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Climate and energy partnerships and energy dialogues

2023 annual report

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Preface

Dear reader,

We are living in changed geopolitical times. Wars and conflicts are posing a danger to our order of freedom and security. Since Russia launched its war of aggression against Ukraine, the focus in Germany has been on energy security. We have succeeded in rapidly reducing our unilateral dependence on Russian energy supplies, also thanks to the support from our partners. We have been opening up alternative supply channels – our international climate and energy partnerships and energy dialogues have played an important role in this.

To date, the Federal Government has launched more than 30 climate and energy partnerships and energy dialogues. In 2023, we concluded three new cooperation agreements, namely with Argentina, United Kingdom and Uruguay. In the context of these partnerships, we are sharing successful tools to implement the Paris Climate Agreement, funding and supporting joint projects in the fields of energy efficiency and renewable energy, and working on the establishment of a sustainable hydrogen value chain.

This annual report focuses on the specific results and impact of the climate and energy partnerships and energy dialogues. The details of the impact show how we have been tackling the major challenges of our time and working on solutions. This type of cooperation and partnership is indispensable for us to be able to implement the global energy transition and master the climate crisis.

The energy and climate partnerships have helped to build trust, in some cases over many years. This is also very important for the multilateral fora: the G7 and G20, the International Renewable Energy Agency (IRENA) and the International Energy Agency (IEA), and in particular for the UN Climate Change Conference (COP). We need the partnerships to attain their goals – especially to triple the share of renewable energy, to double energy efficiency and to transition away from fossil fuels worldwide.

Germany wants to reach carbon neutrality by 2045 and is on the right track for this. The modernisation and expansion of our energy infrastructure is making rapid progress. Renewable energy already accounts for more than 50% of German electricity supply and at the same time reduces our dependence on fossil fuels.

This report shows how Germany is building on international cooperation and fair partnerships. Hydrogen in particular has potential for global production. The ramp-up of the global hydrogen economy and close cooperation with our partners will enable us to replace trade in fossil fuels worldwide with renewable energy. This opens up new scope that is crucial for our energy transition and strengthens global energy security.

Yours,

Dr Robert Habeck
Federal Minister for Economic Affairs and
Climate Action

A future of strong partnerships

2023 was an important year for the global energy transition. Not only did Europe solidify its energy security by moving away from Russia's energy supplies amid its unprovoked war of aggression against Ukraine, but the world also witnessed the accelerated expansion of renewable energy. Germany's climate and energy partnerships, energy dialogues and hydrogen partnerships are some of its key instruments to foster the global energy transition in a secure, sustainable, and economically viable manner.

2023 was also a crucial year for global climate action. At the 28th UN Climate Change Conference (COP28), the international community of states committed for the first time to move away from fossil fuels, to tripling the global renewable energy capacity, and doubling energy efficiency measures by 2030. To achieve these targets, the Federal Government continues to collaborate with a growing network of partner countries in the form of bilateral climate and energy partnerships, energy dialogues and hydrogen partnerships.

A growing network of climate and energy partnerships

The Federal Government uses its partnerships to make climate neutrality a reality by 2045. Its growing network enhances the political dialogue on climate action and the energy transition between Germany and more than 30 partner countries worldwide. In 2023, new partnerships and dialogues were launched between Germany and Argentina, the United Kingdom, and Uruguay.

Germany's bilateral climate and energy partnerships, dialogues, and hydrogen partnerships aim to facilitate cross-border projects and international cooperation on the energy transition. Important dialogues are held on topics such as the ramp-up of the global hydrogen market, energy efficiency, and the expansion of renewable energies - also building on the strong expertise of German companies in tackling global climate challenges.

In an increasingly unstable international environment, it is important to work with reliable partners to share best practices and technologies, launch joint projects, and promote dialogue on climate and energy policy. This exchange is at the heart of Germany's growing network of climate and energy partnerships, dialogues and hydrogen partnerships. Various cooperation formats such as workshops, delegation visits, bilateral working group meetings, and large-scale events provide space for the exchange of perspectives, on challenges, and innovative solutions. These formats do not only involve governmental organisations, but also include academic institutions, the private sector, and civil society. Taking place in both digital and face-to-face settings, Germany's

partnerships foster a continuous discourse on the practical implementation of the energy transition, which cannot succeed if tackled solely on a national level.

Dialogue on energy transition, renewable energy and hydrogen

To decarbonise the world's economy, green hydrogen and the establishment of a diversified network of hydrogen import corridors to the European market play an increasingly important role in Germany's climate and energy partnerships, dialogues and hydrogen partnerships. For this reason, hydrogen is considered a cornerstone for the partnerships.

Other key pillars at the centre of Germany's climate and energy partnerships, dialogues and hydrogen partnerships are energy efficiency and the expansion of renewable energy. The continuous dialogue facilitated by the partnerships aims to develop favourable political frameworks for the swift expansion of renewables as well as concrete climate and energy projects in cooperation with Germany's partner countries and German companies.

Moreover, the increasing demand for critical raw materials that are necessary for the energy transition and the necessity of sustainable value chains across the globe are significant issues addressed in the framework of Germany's bilateral partnerships to enhance the EU's resilience and energy security.

Friends in need are friends indeed

The long-standing trust and effective working structures built by the bilateral partnerships serve not only to advance global climate goals and the energy market, but also to overcome other challenges with which Germany and its partner countries are confronted. Since Russia's invasion of Ukraine, it is the bilateral energy partnership with Ukraine that facilitates the protection of critical energy infrastructure and coordination of Germany's emergency aid to Ukraine. The Israeli-German Energy Partnership has allowed Germany to support Israel at critical times with expertise and emergency measures regarding the stabilisation of its energy system and the physical protection of crucial infrastructure.

Women in energy

The successful realisation of the energy transition requires the involvement of all stakeholders and demographics. Consequently, the inclusion of women as one of the world's largest populations is vital. Women bring a diverse skillset to the workforce in addition to fresh perspectives that provide new solutions to old challenges. Germany's partnerships support panel discussions, international networks, and mentorship programmes to bolster women's expertise, leadership skills, and visibility.

This past year has demonstrated how global collective action can drive progress in the energy transition. The climate and energy partnerships, energy dialogues and hydrogen partnerships give a fantastic testament to the vast potential of trusted cooperation and the transfer of knowledge. The following pages share selected impact stories from all partnerships. Thanks to their effective communication channels and well-established working structures, Germany's bilateral climate and energy partnerships, dialogues and hydrogen partnerships are well-prepared to address both short-term challenges and long-term climate targets.

Formats for bilateral cooperation

Climate and energy partnerships:

