES ON HARMFUL PRACTICES IN EACH SECTOR. THIS CALLS FOR POLITICAL NEGOTIATIONS AND FOR KEEPING ATTENTION ON THE NEED FOR A JUST TRANSITION.





Energy Union Choices

FRAMING THE EU'S ENERGY UNION INITIATIVE AROUND EUROPE'S CLIMATE AND ENERGY GOALS

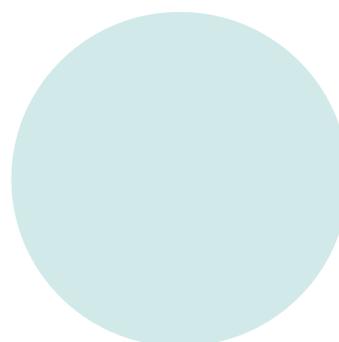
The **Energy Union Initiative** is a collaboration of the ECF with Third Generation Environmentalism (E3G), the Cambridge Institute for Sustainability Leadership (CISL), the Regulatory Assistance Project (RAP), WWF European Policy Office, and the Agora Energiewende. It is designed to address rapid systems decarbonisation, variable renewables integration, infrastructure choices and security of supply for 2030 and beyond. 2016 saw intensive work addressing the EU "Clean energy for all Europeans" proposals, a series of major legislative initiatives by the European Commission that aim to integrate Europe's markets, put consumers at the heart of decision making, set out the medium-term (Paris Agreement-compliant) governance regime for Europe, link the efficiency and digital agendas to the challenges of electrification and decarbonisation and deliver the investment horizon that EU renewables require.

The initiative published a first piece of research under a new shared *Energy Union Choices* banner. The study *A Perspective on Infrastructure and Energy Security in the Transition*, conducted by Artelys, featured extensive analysis of the resilience of Europe's gas infrastructure to a range of demand projections and supply disruptions, thus mirroring real-world decarbonisation scenarios. The study showed that Europe's gas infrastructure is resilient and that an integrated, regional approach that looks at gas, electricity and buildings efficiency together can help meet supply-security challenges at significantly lower costs (up to €11.4 billion savings) than increasing supply, while also reducing the risk of stranded assets.

The launch and subsequent outreach around the report attracted widespread attention and media coverage and has started a debate on the use of EU funds for gas infrastructure projects based on a persistent overestimation of gas demand projections that are out of touch with the EU's commitments under the Paris Agreement and its own 2030 objectives. The report was followed up by more detailed analysis from Buildings Performance Institute Europe, E3G and RAP and challenged widely held assumptions on future gas expansion within the European Commission and in Member States.

Vice-President Šefčovič publicly questioned the outlook for gas in Europe, and the gas network association ENTSO-g developed a wider range of scenarios for the next infrastructure priority list including ones with much lower gas demand. A group of 19 southeast European EU Member States, under a coordination platform called CESEC (Central and South Eastern Europe Gas Connectivity), agreed to look at renewable energy, energy efficiency and electricity solutions to gas-security issues. Finally, the German environment ministry is scrutinising infrastructure plans with six neighbouring countries against lower gas-demand outlooks. This has a profound impact on the assumptions underpinning the EU energy system, which we hope can avoid significant future fossil fuel lock-in. It is an example of looking ahead and shaping those issues that will deeply affect Europe's future emissions profile.

In 2017, the ECF and its partners will work together across the range of elements within the Commission's energy proposals, through our country partnerships and via cutting-edge analysis, to ensure that infrastructure priorities across Europe are shifted to enable deep, renewables-led decarbonisation and to avoid costly fossil fuel lock-in.



ADDRESSING TRANSPORT EMISSIONS THROUGH
A NEW VISION FOR MOBILITY

In 2016, the ECF's **Transport Initiative** provided further tangible examples of how Europe can shift to cleaner mobility. The ECF and its grantees continued to make the case for stronger technical standards for light and heavy duty vehicles, including a new initiative for CO2 standards for trucks and buses.

One year after the "Dieselgate" scandal, which found that Volkswagen had conspired to cheat emissions tests, change is underway. The European Commission has brought forward proposals to improve the oversight and enforcement of tests for new vehicles being placed on the market. Investigations by the European Parliament and several key governments are also doing much to reveal the extent to which the public has been betrayed in the past.

