



IKEM

Annual Report 2021

Institute for Climate Protection, Energy & Mobility



Dear readers,

The effects of climate change are already disrupting life around the world. But the disasters we are experiencing today – from severe flooding in the Ahr valley to persistent drought in Berlin and Brandenburg – are only a taste of what we can expect in the coming decades. Now more than ever, we must focus all our efforts on combating climate change.

The COP26 summit in fall 2021 represented a step in the right direction. Delegates agreed to phase out coal-fired power generation, pledged to reduce subsidies for other fossil fuels, and reached a milestone in the development of international carbon markets by adopting Article 6 of the Paris Agreement. But despite these hard-won compromises, global warming is still expected to reach 2.7°C – far exceeding the 1.5°C target. That is why, at COP27 in 2022, we will renew our call for all countries to deliver on climate commitments.

In 2021, in addition to our work on the international stage, we advanced local-level initiatives to combat climate change, for example by expanding electromobility in Stockholm and green energy production in Berlin and Brandenburg. We participated in 87 research and practice-based projects that advanced the implementation of sustainable energy carriers, electric road systems, and new forms of public participation. We also laid the groundwork for innovative climate projects by founding the One Health Research Centre, an interdisciplinary research network dedicated to exploring the connections between climate change mitigation, health, and quality of life.

On a personal level, I am especially proud of IKEM's pioneering work this year in the field of climate law. This field is a vital research area not just for legal practitioners, but for everyone who is committed to combating climate change. A reliable legal framework is necessary to align activities in all spheres – from the economy to transport to the energy supply – with our climate goals. IKEM significantly expanded fundamental research in this area by creating *Klima und Recht*, the first law journal dedicated to a discussion of the field, and by establishing the IKEM Research Academy, a platform for academic exchange on a range of topics, from the principles of 'good' sector coupling to the use of arbitration in resolving climate-related legal disputes.

Of course, we don't act alone: our success in 2021 was due in no small part to the invaluable support of our strategic partners, contractors, project partners, and sponsoring organisations. On behalf of IKEM, I would like to thank each of you for your ongoing support. I would also like to express my gratitude to all those who contributed to our first end-of-year fundraiser, the '50 for 55' Campaign for the Energy Transition. Thanks to your generosity, we are more optimistic than ever about what we can achieve together in the years ahead.

At IKEM, the need for evidence-based approaches to climate change mitigation is what motivates us, this year and every year, to continue our essential work – to hold decision-makers accountable for climate commitments, to facilitate the implementation of emission-reducing technologies, and to broaden support for a sustainable energy system. Together, we can accelerate the progress of an energy and mobility transition that improves health and wellbeing, empowers communities to participate in decision-making processes, and preserves freedom of opportunity for future generations.



Prof. Dr Michael Rodi
michael.rod@ikem.de

Wildfires, droughts, floods – the effects of climate change are becoming more visible with every passing year.

Rising temperatures and extreme weather events are degrading the natural environment, worsening air and water quality, increasing the spread of certain diseases, jeopardising livelihoods, displacing people from their homes, and putting entire species at risk of extinction.

Without urgent action, these effects will only become more catastrophic in the coming decades.

THE CLIMATE CRISIS

THE CLIMATE OPPORTUNITY



At IKEM, we believe that the transition to sustainability presents a one-of-a-kind opportunity for large-scale change.

By shifting to a low-carbon energy system, we protect the environment. But that's not all: we also improve quality of life, create new jobs, increase energy security, revitalise public spaces, reconnect society with the natural world, and build stronger, more resilient communities.

Our mission

For over 10 years, IKEM has conducted ground-breaking research on climate change mitigation and the transition to low-carbon energy and mobility systems. Our work facilitates the development of a legal, political and economic framework that achieves measurable reductions in carbon emissions and encourages broad public participation.

Our goal is to accelerate the transition to a climate-neutral energy system, enable evidence-based policy decisions and promote long-term development that is environmentally, economically and socially sustainable.

'We need a holistic perspective'

Interview with IKEM managing directors
Susan Wilms and Dr Simon Schäfer-Stradowsky

A lot of things changed in 2021, but the coronavirus stuck around! How did IKEM respond to the pandemic in 2021?

of the warm summer days to get together outside the digital sphere. These were important meetings for the cohesion at IKEM. Because even though lockdowns and contact restrictions haven't hit us as hard this year, we didn't get through the pandemic entirely unscathed.

Simon Schäfer-Stradowsky: By 2021, dealing with corona had become routine for us. No one had to learn what Teams or Zoom was or what to do or not do in online meetings. We learned how to deal with the new rules and requirements. Of course, the pandemic continued to present us with many challenges, but we were able to solve them thanks to the excellent work of everyone at IKEM. So, despite everything, 2021 turned out to be a very productive year for us.

Susan Wilms: By the time a second 'corona summer' rolled around, we knew what we'd be facing in the fall and winter. That's why we took advantage

What are your main takeaways from the past year?

is why we always need to have a holistic perspective. That's what science can provide. We pursued this idea in 2021 at the Venice Biennale and COP26 in Glasgow. We also founded the One Health Research Centre together with the University of Greifswald and the Therme Group. At the centre, we're investigating how human wellbeing, a healthy environment, and climate change mitigation can fit together.

We were excited to see so many new faces at IKEM in 2021! Do you expect the institute to continue to grow?

Susan Wilms: We've grown a lot over the past few years, and now we'd like to enter a phase of consolidation. We want to retain our excellent employees, and we're investing in their professional development. We're also working on new structures for the teams that have grown, which will be organised into specialised departments in the future.



Dr Simon Schäfer-Stradowsky
simon.schaefer-stradowsky@ikem.de



Susan Wilms, LL.M
susan.wilms@ikem.de

What issues will IKEM tackle in the years ahead?

Susan Wilms: This may sound unbelievable to us here in Germany, but water will be a central theme for IKEM in the future. We can contribute our expertise on this issue, especially in the context of water protection and water law. And the interaction between water and climate change is an exciting area of research and is especially relevant in this part of Germany, where water scarcity is increasing.

Simon Schäfer-Stradowsky: Hydrogen, especially green hydrogen, is currently the talk of the town, and rightly so. Here at IKEM, we're involved in many projects in close cooperation with our strategic partners BBH, ENERTRAG and HH2E. We're also continuing to look closely at the heat transition – it's a key topic for IKEM's research and was even the subject of my own dissertation. We have direct contact with developments on the ground on that issue thanks to the IKEM Wärmewende Forum and our close collaboration with our partner Viessmann.