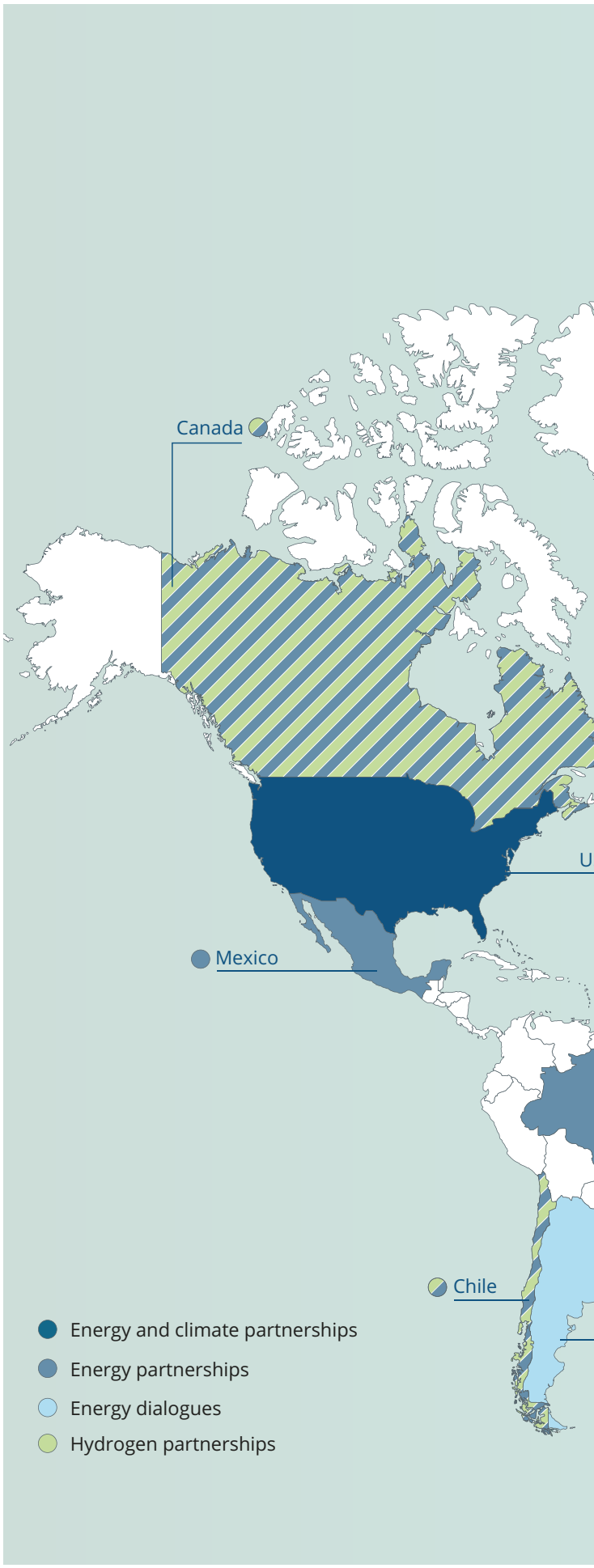
Within the framework of an energy and climate partnership, Germany works with a partner country on a range of energy, climate and economic topics. Key areas include the expansion of renewable energy and its integration into the system, increasing energy efficiency, the integration of joint climate instruments such as carbon pricing and navigating the ecological and social dimensions of this transition. The focus of cooperation is also increasingly on energy security. Partnerships are based on a signed declaration of intent.

Energy dialogues:

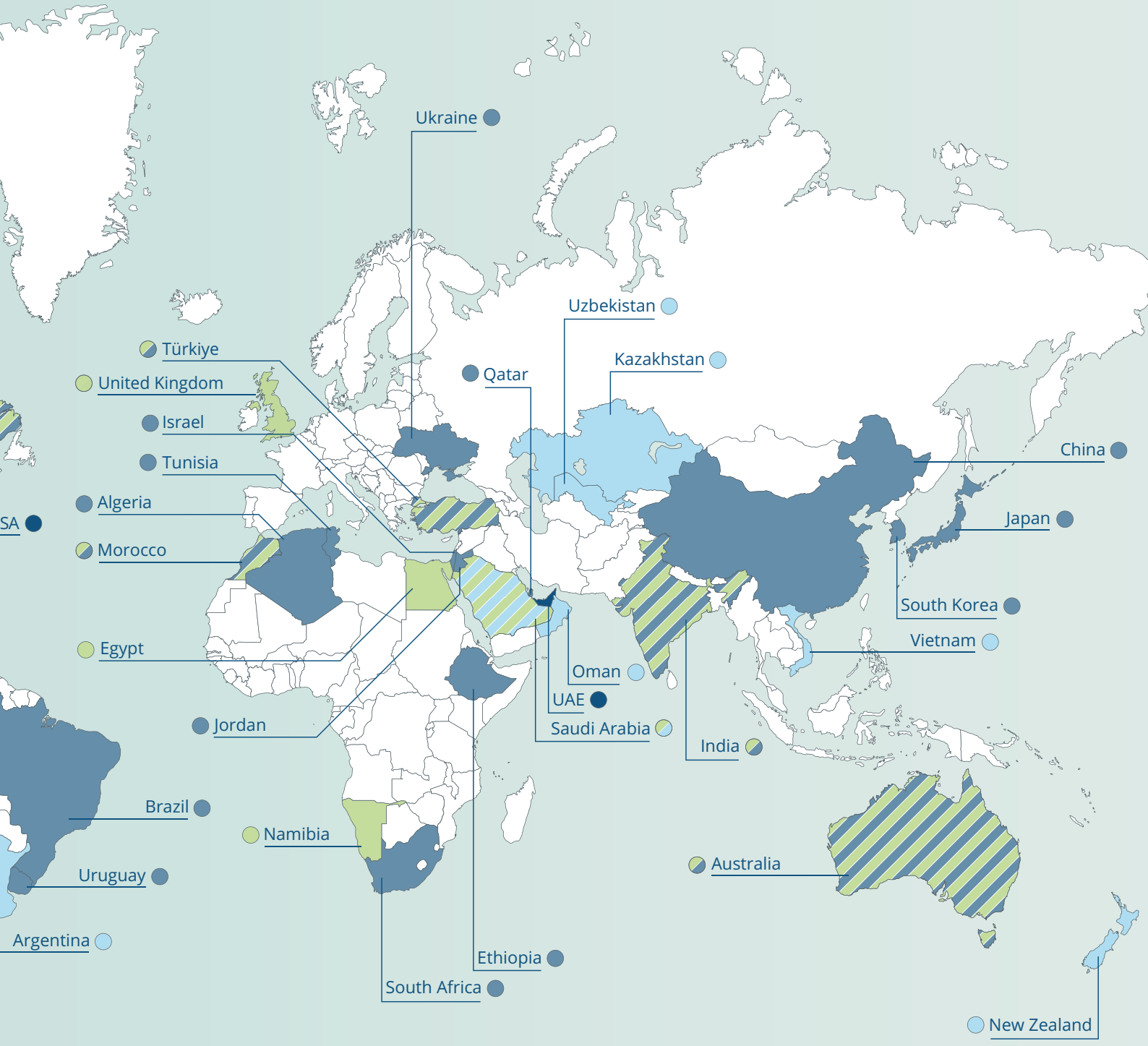
An energy dialogue is the preliminary stage of a climate and energy partnership. It fundamentally pursues the same objectives as climate and energy partnerships, but is not based on a formal declaration of intent and features no formal structures.

Hydrogen partnerships:

Germany collaborates with a growing number of countries to accelerate the expansion of green hydrogen. While many hydrogen partnerships are being implemented within the framework of existing climate and energy partnerships, the Federal Ministry for Economic Affairs and Climate Action enters into specific hydrogen partnerships with strategic exporting and importing countries. Like the energy and climate partnerships, this joint work is based on a signed declaration of intent.



Bilateral climate and energy partnerships, energy dialogues and hydrogen partnerships



Algerian-German
Energy Partnership

Partenariat Energétique
Energiepartnerschaft
Algérie-Allemagne

Algerian-German Cooperation on Hydrogen Moves Forward

Algeria and Germany are cooperating in an exceptionally fruitful energy partnership since 2015, spanning collaboration on renewable energy and its integration into the electricity grid, energy efficiency, and hydrogen.

As Algeria is a major supplier of natural gas to Europe, the transformation of the existing gas pipelines corridor for hydrogen, as well as the expansion of the electricity interconnections, offers a great potential for both sides and their partners in Tunisia, Italy, and Austria as well as other EU Member States and Switzerland.

This project dubbed “SoutH2 Corridor” holds great potential for catalysing further cooperation.

This was discussed at the 5th bilateral German-Algerian Energy Day on 23rd October and at the first high-level pentalateral offtaker meeting organised by the Algerian-German Energy Partnership in Munich on 25th September.

The off-taker meeting in Munich brought together 90 selected leading representatives of the respective energy ministries and energy companies from Algeria, Tunisia, Italy, Austria, Germany, and the EU Commission. The core questions included the ramp-up of the hydrogen projects in North Africa, the future off-take and financing instruments.

The meeting also gave the involved companies the opportunity for key business-to-business consultations, for example, with Algeria's state-owned company Sonatrach and various companies interested in buying future green hydrogen or its derivatives. Notably, the Algerian side announced investment needs of up to 25 billion Euros for hydrogen production, aiming to provide 10% of the European H_2 demand by 2040. The visit of Federal Minister Habeck in Algiers and his talks with State President Abdelmadjid Tebboune and Energy and Mines Minister Mohamed Arkab underlined the objective of Germany to expand the bilateral economic and energy cooperation at the highest level.

7th German Algerian Business Council.

SoutH2 Corridor meeting in Munich (September).