What is also becoming clear is that investments in diesel vehicles are looking increasingly unwise when set against steadily tightening vehicle standards. Renault, Toyota and Volkswagen have scrapped the diesel option from upcoming models, both in Europe and the United States. The Paris Motor Show was the first in which electric vehicles, such as Daimler's EQ, dominated the headlines, and German carmakers are planning a major investment in fast chargers along the main transport routes.

At the same time, European policymakers seem to have finally realised that it is only by setting clear policy objectives that they can steer companies towards making the future investments that will be needed to compete with the likes of Tesla and China's BYD.

ECF grantees have long called for a holistic approach to rolling out cleaner vehicles and the markets and infrastructure they will require. This was answered in July 2016, when the European Commission published its *European strategy on low emission mobility*. Meanwhile, the German Climate Protection Plan foresees a 42% cut to transport CO2 emissions by 2030 and now government, industry and civil society are focusing on how to deliver that. It is clear that the task of cleaning up transport has been accelerated by "Dieselgate".

One of the clearest signs of change is that the German metalworkers' union IG Metall, which traditionally sided with car manufacturers, has started to see the risks from a complacent attitude to the climate challenge. "This also means industry, in contrast to the past, is abandoning its rear-guard battles and foot-dragging with regard to strict limits", the union said in a recent policy paper.

SUCCESS STORY

The ECF's Transport Initiative supported the publication of the *Oil Market Futures* report, which highlights the need for policymakers and investors to start planning for a world with significantly lower oil demand and, consequently, lower crude oil prices. This report was named "Low Carbon Publication 2016" by the UK's LowCVP, a public-private partnership of around 200 organisations that works to accelerate a shift to lower carbon vehicles and fuels.

SUCCESS STORY

The Agora Verkehrswende (Mobility Transition) was set up in 2016 by Stiftung Mercator and the ECF to support the debate on the transformation of the transport sector. The "Dieselgate" scandal and the arrival of new competitors have increasingly put German car manufacturers under pressure. In addition to committing support for further ambitious EU-wide CO2 standards, the German government has set a new, ambitious national target for the transport sector to reduce emissions by at least 40% by 2030.

ADDRESSING POLLUTION IN THE ARCTIC AND THE OCEANS

The ECF's **Maritime & Arctic Initiative** supported the launch of a global initiative to phase out the use and carriage of heavy fuel oil (HFO) as marine fuel in the Arctic by 2020. The HFO-Free Arctic initiative is led by the Clean Arctic Alliance (CAA), whose members include 15 not-for-profit organisations across 12 different countries. Thanks to the CAA's joint efforts, the hazards and risks posed by HFO to the Arctic were highlighted at two meetings of the International Maritime Organization (IMO, the UN decision-making body for international shipping) in 2016. Momentum for a phase-out is growing steadily including via the emergence of some industry champions. Throughout 2016, the ECF also continued to build support for GHG and air-pollution reduction commitments from the shipping sector.

SUCCESS STORY



In October 2016, the IMO decided to proceed with a global cap of 0.5% on the sulphur content of marine fuels, to be implemented in 2020. The decision was made despite pressure from parts of industry and certain countries to delay the start date to 2025. This on-time implementation will help avoid at least 200,000 premature deaths globally.

PROMOTING A SHIFT TO CLEAN ENERGY IN EUROPE AND GLOBALLY

The ECF and its partners are working in many European countries to support a rapid and just transition to a clean energy system in the interest of a safer climate and clean air. The ECF's **International Energy Initiative** also supports civil society engagement with the low-carbon energy transition in many countries outside the EU.

An ECF-funded study by Climate Analytics, *Implications of the Paris Agreement for Coal Use in the Power Sector*, suggests that, in order to comply with the Paris Agreement, the EU needs to end its reliance on coal by 2030. Yet the European Environment Agency has warned that there is a risk of lock-in of new and existing coal assets, which could increase the costs of decarbonising the power sector and lead to stranded assets.

Coal power plants are also a major cause of air pollution and other environmental impacts. *Europe's Dark Cloud*, a study by a group of ECF partners (the Health and Environment Alliance, European Environmental Bureau, Climate Action Network Europe, WWF European Policy Office and Sandbag), found that air pollution from coal plants in the EU was responsible for about 22,900 deaths in 2013 (compared to 26,000 deaths in road traffic accidents in the same year) along with many other adverse impacts on health.