Susan Wilms: We also want to further strengthen fundamental research at IKEM, which is the role of the Research Academy. To this end, we've established a research training group for doctoral students. Since January 2022, IKEM has been publishing the journal *Klima und Recht*, which will track developments and help shape the field of climate law. We'd like this to give fresh momentum to the issue of climate lawsuits, and we plan to spearhead an initiative that will build a European network of scientists and other stakeholders in this field.

What do the results of Germany's recent elections mean for climate change mitigation – and for IKEM itself?

Susan Wilms: One result of the election is that the federal government now has a member of the Green Party leading the ministry for the economy and the climate. We're very excited about what lies ahead – and the new administration has already taken promising steps, such as launching the Immediate Climate Action Programme. The revision of the hydrogen strategy and the increase in the share of renewables in electricity generation are topics that are especially relevant to us here at IKEM. We're looking forward to the next steps and hope that the energy transition will pick up speed.

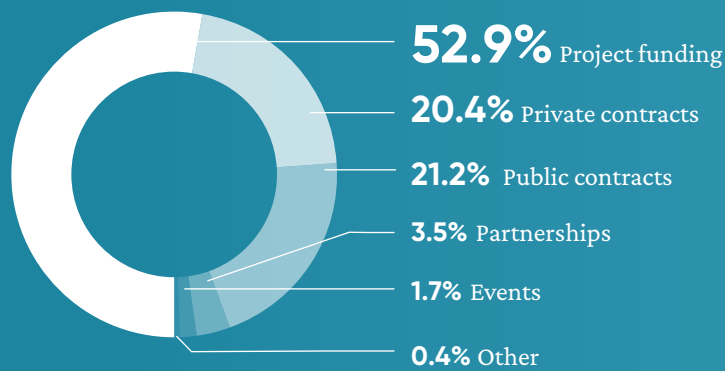
Simon Schäfer-Stradowsky: I sensed a new spirit of optimism after the election. The constellation of environmentalism, liberalism and social solidarity is a very interesting one, and I think a lot can come out of it. There are also significant developments at the EU level and in other Member States that could really accelerate the energy transition over the coming decade.

Financial overview

01

Income

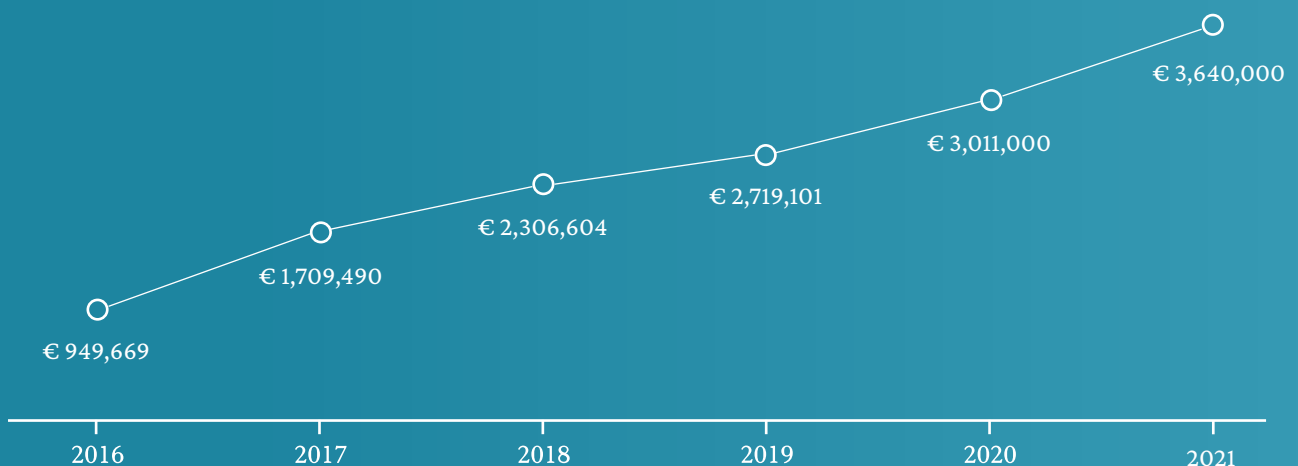
IKEM finances its research primarily through project grants. These are awarded through national and European funding programmes (52.9%) and/or made available through public (21.2%) and private contracts (20.4%).



02

Turnover

In financial year 2021, IKEM's turnover rose to around **€3.64 million**.



03

Expenses



62.2%
Personnel
(Projects)



10.6%
Materials &
supplies



7.1%
Administration



13.7%
Subcontracts
(Funding programmes)



4.4%
Other



1.5%
Events

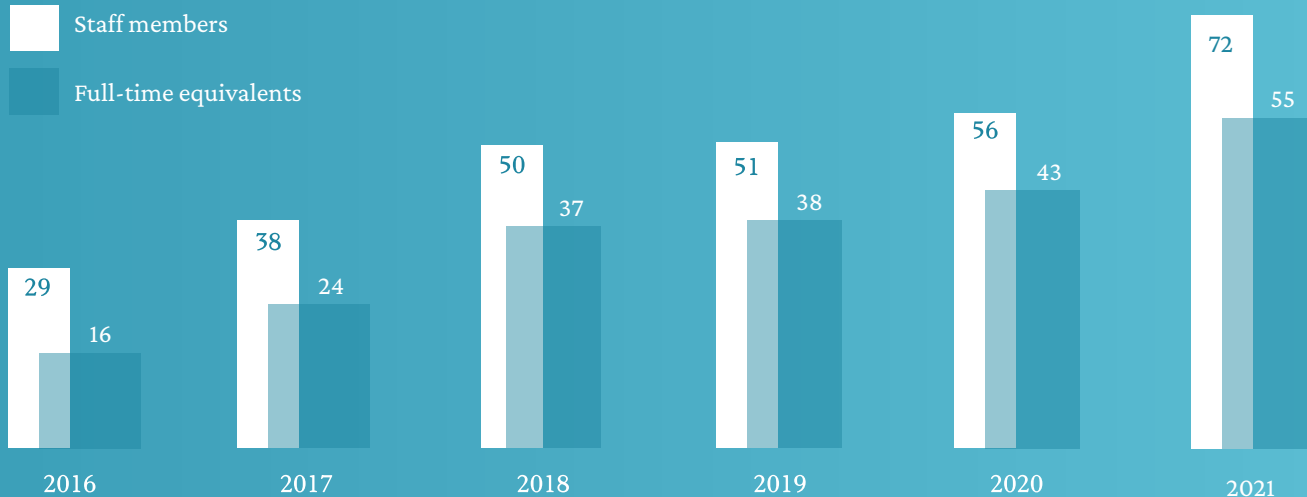
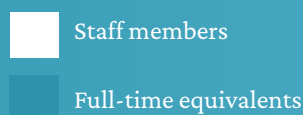


0.5%
Travel
expenses

04

Personnel

As of the end of 2021, IKEM employed **72 staff members**, corresponding to approximately **55 full-time equivalents (FTE)**.