In summary, the recent high-level meetings signify a major step towards a sustainable energy future. Collaborative efforts, exemplified by substantial investments from companies like Sonatrach are set to reshape both regional and global energy dynamics. The success of this project has the potential to serve as a blueprint for future international partnerships, playing a pivotal role in the global transition towards cleaner and more sustainable energy sources.

The cooperation also supports capacity building and work on skilled labour as well as alignments with the first bilateral hydrogen reference project, financed by the Federal Ministry for Economic Cooperation and Development (BMZ) through the KfW.

Partner ministry:
Algerian Ministry of Energy and Mines
Year of establishment: 2015
Focus on:

- SoutH2 Corridor / Green Hydrogen – SoutH2 Corridor meeting with leading representatives from the Algerian Ministry for Energy and Mines and Sonatrach
- Exploring business synergies – 7th German-Algerian Business Council at AHK Algiers
- Introduction of the Algerian solar market to German companies – An Algerian delegation participated in Intersolar in Munich
- Future Technologies Connecting Us - Renewable Energies & Green Hydrogen – 5th German-Algerian Energy Day inaugurated by Algerian Minister for Energy and Mines Mohamed Arkab and German Parliamentary State Secretary Stefan Wenzel

Website: energypartnership-algeria.org

Rebekka Hilz-D'bichi
Head of Secretariat
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Argentine-German
Energy Dialogue

Energy efficiency in focus to kick off new Energy Dialogue with Argentina

Argentina stands at the beginning of an energy transition. Despite potential in vast renewable energy potential, the Argentinian energy mix is dominated by traditional fossil resources. The country has the second largest reserves of shale gas worldwide as well as vast oil reserves and is one of the major exporters of gas and oil. Further exploration for oil and gas poses challenges to implementing a sustainable energy policy.

Federal Chancellor Scholz on his trip to Argentina in January signed a letter of intent to establish the energy dialogue with Argentina. As part of the dialogue, solutions are being evaluated for establishing renewable energy and energy efficiency in Argentina.

To kick start the energy dialogue, both sides agreed on energy efficiency as a first focus area and held an expert workshop on energy efficiency networks.

The dialogue was put on hold due to elections in autumn 2023 and will be taken up again with the new government in 2024.

Signing of the agreement on the Argentine-German Energy Dialogue.

High-voltage posts.

Partner ministry:
Ministry for Economic Affairs, Energy Secretary
Year of establishment: 2023
Focus on:

- Energy efficiency – Expert workshop on energy efficiency networks

Website: climateandenergypartnerships.org

Silja Dressel
Head of the German Secretariat for the Argentine-German Energy Dialogue
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Australian-German
Energy Partnership

AUSTRALIA – GERMANY
Energy Partnership

Energy efficiency and green hydrogen as key levers for decarbonisation

With 2030 approaching quickly, it is crucial that some of the most polluting sectors, including the industry, transport and building sectors, reduce their emissions. The Australian-German Energy Partnership contributed to advancing this target in both countries through activities focusing on energy efficiency and hydrogen.

Deepened cooperation on hydrogen

Germany's revised hydrogen strategy emphasized again the importance of hydrogen for decarbonising the German economy and the need for imports. As one of the global frontrunners and prospective major hydrogen producer, Australia is a key partner in this regard. This is expressed in the bilateral Hydrogen Accord of 2021 that the partnership continued to support.

Australian Energy Minister Chris Bowen kicked off a busy year with hydrogen delegations, in-person meetings and virtual events with his visit to Berlin in January. BMWK officials Franziska Brantner and Christian Maaß used their trips to meet stakeholders and discuss topics such as finance and supply chains. In May, a delegation of Australian stakeholders from governments and industry travelled throughout Germany to visit different sites and organisations. Later in the year, BMWK partnered with the APAC Hydrogen Summit in Sydney and hosted stakeholders in an exclusive evening event. Those visits, together with many additional activities, enabled knowledge sharing and a mutual understanding of hurdles that need to be addressed to support the nascent industry and potential trade. The governments obtained relevant insights that feed into the development of policy documents, including Germany's import strategy, Australia's revised hydrogen strategy (to be published) and state-level regulations. In addition, businesses are made aware of developments and opportunities in the partner country.

Mitigating emissions in industry and buildings

Industrial decarbonisation was another priority, and a German delegation visited Sydney in May to kick-off the collaboration. During this visit, it became clear that Australian policymakers could benefit from insights on Germany's expertise in energy management systems and efficiency networks, prompting immediate information sharing. Director-General Maaß also provided timely insights into advances and setbacks of the transition in the German heating sector in July that representatives from state governments were particularly interested in. Meanwhile, the work on transferring lesson learned from a best-practice Australian programme to lower commercial building emissions were underway in Germany, led by the German Business Initiative on Energy Efficiency.

Australian hydrogen stakeholders from government and industry visit the BMWK (May).

Outlook

A major milestone in 2024 will be the establishment of the climate and energy partnership and the resulting expansion of topical scope. Hydrogen and the implementation of the bilateral Hydrogen Accord will remain central. A report on cooperation potential in industrial decarbonisation will outline how work will go forward in this area.

Dr Jürgen Friedrich, Ministerial Envoy for International Hydrogen Projects (BMWK), meets the Energy Minister of South Australia, Tom Koutsantonis, in Sydney.

Partner ministry:
Department of Climate Change, Energy, the Environment and Water
Year of establishment: 2021
Focus on:

- Hydrogen – Delegation trips from and to Australia
- Energy Efficiency – Sharing key insights to lower emissions in industry and buildings

Website: australia-germany-energypartnership.org

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Brazilian-German
Energy Partnership

German-Brazilian Energy Partnership

Brazil's just and inclusive energy transition: forging a sustainable path in Latin America

Decarbonisation of value chains and the “Just and Inclusive Energy Transition” are a key part of the Ecological Transition policy under President Lula and lay at the heart of the reindustrialisation process of the Brazilian economy, transversalising the environmental agenda and making the economy more competitive.

Thus, energy efficiency and the expansion of renewable energies are high priorities in Brazil. The country's energy mix already has a high proportion (47.4 per cent) of renewable energies and is therefore well above the Organisation for Economic Cooperation and Development (OECD) average. Also, renewable energies accounted for over 85 per cent of the electricity mix in 2023, posing its very own challenge to the grid. To enhance flexibility, the energy partnership published a study on the technical, economic and market potential of demand response in the Brazilian industrial sector.

Notably, Brazil has set an ambitious agenda focusing on sustainable development for its G20 presidency in 2024 including hosting the 15th Clean Energy Ministerial (CEM), along with being elected as the host country for COP30 and the BRICS summit in 2025.

These developments offer the greatest opportunity for a renewed partnership. Thus, in March, the Minister of Mines and Energy, Alexandre Silveira, and the Federal Minister Habeck signed a joint communiqué in Brasilia, affirming the Brazilian-German Energy Partnership, fostering further cooperation to drive the energy transition and reduce greenhouse gas emissions.

The joint communiqué was followed by a high-level meeting between the Brazilian Ministry of Mines and Energy (MME) and the BMWK in October, where the formation of two new working groups, namely “Just and Inclusive Energy Transition” and “Clean Energy and Decarbonization of the Industry”, was announced. Envisaged as platforms for in-depth cooperation, these working groups are designed to support political dialogues between the two nations.

Steering committee meeting of the Brazilian-German Energy Partnership in Brasilia, Brazil (October).

Signing of the joint communiqué in Brasilia, Brazil, affirming the Brazilian-German Energy Partnership (March).

The signing of the communiqué and the formation of the working groups underscored the commitment of both nations to collaborative efforts, enhancing communication about the energy transition and exploring mechanisms for making clean energy more affordable, thereby reducing dependencies.

The Brazilian-German Energy Partnership, fortified by these ongoing high-level initiatives and collaborations, is positioned not only to catalyse innovative solutions for the green transition but also to strengthen the bilateral ties and act as a beacon for fostering a resilient and sustainable energy future in both countries.