To be successful, the transition away from coal must maintain energy security and ensure a just transition for workers and local economies that are currently dependent on mining and power stations.

Moves to reduce reliance on coal have gathered pace over the past year with the UK, Canada, Portugal, Finland and France announcing their intention to end coal use by 2030 and, in some cases, considerably sooner.

United Kingdom

In the United Kingdom, an important milestone was achieved in 2016 when the UK government confirmed plans to legislate to end reliance on coal by 2025 at the latest. Historically, the UK has been one of the biggest users of coal in the EU, with coal providing nearly 40% of electricity as recently as 2013. However, in 2016 generation from coal plants fell dramatically.

For several sustained periods in the summer, no coal generation occurred at all (the first time this has happened since 1881) and, over a six-month period, photovoltaics generated more electricity than the UK's coal fleet.

The speed of this transition has raised both real and perceived issues over security of supply. Work by ECF grantees such as Sandbag and Bright Blue showed how the security of supply concerns associated reducing reliance on coal could be managed with minimal pressure on new gas capacity.

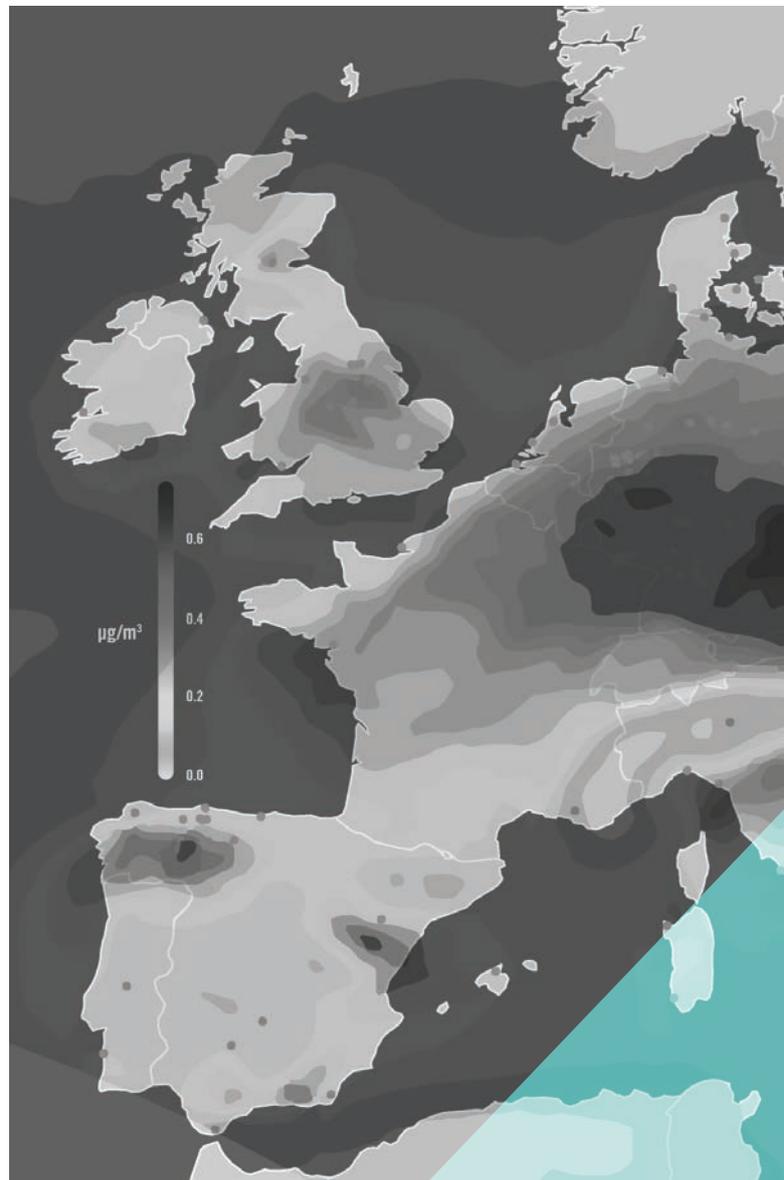
ECF grantees have also worked to improve the design of the UK's power market to increase its flexibility and resilience (including through increased efficiency and demand response) and to shape the debate around alternatives. In particular, the rapid decrease in the cost of offshore wind presents an exciting opportunity for the UK to move to a power system based on a high share of renewable energy.