Board of Directors

IKEM is registered as a non-profit association in the Register of Associations at Stralsund District Court (VR 4972). In 2021, the members of the Board were:



Prof. Dr Michael Rodi
Director and Chair



Prof. Christian Held
Deputy Chair



Dr Friedrich-Wilhelm Hagemeyer
Treasurer

Advisory Board

IKEM's Scientific and Strategic Advisory Board is composed of distinguished individuals from academia, politics and non-governmental organisations. The Advisory Board provides input on research activities and makes recommendations regarding IKEM's thematic orientation and strategic plans. In 2021, the members of the Scientific and Strategic Advisory Board were:

Prof. Christian Held
Chair

Dr Camilla Bausch

Prof. Dr Thorsten Beckers

Dr Volker Bühner

Dr Olaf Däuper

Dr Christian de Wyl

Prof. Dr Dörte Fouquet

Manfred Greis

Anders Hedenstedt

Prof. Dr Michael Mehling

Jörg Müller

Prof. Dr Joachim Müller-Kirchenbauer

Sabine Nallinger

Udo Onnen-Weber

Dr Friedbert Pflüger

Prof. Dr Barbara Praetorius

Dr Rudi Rienzner

Prof. Dr Michael Sauthoff

Mikolaj Sekutowicz

Prof. Dr Rainer Speh

Dr Juliane Thimet

Jürgen Trittin

Prof. Dodo Vögler

Dr Manfred Vohrer

Alexander Voigt

Support IKEM

Climate change is the greatest challenge of the 21st century, and the next few years will determine the course of our shared future. Together, we can chart a path towards a more sustainable, more prosperous and more just world.

Our research informs policy decisions, accelerates the transition to sustainability and advances bold strategies to meet the challenges of a changing climate. Donors like you make our work possible.

Contact

Dr Simon Schäfer-Stradowsky
Managing Director

T +49 (0) 30 408 18 70-21
M +49 (0) 151-149 190 41
simon.schaefer-stradowsky@ikem.de

Account details

IBAN: DE28430609671227180100
BIC: GENODEM1GLS
(GLS Gemeinschaftsbank eG)

IKEM is a non-profit organisation.
All contributions are tax-deductible.

Thank you for your support!

Strategic Partners

IKEM works closely with its Strategic Partners, who support the scientific work of the institute and participate in joint research projects. In 2021, IKEM's Strategic Partners were: Becker Büttner Held (BBH), Becker Büttner Held Consulting (BBHC), ENERTRAG, HH2E, Kisters, Therme Art and Viessmann Germany.





Research Academy

Future generations will experience the most severe effects of climate change. We're preparing tomorrow's climate researchers for the challenges ahead.

The researchers on our team release publications, organise events, and build networks with national and international institutions to advance fundamental research on climate law. We also promote

innovative research by young scholars and create a forum for academic dialogue on legal, political and economic issues related to climate change.



Greta Reeh
greta.reeh@ikem.de



Roman Weidinger
roman.weidinger@ikem.de

Support for young researchers

We support researchers who are writing their doctoral theses on topics related to climate law. The Research Academy offers opportunities for future researchers to obtain funding, publish their work and participate in academic enrichment activities, including public doctoral seminars. In addition, we facilitate collaboration and networking between doctoral students at IKEM.



National and international networking

In collaboration with renowned researchers from across Germany, we have established a research training group (Graduiertenkolleg) on climate law. IKEM works closely with researchers from external institutes and is committed to expanding international academic networks in the field of climate protection. IKEM aims to build a network for international research on climate protection and climate law, with a focus on strengthening such connections within Europe.



Publications

Dr Schäfer-Stradowsky, Simon: Das Recht der erneuerbaren Energien zur Wärmeversorgung des Gebäudesektors. **Rechtliche Prüfung der Rahmenbedingungen des Einsatzes von Wärme aus erneuerbaren Energien in Gebäuden sowie der Weiterbildungsmöglichkeiten zur Erfüllung der Klimaschutzziele Deutschlands.** Springer Vieweg. 2021.

Rodi, Michael: **Stärkung des ÖPNV durch verbesserte Planungs- und Finanzierungsstrukturen**, in: Matthias Knauff (Hrsg.), ÖPNV als Bestandteil und Gegenstand der Verkehrswende Baden-Baden (Nomos) 2021, pp. 129 - 151.

Allolio, Friederike; Kärn, Judith; Kalis, Michael; Miller, Kate; Weidinger, Roman: **Sustainable Cities.** IKEM Working Paper, 2021.

Köhler, Benjamin; Bürger, Veit; Weidinger, Roman; Doderer, Hannes, Schäfer-Stradowsky, Simon; Tänzler, Dennis: **Strategische kommunale Wärmeplanung.** Ariadne-Analyse. 2021.

Climate law publications

We conduct pioneering research with the goal of establishing climate law as an independent field of inquiry. Our publications contribute to the growing body of scholarship on the topic and provide an academic foundation for the emerging field. The *IKEM Schriftenreihe* book series contributes to academic and public dialogue on climate law; the first volume in the series was released in 2021. *Handbuch Klimaschutzrecht*, slated for publication in 2022, will serve as a reference for researchers. Beginning in January 2022, academic articles on climate law will appear in monthly issues of *Klima und Recht*, the first law journal dedicated to an analysis of the topic.



IFZO

The Interdisciplinary Research Centre Baltic Sea Region (IFZO) at the University of Greifswald analyses social, political and economic issues that influence the potential for cooperation and conflict in the Baltic Sea Region. IKEM's research for the centre focuses on legal and socio-political questions related to the energy transition.



In 2021,

10 young doctoral candidates

worked on their dissertations at IKEM, advancing research on topics ranging from the heat transition to climate-neutral shipping to the allocation of public space for mobility-related uses.





Mobility

Innovations in sustainable mobility can revolutionise the way we travel and transport goods. These technologies are advancing quickly – and laws are struggling to keep up.

Our research team explores strategies to increase sustainable mobility options for pedestrians and cyclists, public transit users, and drivers of private and commercial vehicles. We identify legal obst-

acles and develop recommendations to increase energy efficiency, reduce emissions from transport, improve infrastructure connectivity and optimise the use of public space.



Benjamin Grosse
benjamin.grosse@ikem.de



Matthias Hartwig
matthias.hartwig@ikem.de



Friederike Pfeifer
friederike.pfeifer@ikem.de

Automated driving scenario database

We're creating a database to track the impact of automated vehicles.