Partner ministry:
Ministry of Mines and Energy (MME)
Ministry of Foreign Affairs (MRE)
Year of establishment: 2017
Focus on:

- Energy Transition – Joint communiqué between Germany and Brazil reaffirming the Energy Partnership
- Just Transition and Decarbonization – Two new working groups between BMWK and the Brazilian Ministry of Mines and Energy
- Hydrogen – Contribution to the National Hydrogen Programme and rapprochement between Latin America and Germany
- Demand Response – Study to strengthen the modernisation of the Brazilian electricity sector

Website: energypartnership.com.br

Kristina Kramer
Head of Secretariat
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Canadian-German
Energy Partnership

Energy Partnership
Partenariat énergétique
Canada – Germany

Implementing the Canadian-German Hydrogen Alliance and broadening the scope of the Energy Partnership

In 2023, the Canadian-German Energy Partnership continued to focus on the bilateral hydrogen cooperation. Following the establishment of the Canadian-German Hydrogen Alliance in August 2022, Federal Minister Habeck and his Canadian counterpart Minister Jonathan Wilkinson met again in March – this time in Berlin for a bilateral energy conference convening green hydrogen project developers from Canada and energy companies and industry from Germany. One outcome was that the two governments decided to start exploring potential co-funding mechanisms to support transatlantic hydrogen trade. Other activities within the hydrogen cooperation included bilateral workshops on hydrogen standards and certification, the H_2 Global mechanism and hydrogen applications in the steel industry.

Federal Minister Habeck and Minister Wilkinson talking to media at Energy Partnership conference in Berlin (March).

With offshore wind, another topic was featured heavily in the 2023 Action Plan of the energy partnership. Most notably, a delegation of 15 Canadian stakeholders from government, industry and civil society – all key to Atlantic Canada's emerging offshore wind sector – joined a week-long study tour to Germany with stops in Berlin, Hamburg and Cuxhaven, learning about the ins and outs of offshore wind 'made in Germany'. The trip was very timely as Canada is currently adapting its offshore energy regime to include renewable energy, with several of the delegates providing expert testimony in Parliamentary committees responsible for upcoming legislation.

In addition, the bilateral cooperation on critical minerals for the energy transition was advanced through a visit of the German government in Canada, where it learned about the Canadian critical minerals landscape and the country's plans to become a minerals supplier for Germany and other countries around the world. The successful five-day visit featured a tour-de-force to the Canadian cities of Varennes, Montreal, Ottawa, Sudbury and Toronto – with the result that German officials will return to Toronto in March 2024 for the world's largest mining conference.

Offshore wind study tour rooftop reception in Hamburg (June).

Lastly, the energy partnership advanced bilateral discussions around a just and equitable energy transition through the publication and discussion of the energy partnership's study "Supporting just transitions in Canada and Germany". The study analyses Germany's sixty-year experience in managing the decline of its coal sector and highlights key lessons learned that are also relevant for the Canadian context. The study's results were discussed publicly with several Canadian and German practitioners and just transition experts.

Partner ministry:
Natural Resources Canada
Year of establishment: 2022
Focus on:

- Hydrogen – Canadian-German Energy Conference in Berlin, with Federal Minister Habeck, Minister Wilkinson, and Canadian and German hydrogen stakeholders
- Offshore Wind – Canadian delegation learns about offshore wind during study trip to Germany
- Just Transition – Energy Partnership study on lessons learned for Canada from Germany's coal phase-out
- Critical Minerals – Five-day Canada visit by German government, learning about the Canadian critical minerals sector

Website: canada-germany-energy-partnership.org

Jens Honnen
Head of Secretariat
adelphi Consult GmbH

Chilean-German
Energy Partnership

ENERGY PARTNERSHIP
CHILE-ALEMANIA

Working together to achieve the climate targets and energy supply security

Both countries face major challenges on the road to climate neutrality. As in Germany, 80 per cent of Chile's energy production is to come from renewable sources by 2030, and the majority of coal-fired power plants will be taken off the grid. However, the transition process until 2050 must also be just and equitable.

With Federal Chancellor Scholz's visit in January 2023 to Chile and the signing of the agreement on the new "Climate Neutrality 2050 and Mitigation in the Energy Sector" task force by Federal Minister Habeck and Chilean Energy Minister Pardow at the Berlin Energy Transition Dialogue, the Chilean-German Energy Partnership has added climate neutrality as a new topic of discussion to the high-level bilateral dialogue.

The aim is to mitigate the effects of climate change and share experience on effective energy policy instruments. The participants in this bilateral task force met three times in 2023 and discussed the energy policy challenges involved in implementing the relevant climate neutrality strategy, as Chile is severely impacted by climate change while at the same time needing to secure its energy supply by the rapid expansion and flexibilization of the grid and converting the decommissioned coal-fired power plants. This opens up new business opportunities for innovative start-ups.

Strengthening gender equality in the energy sector

The energy transition must consider social, political, economic and environmental variables in order to include stakeholders affected by this change. The inclusion of a gender equity perspective is fundamental, as the impact of climate change affects women and girls in a distinct and disproportionate way. On 10 May, the first Latin American conference on "Capacities for Change and Gender Empowerment in Energy (CEGEN LAC)" was held in Santiago de Chile, which brought together more than 100 political authorities and relevant experts from Latin America and Europe for the integration of women in the energy sector.

Bilateral meeting between Chilean Energy Minister Pardow and Federal Minister Habeck during the Berlin Energy Transition Dialogue (March).

Chilean ex-president Michelle Bachelet and German ambassador Irmgard Maria Fellner at CEGEN LAC conference (May).

The event was led by Michelle Bachelet, the first female (former) President of Chile, and Brigitte Baptiste, Vice-Chancellor of the EAN University in Colombia and a leader in gender diversity in the region. The programme included talks and panels that addressed issues such as human and gender rights, working conditions, women's participation in climate change issues, science, technology, engineering and math (STEM) education, as well as the presentation of a study on gender barriers in energy research and innovation. The conference was organised by the Chilean-German Energy Partnership on behalf of the BMWK, together with the Chilean Ministry of Energy, and the Economic Commission for Latin America and the Caribbean (ECLAC).

Partner ministry:
Chilean Energy Ministry
Year of establishment: 2019
Focus on:

- Technological development – Developed policy recommendations for agrivoltaics and floating photovoltaics in Chile
- Start Up – Presentation of promising energy start-ups at trade fairs and networking
- Green Hydrogen – Task force meeting on innovative financing instruments for large-scale hydrogen projects
- Local Business Council – Whitepaper on how to improve the electricity market in Chile was sent to Chilean Ministry of Energy

Website: energypartnership.cl

Daina Neddemeyer
Head of Chilean-German Energy Partnership
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Sino-German
Energy Partnership

中德能源与能效合作
Energiepartnerschaft
DEUTSCHLAND - CHINA

Towards climate-neutral industry parks in China with integrated solutions

In 2023, China's National Development and Reform Commission (NDRC) initiated a national plan for carbon peak pilots in 100 cities and industrial parks. This initiative aims to pilot decarbonisation measures and lay a solid foundation for achieving carbon neutrality by 2060.

Industrial parks, functioning as essential hubs for industrial clustering and development, contribute approximately 31 per cent of the total carbon emissions in China. Thus, decarbonising industry parks plays a key role in achieving the country's carbon peak and neutrality goals.

Through collaborative efforts, including Sino-German energy efficiency demo projects, think tank research and policy workshops with political and business partners, the energy partnership has crafted comprehensive solutions to bolster the green transition in China's industrial parks.

Decarbonising the industry parks through an integrated energy-efficiency concept

The Sino-German demonstration project in cities focuses on developing climate-neutral industrial parks. The project includes integrated energy efficiency plans, multi-stakeholder communication, green financing support and the engagement of the private sector. In Jintan, a pilot park, it is expected to achieve a 12 per cent increase in energy efficiency and a 12 per cent reduction in carbon emissions by 2030, and 25 and 42 per cent respectively by 2060. The local partner has finished an action plan for step-by-step implementation of the 50 decarbonisation measures developed by the project. Additionally, the research result of the integrated building photovoltaic system from EnTrans, a collaborative think tank under the energy partnership, has been applied in a pilot building in this park. The building is being constructed according to the German Sustainable Building Council (DGNB) standard and provides opportunities for the German private sector in the project implementation.

11th meeting of the Sino-German Working Group on Energy between BMWK and NEA in Suzhou (September).