The Netherlands

In the Netherlands, a vigorous debate is under way over the timetable to reduce reliance on coal in order to meet national climate targets. The Dutch Parliament has asked the government to produce a phase-out plan, including for three new coal plants that were commissioned in 2015/16. The ECF has supported several Dutch partners, including CE Delft, in conducting research into options to meet the climate targets; this research concluded that coal plant closures presented the most cost-effective near-term approach.

Germany

The Paris Agreement was a major boost for climate action in Germany. Over 30 major German corporations issued a joint declaration that recognised that ambitious climate legislation in Germany and the EU is in businesses' best interests. Coordinated by ECF grantee Klima-Allianz, more than 50 civil society organisations presented their own decarbonisation plan in April in order to raise the bar for the government's 2050 Climate Protection Plan, which was adopted in November 2016. Though not yet in line with keeping global warming to well below 2 degrees Celsius, the plan provides ambitious sectoral targets up to 2030, a critical milestone for the low-carbon transition.



The need for a reduction in coal reliance is no longer in question in Germany. The debate is now about the speed and details of the transition. The suggestion by Agora Energiewende for a national consensus on the future role of coal (contained in its report *Eleven Principles for a Consensus on Coal*) was a major contribution. In addition, the service trade union Verdi published a study showing that a socially fair coal phase-out is feasible. ECF grantees also contributed to this dynamic by fostering a debate about a just transition in Lusatia, a coal region whose future is pivotal for progress in the national coal debate.

Poland

Public debate on the future of the power sector in Poland has traditionally been dominated by big state-owned utilities that defend business-as-usual strategies. Against this background, the ECF-supported Forum Energii (Forum for Energy) was established in September 2016 to encourage an evidence-based dialogue about the future of Polish energy markets with all relevant stakeholders.

The Forum builds on the work of the Forum for Energy Analysis, a joint initiative, created in 2014, of the Agora Energiewende, RAP and Warsaw Institute for Economic Studies (WiseEuropa). All team members of the Forum and their partners are recognised energy experts in Poland. The Forum combines different skills and experiences in a unique way: solid analytical background, experience in the energy sector and knowledge about European climate policies, along with strong communication and diplomatic skills.

In the last three years, the Forum Energii (and its predecessor, the Forum for Energy Analysis) has published ten reports on global energy megatrends, power resource adequacy, economics of energy-intensive industries, demand-remuneration mechanisms and the capacity market, among other topics. Its neutrality and high research standards have made the Forum an important actor in public consultation around Polish power market regulations.

2013 emissions from currently operating plants. *Lifting Europe's Dark Cloud – How Cutting Coal Saves Lives.* Sources: European Environmental Bureau, the Health and Environment Alliance, Climate Action Network Europe, WWF and Sandbag



SHORT-TERM CONFIDENCE IN THE FEASIBILITY OF THE TRANSITION

THE CONFIDENCE THAT THE TRANSITION TO A LOW-GHG SOCIETY IS POSSIBLE NEEDS TO BE BUILT UP WITH MANY INITIATIVES THAT CAN PRODUCE PRACTICAL RESULTS IN THE SHORT TERM.



EXPLOITING THE POTENTIAL OF ENERGY SAVINGS

The ECF's **Energy Efficiency Initiative** demonstrated the vital role that reducing energy demand will play in ensuring a just and affordable transition.

For example, renovating our homes and offices cannot only reduce our energy demand without compromising comfort; it can also create a healthier and more productive living and working environment for individuals and families. In Europe, nearly one in ten households is unable to keep its home adequately warm.

In Poland, the use of solid-fuel boilers for indoor heating, fuelled primarily by low-grade coal, in more than 60% of homes is the source of the country's air pollution problems.

By renovating their homes to be much more energy efficient and replacing their stoves with less polluting heaters, families can afford to keep their homes adequately warm and breathe clean air. Due to a multi-year initiative led by the Krakow Smog Alert in partnership with the Institute for Environmental Economics and other ECF grantees, the Polish government has put in place several programmes to address Poland's air quality problem.

Thanks to support by ECF grantees (the Institute for Environmental Economics, ClientEarth, RAP) Malopolska will soon become the first region to adopt a ban on the use of coal for indoor heating. In addition, the national government signed a new regulation that bans the most inefficient and polluting heaters five years earlier than required by EU regulations and has launched a funding programme to finance the cost of retrofits and heater replacement.