Legislation already permits higher levels of automation in road traffic. But until now, manufacturing companies, suppliers and researchers studying autonomous driving have lacked reliable data on road safety. IKEM is working with project partners to develop a central scenario database for information that can be used to analyse the effects of autonomous driving on traffic, road and environmental conditions. IKEM is also assessing the legal basis and other requirements for data collection – the first step in the database development process.

2020-2021

Federal Highway Research Institute (BAST)



HEAT

We're demonstrating that automated public transport minibuses can already operate in regular road traffic.

In the HEAT project, automated electric minibuses were integrated into local public transport in Hamburg's HafenCity. By testing vehicles under normal traffic conditions, researchers could assess the overall system performance and the feasibility of operating the vehicles on a routine basis. IKEM provided legal expertise throughout the project, in particular regarding the approval procedure for the automated minibus.

2018-2021

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMUV)



Publications:

Knezevic, Giverny; Grosse, Benjamin; Hartwig, Matthias: **Stromabrechnung in Elektrischen Straßensystemen (ERS)**, 2021.

Schäfer-Stradowsky, Simon; Martin, Bénédicte; Jäde, Paul; Eickelmann, Elias: **Richtlinien zur öffentlichen Beschaffung von Wasserstofffahrzeugen**, 2021.

Pfeifer, Friederike; Freiberger, Anne Rechtliche: **Rahmenbedingungen für die maritime Elektromobilität im Bootssektor**, ELMAR Marinaforum, 27 April 2021.

2020-2024

EU Commission – Horizon 2020

USER-CHI

We're developing smart solutions to expand European electromobility.

The USER-CHI project is designed to promote cross-border electromobility and introduce promising solutions on a trial basis in five European cities (Berlin, Rome, Budapest, Barcelona and Turku). The goal is to enable users of electric cars to charge their vehicles 'anytime and anywhere' in the future. IKEM's role in the project is to analyse technical and regulatory framework conditions, data management strategies and ethical monitoring practices. The project results will be integrated into a concept that includes recommendations for improved interoperability.



2020-2023

Federal Ministry for Economic Affairs and Climate Action

AMELIE 2

We're proposing legal changes to increase low-carbon options for freight transport.

The AMELIE II project examines potential measures to decarbonise freight transport. IKEM is contributing to the project by researching a stakeholder model for billing procedures that will facilitate the use of electric lorries powered by overhead contact lines. The institute is also developing proposals for a legal framework that takes into account the supply of electricity as well as other energy law challenges. IKEM's goal is to enable electric lorries to soon become a building block of the mobility transition.



In 2021, there was 1 public charging point available for every **23 electric vehicles.**

We're making electromobility more accessible by bringing more charging points online.





Energy Law

Flexible energy production can lower emissions and put power in the hands of consumers – but only if the right laws and regulations are in place.

Our research team proposes updates to the regulatory framework that will expand the use of renewables, conserve energy, promote sector coupling and increase opportunities for social participation.

Our work clears the way for the testing and implementation of innovations like green hydrogen, which can reduce emissions, lower household energy costs and create stable jobs in the renewable energy sector.



Hannes Doderer
hannes.doderer@ikem.de



Denise Held
denise.held@ikem.de



Judith Schäfer
judith.schäfer@ikem.de

HybridBOT

We're identifying promising methods of transforming and optimising district heating networks.

The transformation of the energy system will require innovative strategies to address natural fluctuations in renewable energy production. The HybridBOT project is investigating how electrical and thermal energy systems can be coupled and operated to benefit the grid. In the project, IKEM is identifying relevant stakeholders and analysing the legal conditions necessary to link the grid-bound heat sector (district heating) to the electricity sector.

2021-2025

Federal Ministry for Economic Affairs and Energy (BMWi)



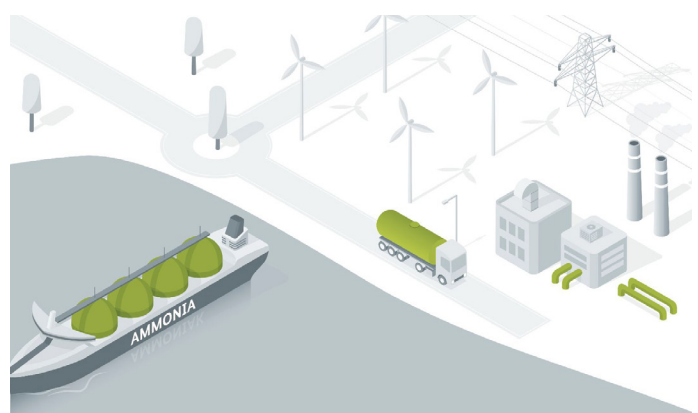
TransHyDE

We're advancing the use of ammonia as an energy carrier by improving the legal framework and increasing acceptance.

In the future, renewable energy carriers like hydrogen and ammonia will play an important role in the energy supply. The TransHyDE flagship project encompasses a variety of sub-projects designed to investigate transport options for these energy carriers. IKEM is contributing to the project by analysing legal requirements for ammonia production and transport, developing strategies to refine the legal framework, and examining approaches to increase public acceptance of such projects.

2021-2024

Federal Ministry of Education and Research (BMBF)



Publications:

Doderer, Hannes; Schäfer-Stradowsky, Simon, in: Graebig, Markus; Erdmann, Georg; Rogler, Niko; Uhlig, Ingo; Ellery Studio [Ed.]: StromNetzFluss – Ein Atlas unserer Stromwelt und ihres Wandels. WindNODE/Ellery Studio, Berlin. 2021.

Allolio, Friederike; Eschenhagen, Philipp; Miller, Kate; Schäfer, Judith; Mikolaj Sekutowicz, Strobel, Maximilian: Article 6.4 of the Paris Agreement and the private sector – Utilising the potential of private sector engagement through the Paris Rulebook

Antoni, Johannes et al.: Impulse für ein neues Energiesystem. 2021.

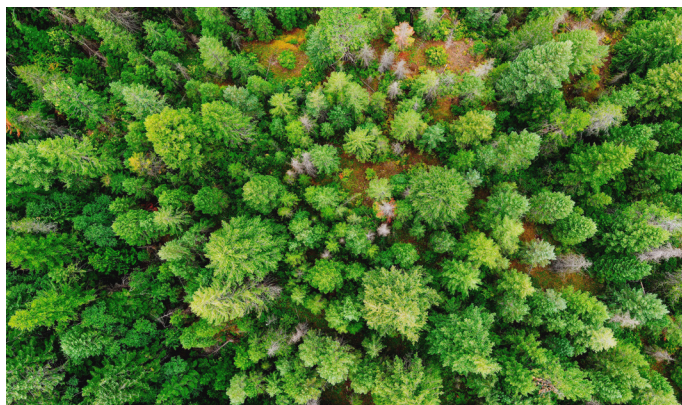
2021

Wissenschaftsplattform Klimaschutz

NETs in AFOLU

We're exploring opportunities for negative emission technologies in agriculture and forestry.