EP co-hosting the FIRST women empowerment subforum at high-level energy transition forum in China (September).

Increasing energy efficiency through energy efficiency and low carbon networks (EEN)

Innovative management models, such as the successful German EEN, are vital for boosting energy efficiency in diverse sectors and driving the green transition in industrial parks. Since 2021, the energy partnership has been supporting a Sino-German EEN pilot in Taicang, a county with a cluster of 500 German enterprises. With technical support from German business partners, the pilot achieved an energy savings potential of over 25,000 MWh and carbon emissions exceeding 38,000 tons, leading to a 12.3 per cent reduction in greenhouse gas emissions. Acknowledging the success of the EEN pilot, NDRC has assigned the task of developing a national standard to promote and guide the nationwide rollout of EEN.

The energy partnership further complements the pathway towards climate-neutral industrial parks and cities by introducing digital tools, drafting training concept for green skills and facilitating policy exchanges on green hydrogen, heat pump standards and green power trading, among other initiatives.

Partner ministry:
The National Development and Reform Commission (NDRC)
The National Energy Administration (NEA)
Year of establishment: 2007
Focus on:

- Power market reform – Workshop and paper on legislative framework supporting the energy transition in China and Germany
- Energy efficiency – Dissemination workshop on achievements of Sino-German Energy Efficiency and Climate Network in Taicang
- Sustainable heating/cooling – Workshop and publishing of training guideline on heat pump system design
- Renewable integration/power system flexibility – Discussions on renewable energy integration and power system flexibility between system operators and think tanks

Website: energypartnership.cn

Yuxia Yin
Head of Secretariat
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Egyptian-German
Energy Partnership

Fostering collaboration among stakeholders in green hydrogen

The JCEE Green Hydrogen Partnership was initiated 2023 and provides comprehensive support to Egyptian partners as they initiate and foster the production of green hydrogen within the Republic of Egypt. The planned activities further aim at fostering relations between the Egyptian and German industry in an effort to closely link relevant players.

The activities will focus on bringing together stakeholders from industries and trade to stir dialogue as well as provide stakeholders with capacity development opportunities.

Egypt is undertaking great efforts in the green hydrogen game, leveraging its abundant renewable energy resources and infrastructure. In 2023, Egypt defined the goals in this field, including in the “Low Carbon Hydrogen Strategy” to capture up to 8 per cent of the tradable hydrogen market by 2040, requiring investments of around $60 billion.

Germany has ambitious goals for hydrogen use and the German hydrogen strategy plans to support the development of production site in partner countries as part of development cooperation. Egypt and Germany have a long history of cooperation and Egypt`s promising steps towards becoming a hydrogen exporting countries in the form of tax incentives and ramping up renewable energy projects are laying the foundation for a green hydrogen trade between the two countries.

In the frame of 27th UN Climate Change Conference which was held in Sharm El Sheikh, Egypt signed 23 MoUs for at least four electrolyser projects with over 8 GW and adding up to at least 28 GW of renewable energy projects. Furthermore, over 26,000 km2 of land with the potential for about 100 GW of RE have been given to the country's New and Renewable Energy Agency dedicated for RE projects. With its wind and solar power, Egypt is in a prime position to become a key player in green hydrogen production.

Egypt has produced green hydrogen on a small scale until 2019 and has vast experience producing grey hydrogen, especially for the fertilizer industry. Further industries that can greatly benefit from Egyptian-German hydrogen trade are among others the transport sector and the steel industry. The Suez Canal and Suez Industrial Zone add a competitive edge to Egypt's green ambitions, and are providing a robust foundation for green hydrogen initiatives.

The Green Hydrogen Component is financed by the BMWK and operated by the GIZ under the umbrella of the Egyptian-German Joint Committee on Renewable Energy, Energy Efficiency and Environmental Protection (JCEE).

German delegation and representatives from Egyptian ministries at the first high-level steering committee meeting on green hydrogen/LNG (March).

Representatives from the Egyptian ministries and further organisations, the German embassy, the EU, GIZ and the Institute of Energy Economics at the University of Cologne (EWI) present the study "Towards a Green Shipping Gateway – Establishing a Green Hydrogen Economy in Egypt", at a diplomatic symposium in Cairo. The study was financed by the German Foreign Office (October).

Partner ministry:
Ministry of Electricity and Renewable Energy
Year of establishment: 2023

Website: climateandenergypartnerships.org

Jorge Mario Arango Diaz
Head of Project
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Ethiopian-German
Energy Cooperation

የኢትዮ-ጀርመን ትብብር
Energiekooperation
Ethiopia-Germany

Promoting the energy transition through cooperation and private-sector engagement

German company helps to increase energy security and access

The Ethiopian-German Energy Cooperation facilitated a private-sector engagement in the rehabilitation of a large hydropower plant in Ethiopia.

With the help of German technology, the Gilgel Gibe II power plant was restored to regain 185 MW of its 450 MW installed capacity through the provision of spare parts and an upgrade of a digital system in 2022. The increased capacity has an immediate impact on Ethiopia's provision of low-carbon energy by potentially enabling about 31,000 households to get access to sustainable electricity for domestic as well as industrial use.

In conjunction with the introduction of a digital power plant management system, the energy cooperation, in collaboration with Voith Hydro GmbH, provided a comprehensive theoretical and practical training course on hydropower plant maintenance and advanced plant management with digital solutions for 17 engineers at the Gilgel Gibe II hydropower station in 2023. The trainees now constitute the core group of experts at the power company.

The engagement of German companies in the hydropower sector in Ethiopia is regarded as positive by the Ethiopian side.

Hydropower constitutes 92 per cent of power generation in Ethiopia and lays a solid technical foundation for rapid deployment of variable renewable energy from solar and wind in the grid for Ethiopia's ambition of universal access to electricity by 2030 and increasing its export of green electricity to its neighbours (Djibouti, Kenya and Sudan). Ethiopian Electric Power (EEP) manages 14 hydropower plants, has two under construction (the Great Ethiopian Renaissance Dam (GERD): 5,150 MW; and Koysha: 1,800 MW) and 23 in planning. Most of the 14 existing plants need major maintenance and upgrades with increased private-sector involvement.

Fostering sector dialogue to strengthen the private-sector engagement in the energy transition

Although the major strategy documents, particularly the current ten-year development plan (2020-2030), emphasise a market-based approach with an increased role for the private sector, the regulatory frameworks and institutional structures in the energy sector still require further improvement. The energy cooperation provided direct technical support, engaged three different national consultants from June to October and co-financed six consultation stakeholder workshops with the participation of private-sector and academic experts to facilitate inputs and wider cross-sectoral stake-

Hands-on training at Gilgel Gibe II hydropower plant, Gilgel Gibe.

holder engagement in the development of the National Sustainable Energy Development Strategy, the Technical Directive for Electric Vehicle Charging Facilities, as well as the establishment of a National Technical Committee on Energy Efficiency in Building, supporting the Ethiopian Ministry of Water and Energy (MoWE) and the Ethiopian Petroleum and Energy Authority (PEA).

The drafts for the energy strategy and charging facilities are ready for final ratification, while the Energy Efficiency in Building National Committee and its sub-committees for residential, public and commercial buildings are working on a national roadmap and benchmarks. The energy cooperation will support this development process until completion and implementation.

Partner ministry:
Ministry of Water and Energy
Year of establishment: 2019
Focus on:

- Rehabilitation of Large Hydropower Station – Improved capacities in digitalised power plant management
- Sustainable Energy Strategy – Development of national benchmarks for the Ethiopian building code
- Energy Efficiency in Buildings – Development of national benchmarks for the Ethiopian building code
- Electric Mobility – Development of technical guidelines for electric vehicle charging facilities

Website: energy-cooperation.et

Samson Tolessa
Head of Secretariat
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Indo-German Energy Forum (IGEF)

Indo-German Energy Forum

From dialogue to action: Indo-German Green Hydrogen Task Force

Under the leadership of Federal Chancellor Scholz and Prime Minister Shri Narendra Modi, the Federal Republic of Germany and the Republic of India have agreed "to develop an Indo-German Green Hydrogen Roadmap based on the inputs from the Indo-German Green Hydrogen Task Force supported by the Indo-German Energy Forum (IGEF)" at the 6th Indo-German Intergovernmental Consultations.