SUCCESS STORY

The ECF's Governance and Law and Energy Efficiency Initiatives co-convened a thought leadership group to define, prioritise and map specific actions to operationalise the "Efficiency First" (E1st) principle within the EU's Energy Union framework. E1st means that demand-side options should be systematically considered at all decision points in the energy system and prioritised whenever they cost less or are more valuable than supply-side alternatives.

This process resulted in a public briefing, *Efficiency First: a New Paradigm for the European Energy System*, a set of recommendations to the EU institutions and Member States on ways to integrate the principle across their governance frameworks. As a result of effective advocacy by individual members some of these recommendations have been taken up in the European Commission's "clean energy for all Europeans" package of initiatives to meet the EU's 2030 climate and energy goals. The concept is personally championed by the Vice President Šefčovič.

"Reducing energy consumption is a guiding principle of the Energiewende. With the motto 'Efficiency First', we make clear that less energy use is the top priority. The remaining demand will be covered by renewables."

Sigmar Gabriel, Minister for Economic Affairs and Energy, Germany

"We have to fundamentally rethink energy efficiency and treat it as an energy source in its own right."

Maros Šefčovič, European Commission Vice President for Energy Union

In addition, the International Energy Agency and the UN's sustainable energy for all initiative have both shown interest in E1st. It was also prominently included in the German economy ministry's Green Book for the next phase of the Energiewende and is referenced frequently in speeches by the German energy minister due to interventions by grantees RAP and the #effizienzwende Alliance. An additional publication under the Energy Union Choices brand, *Efficiency First: From Principle to Practice*, lays out real-world examples of where an E1st approach is already being taken.

LEVERAGING THE POWER OF CAPITAL MARKETS TO DRIVE CLIMATE-FRIENDLY INVESTMENT

In the wake of the Paris Agreement, both governments and non-state actors have begun to recognise the pivotal role that finance will play in delivering the low-carbon transition and a world with warming of well below 2 degrees Celsius. In order to leverage the power of capital markets, the ECF and its strategic partners have set up the **Finance Dialogue on Climate Change and Environmental Risk**. This philanthropic collaboration brings together a wide range of stakeholders including private philanthropic funders, financial sector professionals and grantee partners, in order to use the power of investors to decarbonise the economy.



The ECF and its partners are running a pilot project, focused on working with investors in the City of London, in order to generate transformative change in one of the world's most carbon-intensive stock exchanges. The Finance Dialogue operates across four core work streams: corporate engagement, data and disclosure, policy and regulation and strategic communication.

CONCLUSION

The increasing risk of tipping points in the natural climate systems should be countered by a focus on tipping points in political, legal, economic, social and cultural systems. Effective philanthropic strategies for tipping points call for more investment in systems thinking, the facilitation and broadening of stakeholder ecologies, and thought leadership on hard choices. Addressing the deeper layers of society simultaneously makes the climate challenge more relevant and more all-encompassing. This calls for leadership where new ideas can provide excitement and where new forms of interaction can build trust. This leadership needs to help navigate the complexity of the transition across ideological and interest divides.

While this constitutes a huge challenge, there is ample reason for hope. We find big variances in key emission drivers across EU Member States, across cities globally, across and within sectors and across consumer segments. These variances point at economically viable ways of decoupling growth from emissions. If everybody adopted current best practices and followed on exponential learning and innovation adoption curves, we would be able to reach a pathway that keeps us well below 2 degrees Celsius of warming. Put differently, envisioning and focusing (with practical implementation plans) on positive tipping points for the low-GHG transition, such as scaling up housing retrofits, clean infrastructure deals and financing circularity and the rapid decline of coal use provide robust hope that we can avoid the existential risks of climate change.

Following the Paris Agreement, all stakeholders need to face up to the challenges of implementation and address the dilemmas between long-term needs and short-term constraints in constructive ways. This also calls for an exploration of unknown change factors rather than simply a focus on known technologies, policy frameworks and politics.

A fundamental agenda-setting and momentum-building effort needs to turn the non-linear change factors and tipping points into self-fulfilling prophecies. The Paris Agreement should be seen only as a starting point for this process and not be misinterpreted as a complete agenda. The resulting iterative process of agenda setting, strategy refinement and momentum building will have to occur, to a large degree, on the national and sub-national levels of energy and industrial policies, city and regional planning, as well as through mobility reform.