It will be virtually impossible to achieve the 1.5°C target set in the Paris Agreement without the use of negative emission technologies (NETs). NETs can remove carbon dioxide from the atmosphere and allow it to be used and stored. In a joint study with PIK and MCC, IKEM examined the international, European and national legal frameworks for NETs in the Agriculture, Forestry and Other Land Use (AFOLU) sector. The study found that NET regulation is incomplete, and IKEM proposed measures to address existing deficiencies. NETs can only benefit the climate if there's a coherent legal framework governing their use.



Since 2021

Therme One Health, University of Greifswald

One Health Research Centre

We're conducting research on the interactions between human health, animal health and the health of the environment.

The One Health Research Centre (OHRC) is a research hub that develops evidence-based approaches to benefit health, well-being and climate change mitigation. OHRC research projects are designed to maintain or restore environmental conditions that promote health. IKEM contributes to OHRC projects by conducting research on a range of topics, including environmental protection and climate change mitigation, resource efficiency, sustainable urban planning, sustainability standards, performance indicators for sustainability and climate measures, and methods to integrate such measures into climate finance strategies.



6.146 GWh of electricity

was lost in 2020 due to grid bottlenecks. We're advancing the integration of different sectors so that this energy can be used.





Sustainability & Innovation

The energy transition can only succeed with public support. We're working to bring everyone on board.

The shift to sustainability calls on all of us to rethink established patterns of behaviour and address the inequalities that leave certain communities especially vulnerable to the effects of climate change.

In the Sustainability & Innovation Department, we develop strategies to mobilise public support for the energy

transition. Our interdisciplinary research team explores innovative approaches to science communication, facilitates international dialogue on energy and climate issues, and examines structural constraints – from regional economic disparities to gender inequality – that limit opportunities for action.



Anika Nicolaas Ponder
anika.nicolaas-ponder@ikem.de

Just Transition Study

We're analysing success stories from structural transformations in coal regions around the world.

A 'just transition' is a shift away from fossil fuels that protects the environment while ensuring high-quality jobs and building community resilience. In the Just Transition Study, IKEM conducted interviews with stakeholders in coal regions around the world and analysed lessons learnt. Based on these findings, IKEM is developing a Just Transition Toolbox, which will provide practical recommendations and insight to support other regions affected by the coal phase-out.

2020 Federal Ministry for Economic Affairs and Energy (BMWi) SINTEG Programme



ENGAGE

We're demonstrating how social innovation can accelerate the energy transition.

Public acceptance is crucial to the success of the energy transition. In the ENGAGE project, IKEM is examining social innovations that can boost public acceptance by demonstrating the potential benefits of the energy transition. It is currently developing the Energiewende-O-Mat, which will enable members of the public to identify and support projects in their specific areas of interest.

2021-2024 Federal Ministry for Economic Affairs and Energy (BMWi)



Other department activities:

Gender Equality Workshop with Cultural Vistas

We held a workshop on best practices for women's rights advocacy in partnership with Cultural Vistas, an organisation that promotes global collaboration and exchange. Representatives of Ukrainian women's rights organisations attended the workshop, where we presented lessons learnt from the creation of EQT: The Gender Equality Toolkit for Working Women and Friends.

Facilitation of the Humboldt Communication Lab

The Humboldt Communication Lab brings together science researchers and journalists to share ideas on a selected topic. In 2021, Anika Nicolaas Ponder, head of the Sustainability and Innovation Department, moderated 3 sessions of the Communication Lab, which covered the topics of sustainability and social justice, the European Green Deal, and artificial intelligence and robotics.

Moderation of the Asia Talks webinar series

The Asia Talks webinar series, organised by the International Journalists' Programme (IJP), facilitates dialogue between experts and members of the public on Asia-related topics. We moderated sessions on a range of issues, including the effects of ongoing deforestation, efforts to reduce food waste in Japan, and the interconnections between climate change, conflict and social unrest in South Asia.

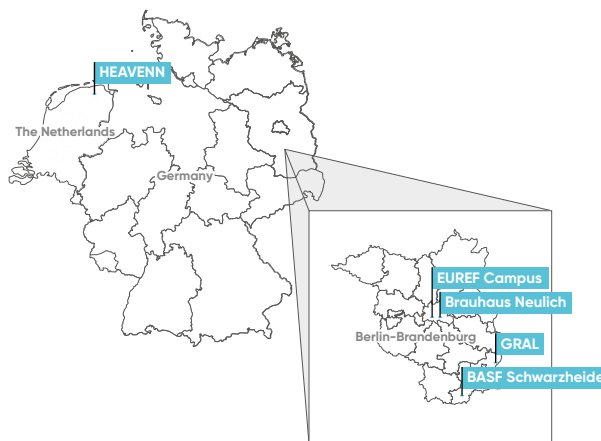
Regionaler Grünstrom Brandenburg-Berlin

We're laying the groundwork for a regional energy transition in Berlin and Brandenburg.

Promoting regional energy transitions can benefit suppliers and consumers by offering new revenue opportunities, increasing transparency about the origin of electricity, and reducing the need to expand grids across regional borders. IKEM initiatives like Lokale Energie facilitate the use of locally produced renewable energy to meet demand in Berlin and Brandenburg. In the Regionaler Grünstrom project, IKEM is investigating barriers to local energy innovation and developing proposals to further regionalise the energy transition.

2021-2024

European Regional Development Fund; Ministry of Economics, Labour and Energy of the State of Brandenburg; Brandenburg Economic Development Corporation (WFBB)



Gender equality

We're catalysing progress towards gender equality – a key driver of sustainable development.

Addressing a crisis like climate change requires an all-hands-on-deck approach. The gender pay gap, barriers to career advancement, and other structural disadvantages prevent women from fulfilling their potential and deprive the economy of much-needed talent and creativity. In 2021, IKEM took steps to address these inequalities by establishing the IKEM Gender Equality Working Group and creating EQT: The Gender Equality Toolkit for Working Women and Friends.

Since 2018



Around 90%
of the German population supports
the goals of the energy transition!

We're analysing the factors that influence public acceptance and developing innovative ways for citizens to participate in the transformation process.



Climate Finance & Energy Efficiency

Climate change is putting critical infrastructure at risk – and the funding available doesn't cover the costs of the necessary updates.