The agreement followed a Joint Declaration of Intent for an Indo-German Green Hydrogen Cooperation signed by Union Minister for Power and New and Renewable Energy, Shri Raj Kumar Singh, and Federal Minister Habeck. With the aim to prioritise a private sector-driven upscale of the green hydrogen cooperation, a special "Green Hydrogen" task force has been established. Its objective is to explore investment opportunities in green hydrogen that will yield mutual benefits for both countries while advancing their decarbonisation efforts.

Since its inception, the task force and its four sub working groups have convened for ten meetings, organised dozens of exchanges and knowledge sessions, conducted eight bilateral business-to-government roundtables, organised five Indian government and business delegations to international conferences and trade fairs in Germany, initiated seven studies on framework conditions for green hydrogen investments in India and Germany, and laid the ground for numerous bilateral cooperation projects between companies, associations and research organisations. During a recent closed-door Indo-German Green Hydrogen Matchmaking event at the European Hydrogen Week in Brussels, large producers of green hydrogen from India met with representatives from hydrogen-consuming companies in Germany, paving the way for future collaborations. The matchmaking was organised by the BMWK and the Embassy of India (EoI) as part of the IGEF.

With the development of the Indo-German Green Hydrogen Roadmap, both countries commit to prioritise the agreed issues and joint action points, support relevant institutions in both countries to be involved in related meetings and decide on further actions to jointly move forward in the field of green hydrogen.

German companies signed MoUs with Indian partners in the presence of Federal Minister Habeck to promote agrivoltaics and green hydrogen in India.

The World Women Empowering "The CleanTech Decade Summit" celebrated the immense opportunities for women in the CleanTech industry.

From dialogue to action: India and Germany strengthen cooperation on agrivoltaics

In a significant development aimed at promoting agrivoltaics and vertical PV in India, several memoranda of understanding (MoUs) have been signed during the Indo-German Business Forum in New Delhi in the presence of Federal Minister Habeck.

One agreement encompasses scientific research, data sharing and the installation of pilot projects, with a specific focus on innovative vertical bifacial agrivoltaics technology. This strategic agreement on innovative sustainable energy solutions is a further step in the Indo-German Cooperation on Agrivoltaics (IGCA) under the Indo-German Energy Forum.

Partner ministry:
Ministry of Power (MoP)
Ministry of New and Renewable Energy (MNRE)
Ministry of Finance (MoF)
Year of establishment: 2006
Focus on:

- Innovative solar solutions – cooperation on agrivoltaics to create diversified income streams, new employment opportunities and greater climate resilience for rural communities and especially farmers in Germany and India
- District cooling – launching the National Cooling Guidelines at the 14th Clean Energy Ministerial and 8th Mission Innovation Meeting in Goa
- Flexibilisation of existing thermal power plants – simulator trainings to enable power plant operators to operate in a flexible mode
- Green energy finance – development of innovative financing instruments to support the installation of large-scale green hydrogen installations in India

Website: energyforum.in

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Israeli-German
Energy Partnership

שותפות באנרגיה
ישראל - גרמניה
Energy Partnership
Germany – Israel

With chutzpa for the energy transition!

In 2023, one year after its signing, the Israeli-German Energy Partnership has rapidly grown in momentum, implementing a myriad of activities and creating tangible impacts.

Flexibility as a necessity

To reach its climate goals, Israel has set an ambitious objective to elevate its renewable energy production from around 10 per cent today to an impressive 30 per cent by 2030.

To achieve this goal, it is critical to adapt the energy grid to seamlessly handle the increased load and volatility inherent to renewable energy sources.

In June, the Israeli-German Energy Partnership hosted an expert trip to Berlin and Leipzig which brought together high-level representatives from Israel's energy sector with German experts to jointly address these complex issues. The knowledge exchanged during this experience empowered Israeli policymakers to formulate ground-breaking guidelines on net flexibility. This strategic move enables the integration of an additional 2.5 GW of renewable energy into the Israeli grid, and marks a significant achievement.

The first hydrogen strategy for Israel

(Green) hydrogen is a central focus in Germany's global energy diplomacy and a dynamic theme in the Israeli-German Energy Partnership. At the beginning of 2023, Israel had no comprehensive hydrogen policy and minimal engagement with the topic. Yet, due to joint activities, a paradigm shift was attained: In March, the partnership hosted a series of professional workshops and a high-level expert trip of political decision-makers to Germany, focussing on hydrogen production methods, safety requirements and the potential repurposing of natural gas infrastructure.

This collaborative endeavour aimed not only to explore possibilities for enhanced cooperation between Germany and Israel but also to leverage the unique strengths of each nation towards shared objectives in the dynamic field of hydrogen. It manifested in Israel's release of its inaugural hydrogen policy in May and its efforts to establish hydrogen valleys in Israel — concrete testaments to

Israeli delegates visit the 50Hertz control centre during a study trip to Berlin and Leipzig on net flexibility (June).

Israeli delegates on a study trip to Berlin on H_2 Readiness and Green Hydrogen (March).

the substantial strides made possible by the Israeli-German Energy Partnership's activities.

This impactful collaboration not only propels Israel closer to achieving its renewable energy goals but also serves as a beacon of international cooperation in advancing sustainable energy solutions for a greener, more resilient future.

Cybersecurity: learning from the masters

The digitalisation of energy systems heightens their susceptibility to cyber threats. Israel, a global leader in cybersecurity, offers Germany invaluable expertise in this field.

The cooperative efforts of the Israeli-German Energy Partnership encompass deliberations on smart meter gateways and security by design. Plans are underway to reciprocally 'test hack' the hardware and software of each other's energy components.

Moreover, the Israeli-German Energy Partnership has facilitated the establishment of a platform for key personnel of both countries to discuss cyber-attacks on critical energy infrastructure and related enterprises in real time.

Partner ministry:
Ministry of Energy and Infrastructure
Year of establishment: 2022
Focus on:

- Cybersecurity – Deep dive on Smart Metre Gateways
- Energy Efficiency – Trilateral delegation with experts from the UAE, Israel and Germany
- Renewable Energies – Change in grid flexibility ordinance
- Hydrogen – Publication of the first Israeli National Hydrogen Strategy

Website: energypartnership-israel.org

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Japanese-German
Energy Partnership

日独エネルギーパートナーシップ
Energiepartnerschaft
DEUTSCHLAND – JAPAN

Jointly driving the global hydrogen market ramp-up

In 2023, Japan announced the Green Transformation (GX) policy to achieve a stable energy supply, economic growth and decarbonisation. Two key topics of the energy partnership in 2023, offshore wind and hydrogen, take prominent roles in reaching these goals.

Japan is pushing offshore wind power and aims for projects of 10 GW by 2030. Exchange on best practices regarding offshore wind deployment and discussion of joint challenges such as grid integration and social acceptance were the focus of the working group (WG) on the energy transition of the energy partnership. Three events in Japan offered room to dive into these topics and opportunities for networking for industry stakeholders from both countries. The success of a Japanese-German consortium for a project of 684 MW in the second round of offshore wind auctions in Japan was a promising sign of successful offshore wind cooperation in 2023.

Like Germany, Japan also revised its national hydrogen strategy in 2023. Both countries will be among the biggest importers of hydrogen and face common challenges, such as limited potential for domestic supply, issues of hydrogen finance, certification, transport and safety that were addressed in the respective working group.

Two in-person meetings of the working group, a research trip by the Ministry of Economy, Trade and Industry to Germany, a visit of Parliamentary State Secretary Stefan Wenzel (BMWK) to the 6th Hydrogen Energy Ministerial in Tokyo and a workshop on hydrogen import infrastructure gave opportunities to advance discussions, e.g., on mutual recognition of certification schemes and on hydrogen finance. The certification discussion was further supported by a study on international and national certification schemes for low-carbon hydrogen by adelphi. Regarding hydrogen certification, Japan and Germany, together with other countries, launched a flagship initiative on mutual recognition of certification schemes at the 28th UN Climate Change Conference in December, paving the way for global hydrogen trade, which also will be continuously discussed as part of the energy partnership.