In these complex transitions, we expect the ECF and our partners to be trusted thought leaders, coalition builders, watchdogs against inertia and corruption, mobilisers of the public and interpreters of the change dynamics.

We are grateful to our funders for enabling us to play these important roles.

CARBON OFFSETS

As in previous years, the ECF will compensate for the carbon emissions linked to its activities in 2016. In 2015 we compensated for a total of 500.31 tonnes of CO₂ equivalent.

KEY GRANTEES & PARTNERS



PUBLICATIONS

A perspective on Infrastructure and Energy Security in the Transition

Agora Energiewende, Artelys, Cambridge Institute for Sustainability Leadership, Climact, Element Energy, European Climate Foundation, Regulatory Assistance Project, Third Generation Environmentalism, WWF European Policy Office

Aligning Policies for Low-Carbon Systemic Innovation in Europe

Industrial Innovation for Competitiveness, Centre for European Policy Studies

Biofrontiers

European Climate Foundation, International Council on Clean Transportation

Ecological, Economic and Social Costs of Marine/Coastal Spills of Fuel Oils (Refinery Residuals)

Independent Marine Pollution Consultant (Tim Deere-Jones)

EEFIG (Energy Efficiency Financial Institutions Group) National Engagement Process

Climate Strategy & Partners, Deutsche Unternehmensinitiative Energieeffizienz, Econoler, Grupo de Trabajo Sobre Rehabilitacion, Institute of Environmental Economics, Vesta Conseil

Efficiency First: A New Paradigm for the European Energy System

ClientEarth, Climate Action Network Europe, European Climate Foundation, European Council for an Energy Efficient Economy, Friends of the Earth Europe, OpenExp, Regulatory Assistance Project, Smart Energy Demand Coalition, Third Generation Environmentalism

EU Effort Sharing After 2020: Review and Ratcheting Up EU Climate Targets

Ecologic Institute

Europe's Dark Cloud - How Coal-Burning Countries Are Making Their Neighbours Sick

Climate Action Network Europe, Health and Environment Alliance, Sandbag, WWF European Policy Office

Feeling the Heat: An Investors' Guide to Measuring Business Risk from Carbon and Energy Regulation

Cambridge Institute for Sustainability Leadership

Hinkley What If? Can the UK Solve its Energy Trilemma Without Hinkley Point C?

Energy and Climate Intelligence Unit

Implications of the Paris Agreement for Coal Use in the Power Sector

Climate Analytics

Key Features of Credible Energy Union Governance

ClientEarth

Klimaschutzplan 2050 der deutschen Zivilgesellschaft (German Civil Society Climate Protection Plan 2050)

Klima-Allianz

Managing Heat System Decarbonisation | Comparing the Impacts and Costs of Transitions in Heat Infrastructure

Imperial College London

More Security, Lower Cost: A Smarter Approach to Gas Infrastructure in Europe

Third Generation Environmentalism

Oil Market Futures

Cambridge Econometrics et al.

Policy and Investment in German Renewable Energy

Climate Policy Initiative

Proposals for Aligning Carbon Prices with the Paris Agreement

WWF France

Quelle Cohérence pour la France en 2016?

Réseau Action Climat France

Safeguarding Energy Security in South-East Europe with Investment in Demand-Side Infrastructure

Building Performance Institute Europe

Scaling Up Innovation in the Energy Union to Meet New Climate, Competitiveness and Energy Regulation