Our team examines strategies to mobilise capital for the energy transition and align investment structures with climate targets. We analyse adaptation strategies in different regions, identify success factors and facilita-

te the exchange of specialised knowledge. We also evaluate the potential benefits of energy efficiency, from cost savings for low-income households to economic growth across Eastern Europe and Central Asia.



Dr Aleksandra Novikova
aleksandra.novikova@ikem.de

EnPowerClimate

We're assisting municipalities with climate and energy management.

Municipalities have an important role to play in the energy transition, but many municipal administrations lack the technical and coordinative capacities necessary to implement key measures. IKEM is assisting municipalities in Slovakia and Czechia in the development of climate and energy management systems. These systems provide a structured framework for monitoring municipal energy consumption and improving energy efficiency.

2020-2022

European Climate Protection Initiative



SNAPFI

We're facilitating the implementation of Nationally Determined Contributions.

IKEM is investigating the interaction between climate goals, climate finance and Nationally Determined Contributions (NDCs) by analysing NDC implementation in Brazil, the EU, India, Indonesia and South Africa. The results of these comparative analyses will enable decision-makers to select efficient measures to reduce greenhouse gas emissions and strengthen development policies in the project countries.

2019-2023

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU); International Climate Protection Initiative.



Publications:

Novikova, A., Olshanskaya, M., Karras, J., Balsiūnaitė, R. et al. 2021. Banking on a brighter future: recommendations for more sustainable investment flows. Climate Finance Week brief series. Berlin: Institute for Climate Protection, Energy, and Mobility.

Olshanskaya, M., Novikova, A., Hoppe, J., Grigoryan, E. 2021. Evaluating the fiscal and environmental efficacy of debt-for-climate swaps: Using global case studies to derive recommendations for countries of Central Asia and the Caucasus. Working paper. Berlin: Institute for Climate Protection, Energy and Mobility (IKEM).

Eichenauer, E., Irmisch, J., Ulrich, P., Damerau, U., Karras, J., Langenhorst, T., Novikova, A. 2021. Regionale Energiewendeszzenarien und Verflechtungsbeziehungen in Berlin und dem Landkreis Spree-Neiße. Report completed as part of the project 'ESRa – Energiewende im Sozialen Raum'.

2021-2021

Federal Ministry for Economic Affairs and Climate Action

Energiewende im Sozialen Raum (ESRa)

We're developing economic strategies for a socially just energy transition.

In the Energiewende im Sozialen Raum (ESRa) project is using Berlin and the SpreeNeisse district of Lusatia (Brandenburg) as case studies to identify why certain regions stand to gain more than others from the energy transition. Researchers will use the results of this research to develop strategies for more equitable, socially responsible transition processes. IKEM's primary role in the project is to identify financing options and regulatory proposals that will advance energy system transformation in Berlin and Lusatia. IKEM is also examining findings from case studies for potential applications within the ESRa project.



IPCC - Sixth Assessment Report

We're making a decisive contribution to the IPCC Assessment Report.

The Intergovernmental Panel on Climate Change (IPCC) will publish its Sixth Assessment Report in April 2022. The report summarises the most up-to-date findings on climate change and provides recommendations for international decision-makers. For the second time, Dr Aleksandra Novikova is serving as a lead author of the report. In chapter 9 of the assessment, she examines the role of the building sector in reducing greenhouse gas emissions.



For her work on the Sixth Assessment Report, Dr Aleksandra Novikova cited more than

1,700 references

& responded to some 2,500 comments from expert reviewers.



Events

COP26

IKEM advocated for sustainable cities at the climate conference in Glasgow.

In early November 2021, the world turned its attention to the Scottish city of Glasgow, where delegates from nearly 200 countries gathered at the COP26 international climate conference. At the top of the agenda this year were negotiations on Article 6, the section of the Paris Agreement that establishes an international market for carbon trading – and the only part of the ‘Paris Rulebook’ that remained unresolved.

Ten IKEM representatives attended this year’s COP, where they participated in several side events on sustainable cities. Alongside other experts from around the world, IKEMers shared insights on innovative, holistic approaches to increase sustainability and improve quality of life in urban areas, which currently account for around 70% of global greenhouse gas emissions.

As part of **Climate Law & Governance Day** on 5 November, IKEM’s director, Professor Dr Michael Rodi, chaired a session on the design of sustainable cities, focusing on the regulatory frameworks needed to accelerate urban decarbonisation. Topics ranged from property law and appliance regulations to the creation of urban forests and other nature-oriented solutions for more liveable cities. At the event, mayors, legal experts and other stakeholders discussed best-practice examples.

On 6 November, IKEM hosted the **Net Zero Climate Law & Governance Side Event** in cooperation with the Centre

for International Sustainable Development Law (CISDL), Asociación Ambiente y Sociedad (AAS) and Centro Alexander v. Humboldt. At the event, climate law and governance experts from around the world discussed approaches to ratchet up transparency, compliance and am-



ing City’ envisioned by Therme Group. ‘Decarbonising urban transport systems is important, but it’s not enough,’ he said. To fight climate change, ‘we need holistic approaches like the 15-minute city that combine mobility and energy with urban planning, health and liveability.’

On 10 November, IKEM demonstrated what the abstract concept of ‘urban sustainability’ might look like on the ground. Working with Therme Art, the Sustainable Urbanisation Global Initiative (SUGi), and Balornok Primary School, IKEM planted a ‘pocket forest’ in Glasgow’s Broomfield Park. The newly planted trees provide a biodiverse environment where hundreds of species of plants, animals and fungi can flourish. The final event featuring IKEM was the **Climate Justice, Risk, and Wellbeing Roundtable** on 11 November, which was hosted by the COGITO Epistemology Research Centre. Rodi participated in the session alongside professors from the Philosophy departments of the Universities of Edinburgh and Glasgow. The discussion centred around theoretical issues associated with climate risks and opportunities.

Reflecting on COP, Judith Schäfer, head of the Energy Law Department at IKEM, remarked on the ‘spirit of optimism’ at the event. ‘Considering the complexity of the topic and the sheer number of participants, any outcome is already an achievement,’ she said, although she had hoped that industrialised countries would ‘assume greater leadership in financing climate change mitigation efforts in developing and emerging countries.’

Still, COP26 represents a significant step towards a sustainable future – and IKEM was honoured to play a role in this process.

IKEM Managing Director Dr Simon Schäfer-Stradowsky participated in the **Collaboration in Sustainable Transport** panel, hosted on 9 November by IKEM partner Voi Technology. He discussed various urban planning concepts, including the concept of the ‘15-minute city’, which was developed in Paris, and the ‘Wellbe-

Climate Law

IKEM Annual Conference

Experts in economics, law and the social sciences gathered at IKEM's Annual Conference 2021 in Greifswald to discuss the new field of climate law. A key takeaway from the conference was that climate action requires a holistic approach, because climate change affects every aspect of life. Climate law responds to this need for comprehensive action by integrating two priority areas – climate change adaptation and climate change impacts – into one field.