German and Japanese hydrogen experts share ideas on ways to promote female empowerment in the hydrogen economy (September).

Delegation trip to Yokohama, Japan, with Parliamentary State Secretary Stefan Wenzel (BMWK) focused on hydrogen port infrastructure (September).

In the area of hydrogen finance, the Japanese side showed great interest in the German H_2Global mechanism and shared their vision for suitable funding mechanisms to support the hydrogen market ramp-up. The WG met for several in-depth exchanges on this topic, involving stakeholders from financial institutions and agencies. Both countries acknowledged the need for closer cooperation on hydrogen finance to drive the global market ramp-up as two of the biggest future importers.

On 28 November, the Cooperation Committee of the energy partnership officially integrated future exchanges between H_2Global and the Organisation for Metals and Energy Security (JOGMEC), the implementing Japanese agency, in the working plan of the hydrogen working group to continue the debate and cooperation on potential joint instruments for the global hydrogen market ramp-up. Both organisations signed an official MoU in January 2024 to further detail the cooperation.

Partner ministry:
Ministry of Economy, Trade and Industry (METI)
Year of establishment: 2019
Focus on:

- Offshore wind energy – Implementation of three expert workshops, including one B2B matching
- Hydrogen: Transport – Expert conference on hydrogen imports: overseas shipping and port infrastructure
- Social acceptance/information – Trip by Japanese journalists to learn about the energy transition in Germany

Website: energypartnership.jp

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Jordanian-German
Energy Partnership

الشراكة الأردنية الألمانية في مجال الطاقة
Energiepartnerschaft
DEUTSCHLAND – JORDANIEN

Energy transition: Jordanian-German Energy Partnership leads to successes on several levels

Jordan has made significant strides in expanding its renewable energy capacity, achieving a 27 per cent contribution in 2022. To further advance its commitment to sustainable energy, Jordan aims to raise its renewable energy target to an ambitious 50 per cent by 2030. The Jordanian-German Energy Partnership plays a crucial role in supporting these objectives by facilitating the transfer of German, European and international best practices. This collaboration has been instrumental in the development of Jordan's third National Energy Efficiency Action Plan (NEEAP).

Skilled workforce for the energy transition in Jordan

The German Energy Academy (GEA) in Jordan, established in October 2021 with vital support from the BMWK, serves as a regional centre for upskilling in renewable energy, energy efficiency, smart grids and digitisation. Accredited by the German-Arab Chamber of Commerce (AHK/DE Egypt) and adhering to the quality standards of the German Chamber of Industry and Commerce (DIHK), GEA offers cutting-edge technical and vocational training.

Trainees participating in HVAC and heat pumps training provided by the German Energy Academy in Jordan on 31 January in Amman.

GEA's impact is evident in its achievements as of January 2024:

- Trained 474 individuals from Jordan and the region, including refugees.
- Produced 112 graduates with AHK certificates.
- Conducted 28 training sessions covering PV, energy efficiency, and digital/soft skills.
- Achieved a remarkable 94% success rate in AHK-certified trainings.
- Included 28% female participants, 12 Palestinian participants and 24 Syrian refugees.

The academy's internship program, initiated in 2023, has successfully connected trainees with esteemed German companies, enhancing the employability of participants both within Jordan and on an international scale. The programme likewise contributes to gender equality, empowering young women to gain access to the energy sector. Dana, a GEA graduate, exemplifies this empowerment journey. Thanks to doing an internship at a German company in the scope of German Energy Academy’s international internship programme, Dana was immediately recruited by SMA Middle

Trainees participating in a course on the energy efficiency of electric motors for industry provided by the German Energy Academy in Jordan on 1 August in Amman.

East as a junior application engineer upon completing her training. Her trajectory is one of many inspiring examples, highlighting the programme's role in breaking down gender barriers and paving the way for women to excel in renewable energy.

A milestone event in this partnership was the First Jordanian German Energy Day, attended by the Jordanian Minister of Energy and Mineral Resources and the German Ambassador to Jordan. The event underscored the pivotal role of the German Energy Academy in preparing trainees for the energy transition and featured discussions on strengthening key pillars of this transition. Both guests of honour praised the academy as a knowledge hub for green energy transition and handed over the graduation certificates to the second batch of graduates.

The partnership's comprehensive approach, from training programmes to impactful events and policy development, showcases a robust collaboration that significantly contributes to Jordan's energy transition.

Partner ministry:
Ministry of Energy and Mineral Resources (MEMR)
Year of establishment: 2019
Focus on:

- Renewable Energy – Examining the growth of renewable energy utilization, aiming for a 50% increase by the year 2030
- Energy Efficiency – Contribution to the development of the Third National Energy Efficiency Action Plan
- Skilled workforce for the energy transition – Providing training and building capacity for Jordan's energy transition via the German Energy Academy in Jordan

Website: energy-jordan-germany.org

Christiana Hageneder
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Kazakh-German
Energy Dialogue

Energy Dialogue
Germany – Central Asia

Making the hydrogen economy possible

In 2023, the Kazakh-German Energy Dialogue continued to support Kazakhstan's energy transition towards greater sustainability and climate protection. The main activities focused on advising on the development and implementation of Kazakhstan's Energy Efficiency Concept, drafting a Biogas Investor's Guide to promote the biogas market and contributing to the development of Kazakhstan's National Hydrogen Strategy.

Since mid-2021, hydrogen has been at the top of Kazakhstan's energy policy agenda as well as on the agenda of the Kazakh-German Energy Dialogue. Hydrogen plays a crucial role in Kazakhstan's Decarbonisation Strategy 2060, adopted in 2023. It directly decarbonises various economic sectors, including industry, energy and transport. Additionally, it can balance out fluctuations in power generation through the large-scale integration of renewables envisioned in the strategy.

Engineer with a tablet on a background of green hydrogen infrastructure.

In this context, the President of Kazakhstan, Kassym Tokayev, has instructed the government to develop a national hydrogen strategy by 2024.

The Ministry of Energy of Kazakhstan has invited dena and the energy dialogue to support the development of a national hydrogen strategy for Kazakhstan and to provide input based on the valuable German experience in developing and updating the National Hydrogen Strategy.

The main challenge is to develop a strategy that meets the needs of Kazakhstan's energy sector.

In order to consult Kazakhstan adequately, it was crucial to provide a high-quality, country-specific analytical framework that would meet the needs of the country. Therefore, several studies were prepared as part of the energy dialogue in 2023, addressing key issues related to the development of the hydrogen market in Kazakhstan, such as support mechanisms, sales markets and water supply issues for the production of green hydrogen.

On the other hand, Kazakh and international companies potentially interested in hydrogen projects in Kazakhstan were involved in the discussion and their input was used for formulating policy recommendations. To this end, dena and the German Chamber of Commerce and Industry (AHK) have initiated a Hydrogen Initiative Group for Business,

The Kazakh-German Energy Dialog as founder and initiator of the renowned EEF Forum in Astana.

which meets regularly and promotes Kazakh-German hydrogen cooperation in addition to working on the content of the strategy.

Thanks to these efforts, dena was able to submit its comments on the draft strategy to the Kazakh Ministry of Energy in November. At the same time, the ministry invited dena to join the steering committee responsible for finalising the strategy in 2024.

Partner ministry:
Ministry of Energy of the Republic of Kazakhstan,
Ministry of Industry and Construction of the Republic of Kazakhstan
Year of establishment: 2011
Focus on:

- Energy efficiency: industry – Contribution to the National Energy Efficiency Concept of Kazakhstan
- Energy efficiency: buildings – Development of a pilot model of an interactive energy efficiency map for buildings in Kazakhstan
- Renewable hydrogen market development – Contribution to the National Hydrogen Strategy of Kazakhstan
- Promotion of biogas production– Developing a Biogas Investors' Guide

Website: climateandenergypartnerships.org

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Mexican-German
Energy Partnership

Alianza Energética
Energiepartnerschaft
MÉXICO - DEUTSCHLAND

Supporting key actors to boost the energy transition at national and local level

Promoting green hydrogen in industry

Thanks to its rich endowment of renewable energy sources combined with favourable economic conditions, Mexico has the potential to produce and export green hydrogen at extremely competitive prices. Despite the country still not having a comprehensive hydrogen strategy, various key sectors of the Mexican economy are charting their path towards decarbonisation and reducing their emissions and their dependence on fossil fuels as a primary energy source. With over 2,000 German companies active in Mexico, the country is an important trading partner for Germany and a gateway to the North American continent as part of the United States-Mexico-Canada Agreement (UMSCA).