Cappgemini, Industrial Innovation for Competitiveness

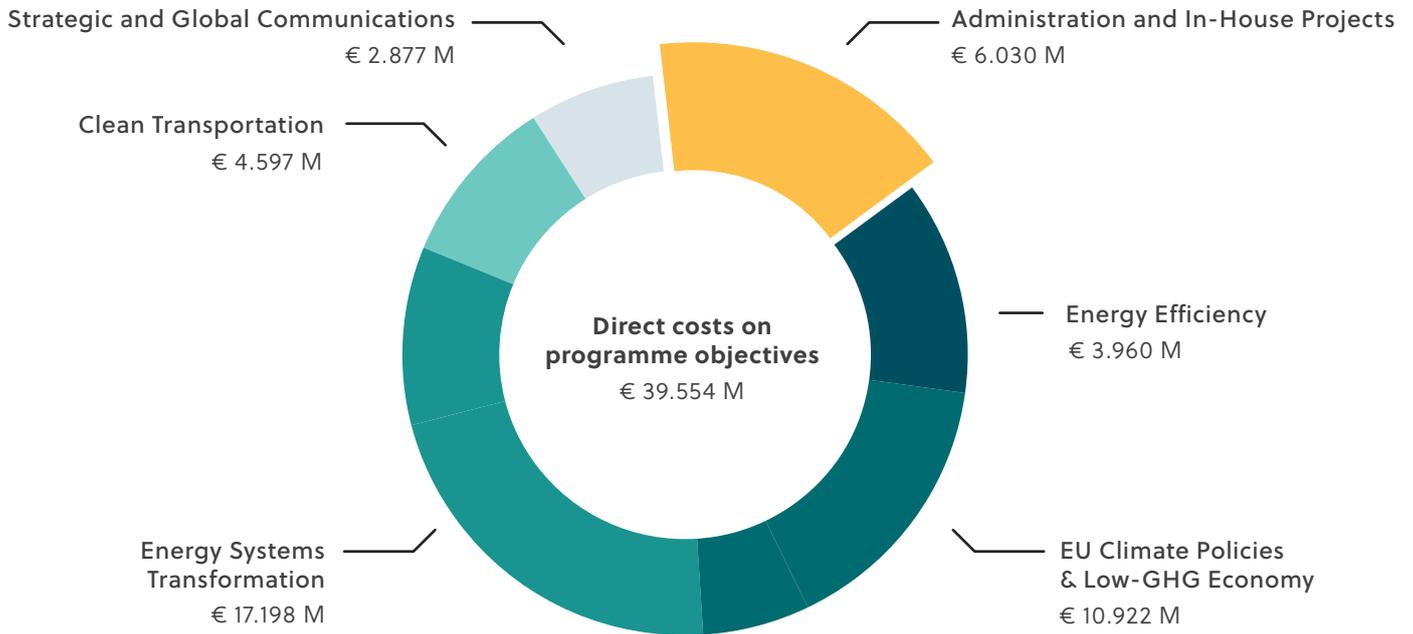
The Impacts of Arctic Shipping Operations on Black Carbon Emissions

Transport Emissions: Air Quality & Climate Consulting (Daniel Lack PhD)

The Power Market Pentagon

Agora Energiewende

FINANCIAL OVERVIEW



In 2016, the ECF made 612 grants totalling in 36 M to 380 grantees.

MAJOR FUNDERS

The ECF greatly appreciates the funding that supports our work and our charitable purpose of contributing to effective progress on the route towards a low-carbon society. In 2016, we were supported by a number of major funders working for climate and the environment, including those listed below.



Children's Investment Fund Foundation
United Kingdom
www.ciff.org



ClimateWorks Foundation
United States of America
www.climateworks.org



Good Energies Foundation
Switzerland
www.goodenergies.org



KR Foundation
Denmark
www.krfnd.org



McCall MacBain Foundation
Switzerland
www.mccallmacbain.org



Nationale Postcode Loterij
Netherlands
www.postcodeloterij.nl



Oak Foundation
Switzerland
www.oakfnd.org



The William and Flora Hewlett Foundation
United States of America
www.hewlett.org

Further information about the ECF's sources of funding is available on our website:
<https://europeanclimate.org/people/funders/>

STAY UPDATED

These selected websites and media outlets provide up-to-date and accessible information on climate and energy related issues in Europe and beyond.



Carbon Brief

www.carbonbrief.org

Latest developments in climate science and fact-checking on climate with particular focus on the UK media.



Clean Energy Wire

www.cleanenergywire.org

Briefing service committed to providing and supporting quality journalism about the energy transition in Germany.



Energy & Climate Intelligence Unit

www.eciu.net

Supports an informed debate on energy and climate change issues in the UK through accessible briefings.



Naukoo Klimacie

www.naukaoklimacie.pl

The most comprehensive and popular website promoting science-based knowledge about climate change to a Polish-speaking audience.



Transition Énergétique

www.transitionenergetique.org

A cooperation between French companies, professional associations, unions, communities, NGOs, associations and individuals who wish to inform on the impact of the energy transition on employment, environment, health and regaining control over energy sources.



Understanding the UN Climate Science Reports

www.cisl.cam.ac.uk/ipcc

Clear, concise summaries of the Fifth Assessment Report of the Intergovernmental Panel on Climate Change for business.



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