Professor Michael Rodi, executive director and director of research at IKEM, addressed the development of this field in his opening remarks. So far, the field has lacked a definitive reference on the topic, he said. 'That's the idea behind our new handbook on climate law, *Handbuch Klimaschutzrecht*. For the book, we worked with around 40 authors to map out the entire field of climate law.' Rodi pointed to this topic as a crucial gap in legal training. 'Climate law and energy law are not part of the traditional law curriculum,' he said. 'We want to change that, which is why we'll create a course of study on this topic over the next few years.'

Dr Michael Mehling, a professor at the Massachusetts Institute of Technology (MIT) and the University of Strathclyde School of Law, followed Rodi's opening speech with a presentation on developments at the international level. After providing a general overview of international climate law, he discussed his expectations for COP26 in Glasgow. Head-

ing into the conference, the status of climate efforts is clear, he said: 'the vast majority of parties are not doing their fair share to mitigate climate change and comply with the Paris Agreement.' He noted various obstacles to more aggressive action, describing some of these as political – such as disputes over Article 6 of the Paris Agreement – and others as largely technical, such as the role of market mechanisms in mitigation efforts.

Professor Claudio Franzius of the University of Bremen observed that climate law is intertwined not only with other disciplines, but also with other fields of law. 'It's no longer possible to clearly distinguish between international law and national law,' he said. 'The differences between EU and international law are also starting to blur.' Nevertheless, Franzius argued, states can – and should – move forward unilaterally on climate change mitigation, without waiting for binding requirements to be imposed under international law. If states wait to act, he said, they are either naïve or attempting to stall progress on climate change.

Professor Michael Sauthoff, a member of the IKEM Advisory Board and a retired president of the Higher Administrative Court and Fiscal Court, spoke about the influence of climate law on construction planning law and related decision-making processes. He described the central role of municipalities in mitigation efforts and outlined the many options available to them in the context of planning law and regional planning. Local governments need the capacity to imple-

ment these options, he said, adding that 'the capacity is not always available' in certain areas, including Berlin.

The final panel included **Lukas Benner** (Member of the German Bundestag, Green Party), **Lea Nesselhauf** (German-Zero), **Dr Olaf Däuper** (BBH), **Robert Kauert** (Stadtwerke Greifswald) and **Jens Christensen** (ENERTRAG), who discussed concrete measures and targets for climate change mitigation in Germany. 'If we set a goal to be climate neutral by 2035, that would be a goal based on science – and one that doesn't need to be constantly changed and adapted,' said Nesselhauf in a discussion of Germany's target date for climate neutrality. The focus is different at the local level, said Kauert. 'As a municipal utility, we don't look at long timeframes, but at what the legal framework will allow,' he said. If the legislature took local circumstances into account, there would already be significant progress in this area, he argued: for example, if wind turbines were not shut down, Greifswald could produce a large portion of its heat through power-to-heat processes.

It was clear from IKEM's Annual Conference that climate law is an important subject at local, national, European and international levels – not only to scientists, but also to representatives of business, politics and civil society. The conference highlighted this wide-ranging significance and made a crucial contribution to the topic by sketching out the contours of the emerging field.



Green Recovery

18th IKEM Academy

IKEM Academy reflects IKEM’s commitment to knowledge transfer and international exchange. From 27–29 July 2021, more than 100 participants from 40 countries shared ideas on a crucial question: how can decision-makers design coronavirus recovery measures to be sustainable and socially just?

As in past years, IKEM Academy speakers and participants included researchers, decision-makers and representatives of industry and civil society. Although IKEM

typically hosts the event in person at locations in Berlin and Greifswald, participants joined this year’s conference by logging on to an online platform.

Anika Nicolaas Ponder, who has managed the Academy since 2011, explained that the virtual event had certain advantages. ‘The situation had a silver lining,’ she said. ‘Because of our transition to the digital format, we didn’t have to limit the size of our audience, which meant we were able to welcome more participants than ever.’

Experts delivered presentations on a range of topics, including decarbonisation strategies for rural areas in the US, gender-equitable economic models in Georgia, ‘just transitions’ to sustainability in coal regions, and the potential for sustainable finance tools and technological advancements in ammonia and hydrogen to help meet national and international climate targets.



2021

Climate change at a crossroads

opportunities and challenges for a global green recovery

DAY 1

Tuesday
27 July 2021
09:45 –17:30 GMT+2

Challenges and opportunities for just transitions around the world



DAY 2

Wednesday
28 July 2021
10:00–17:00 GMT+2

Financing the green recovery and investing in the future



DAY 3

Thursday
29 July 2021
10:00–17:00 GMT+2

Ensuring a sustainable future for cities, land and seas



Klima und Recht (KlimR)

IKEM to release the first specialised journal on climate law

Beginning in January 2022, IKEM will publish the monthly law journal *Klima und Recht* (Climate and Law, KlimR) in cooperation with the publisher C.H.BECK. The publi-

cation is the first law journal dedicated entirely to the emerging field of climate law. Professor Dr Michael Rodi and Dr Simon Schäfer-Stradowsky are the editorial directors; editors include IKEM employees and 10 external reviewers.

Klima und Recht will interest readers in the legal field and beyond: it takes an interdisciplinary approach to the subject of climate law, and each issue includes practice reports and opinion articles as well as legal essays. The journal also provides new perspectives on the practical challenges of climate change. These topics are relevant to readers in business and industry, as well as to representatives of environmental agencies, clubs and associations, and those who engage with related issues in the political sphere.

At both the national and international level, the topic of climate change is taking on greater significance in legislation and in legal theory. Courts at all levels are expected to rule on a number of climate-related lawsuits in the coming months. The field of climate law encompasses more than just climate change law: it also includes climate impact law and climate adaptation law. The new journal tracks the evolution of this field and supplies information on all legal aspects of climate change.



Climate action and sustainability at IKEM

IKEM is committed to mitigating climate change – not only by developing legal, economic and political strategies to reduce emissions, but also by integrating sustainability into all aspects of our day-to-day operations.

In line with the UN Sustainable Development Goals, we aim to reduce greenhouse gases, expand renewable energy production and promote climate-friendly urban development. We strive to advance these goals in our own organisation by minimising or preventing greenhouse gas emissions from our activities.

Among other climate-friendly practices, we purchase 100% local green electricity from Stadtwerke Berlin, substitute digital meetings for business trips whenever possible, and reduce plastic waste by providing our employees with reusable drinking bottles. We also encourage sustainable commuting by subsidising the use of public transit and company bikes through the JobRad programme.

Still, greenhouse gases are emitted in the course of IKEM's activities, for example from business travel, energy consumption in our offices, printed documents and office supplies. We estimate that, despite our efforts to minimise our carbon footprint, IKEM's business operations emitted around 260 tonnes of CO₂ equivalents in 2021. These emissions are at least partly offset by our projects to mitigate climate change, and we intend to take compensatory measures to offset our remaining emissions in the coming years.

We also invest in the social sustainability goals by implementing policies that promote diversity, equality, health and wellbeing. For example, unlike many other research institutes, we typically offer

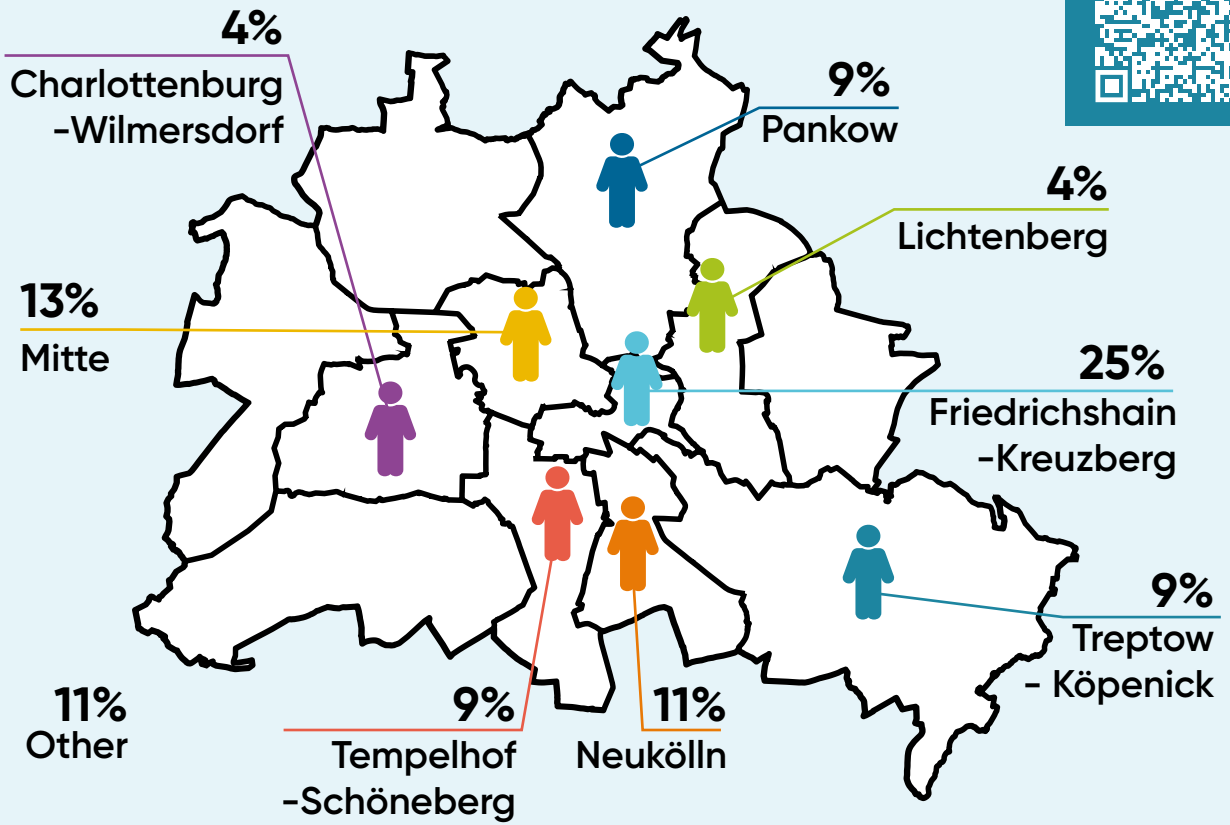
permanent contracts, and as a family-friendly employer, we provide for flexible work arrangements, including the ability to work from home. We also offer women and men equal opportunities for promotion and have achieved gender balance in managerial roles. Employee representatives and a Gender Equality Officer facilitate IKEM's organisational development, including in the context of working conditions and equal rights. These policies cultivate an inclusive, creative and collaborative workplace environment.

I live in this part of Berlin:

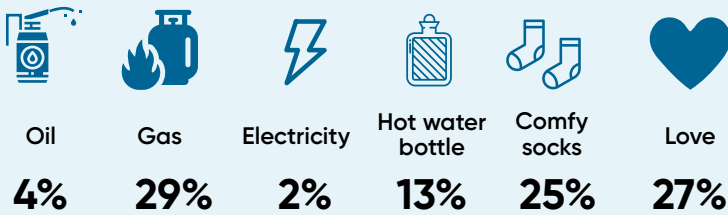
Scan me and listen



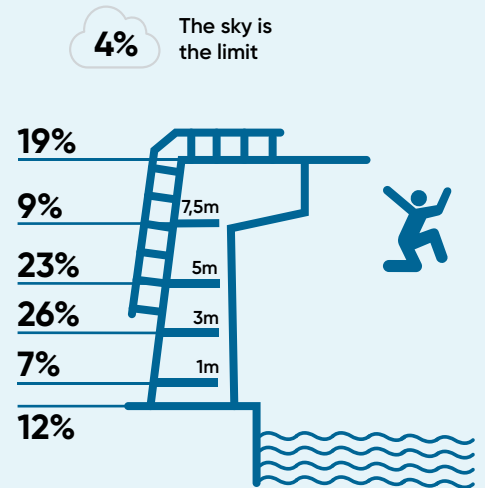
to our playlist



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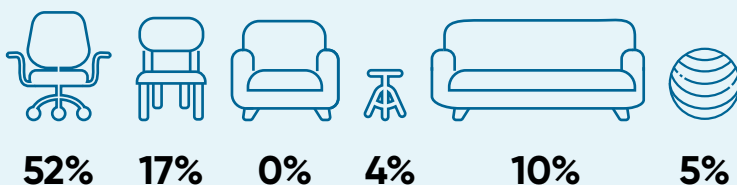
My diving record is:



I wear:



When I work, I generally sit on:



My coffee cup must always stand:



IKEM
Institute for Climate Protection,
Energy & Mobility

Magazinstraße 15 – 16, 10179 Berlin
Tel.: +49 (0)30 / 4081870-10
Fax: +49 (0)30 / 4081870-29

info@ikem.de
www.ikem.de

IKEM