The Mexican-German Energy Partnership has been supporting the preparation and publication of green hydrogen potential studies for selected regions and has contributed to the dialogue on the future of hydrogen in the country. Additionally, the energy partnership facilitates the creation of a roadmap for green hydrogen in Mexican industry at national level.

Representatives from the government of Mexico City, the German embassy and the Energy Partnership during the exchange of experience gained with regards to the Mexico City Solar Plan and the Berlin Solar City Master Plan (Mexico City, November).

Today, the private and public sectors increasingly recognise the potential of the different applications of green hydrogen and develop project proposals accordingly. Therefore, the expansion of renewable energies for the Mexican energy transition and developing the hydrogen sector are part of an ongoing dialogue facilitated by the Mexican-German Energy Partnership.

Strengthening the energy transition in Mexican states

Under Mexico's federal system, the states are key actors in the energy transition, complementing the policies of the federal government. The challenge for many state governments is how to identify potential and suitable solutions for the energy transition adapted to their local needs.

The Mexican-German Energy Partnership supports selected state governments in their efforts through workshops, webinars and studies. This facilitates a common understanding, knowledge building and the formulation of policy strategies. Workshops on

Participants of the Young Women Students Mentorship Programme in Renewable Energies (MMUJEER) receiving their certificates (Mexico City, November).

international best practices for a subnational energy transition led to the development of a toolbox that offers a practical guide for decision-making by subnational governments. An exchange of experience gained with regard to the Mexico City Solar Plan and the Berlin Solar City Master Plan facilitated the exchange of knowledge and strengthened the work relationship between the partner cities. Both cities have ambitious plans for increasing the installation of solar energy panels to transform their energy supply.

Mexican states possess great potential to leverage the energy transition through a bottom-up approach. The question of how to design and implement a just energy transition is the subject of an upcoming multi-sectoral debate and is expected to play an important role in the future work of the Mexican-German Energy Partnership.

Partner ministry:
Ministry of Energy
Year of establishment: 2016
Focus on:

- Energy transition at the subnational level – Consultative elaboration of a toolkit for energy transition measures based on international best practices
- Green hydrogen – Preparation, publication and presentation of the prospective on the production and use of green hydrogen in seven Mexican states
- Innovation and start-ups in the energy sector – Study tour of Mexican energy start-ups to Germany and visit by German representatives to Mexico

Website: energypartnership.mx

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Moroccan-German
Energy Partnership Parema

PAREMA
Partenariat énergétique Maroco-Allemand
Deutsch-Marokkanische Energiepartnerschaft

Pioneer for EU-African Electricity Trade from Renewable Energies

In 2022, Morocco, France, Spain, Portugal and Germany signed a Memorandum of Understanding (MoU) focusing on cross-border power purchase agreements (PPAs) for renewable energies. The Sustainable Electricity Trade (SET) Roadmap, the associated initiative, aims to enable the first EU-African trade in electricity from renewable energies.

The Moroccan-German Energy Partnership (PAREMA) is committed to continuing and intensifying the dialogue between the countries involved and advises on concrete steps of the SET Roadmap. For example, PAREMA and the technical secretariat (MASEN) organised the 1st steering group meeting of the SET Roadmap, which took place during the 28th UN Climate Change Conference in Dubai with the participation of high-ranking representatives from Morocco, France, Spain, Portugal and Germany. The meeting defined concrete activities to be undertaken by the participating countries to implement the 1st EU-North Africa Electricity Trade Agreement.

The Moroccan power sector: Dialogue on the role of coal

In the end of 2023, Morocco joined an international campaign to phase out unabated coal-fired power generation (Powering Past Coal Alliance (PPCA)) and plans to install more than half of its power generating capacity with renewable energies over the next seven years. Next to its support in revitalising the SET Roadmap Activities, PAREMA also contributed to an intensification of the bilateral dialogue on the role of coal in Morocco.

The European Commission, in particular the Directorate-General for Neighbourhood and Enlargement Negotiations (DG NEAR), has expressed great interest in the SET Roadmap and Moroccan energy exports in recent months. Importing green energy from North Africa to Europe has the potential to improve Germany's security of supply in the European interconnected system and contribute to a more balanced energy portfolio.

About 40 stakeholders participated in the high-level Moroccan-German hydrogen forum with the industry.

High Level Strategy Meeting with Director General Schnichels (BMWK) in Morocco.

Partner ministry:
Ministère de la Transition Energétique et du Développement Durable, MTEDD
Ministry of Energy Transition and Sustainable Development, MTEDD
Year of establishment: 2012
Focus on:

- Renewable Energies – Signing of the Sustainable Electricity Trade (SET) Roadmap
- Hydrogen Dialogue –
  - "H_2-Transport-Study" on opportunities, costs and prospects of dedicated H_2 pipelines towards Europe
  - Exploring trinational cooperation between Germany-Morocco-Netherlands through H_2 export corridors and canalizing EU Offtake interest
  - Business-to-Government Roundtable on funding mechanisms and financing instruments for the ramp-up of PtX technologies and projects in Marrakesh and Rabat
- Industry Decarbonisation – Flanking of phase-out scenarios and transferring German experience in the implementation of the coal phase-out in dialogue with Moroccan partners

Website: energypartnership.ma

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Namibian-German Hydrogen and PtX Cooperation

Namibian-German Partnership's 2023 impact in green hydrogen and energy sector diversity

In 2023, Namibia and Germany continued their dynamic international partnership dedicated to advancing clean energy solutions, with a primary focus on green hydrogen. This collaborative effort signifies both nations' recognition of the vast potential within this clean fuel source, aiming to establish local green hydrogen value chains for export to the European market.

The project facilitated dialogue between the BMWK and the Ministry of Mines and Energy (MME) through multiple meetings with the special envoy and the private sector. Of particular note are the topics brought forth by the private sector to the partnership, notably the offtake of green hydrogen products.

The partnership strongly focused on preparing a new initiative, which envisions support to the establishment of a Green Hydrogen Programme to act as a key organisation for the development of a hydrogen industry from the government's perspective.

The project further supported the inauguration of the HyIron pilot, which is the first green iron production plant in Africa based on green hydrogen. The pilot is financed by BWMK. The project facilitated communication with this crucial initiative and German stakeholders.

The upcoming phase of the programme aims to elevate political dialogue, focusing on shared market mechanisms, improved regulatory frameworks, investment climate enhancement and socio-economic benefits identification. This collaborative approach leverages the strengths of both nations, contributing to Namibia's long-term energy security and facilitating green product exports (ammonia, iron, etc.).

Green Hydrogen production for clean electricity.

The photo describes the inauguration of the HyIron green iron production project financed by the BMWK, with German Ambassador Hutter, Special Envoy Baake as well as representatives from Japan, from HyIron and from the Namibian government in attendance.

Partner ministry:
Ministry of Mines and Energy and Green Hydrogen Council
Year of establishment: 2023
Focus on:

- Women's empowerment – more involvement of women in the energy sector
- Facilitate a high-level dialogue between Namibian stakeholders, partners and the BMWK

Website: climateandenergypartnerships.org

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Deutsche Gesellschaft für Internationel Zusammenarbeit (GIZ) GmbH

New Zealand-German
Energy Dialogue

Cooperation on offshore wind, geothermal and hydrogen moves forward

The year 2023 saw continued progress in the energy dialogue between Germany and New Zealand, complementing developments in policy, business and research to advance both countries' energy transitions.

Conversation on offshore wind continues

Offshore wind is poised for future development to bolster renewable generation in New Zealand as Germany also plans for substantial expansion. The energy dialogue hosted two virtual workshops in June, focusing discussions on supply chains, capabilities and the potential role of offshore wind in hydrogen production. Drawing insights from Germany's industry evolution offers a valuable perspective as New Zealand establishes its regulatory framework and industry. Both countries face shared opportunities and challenges, particularly concerning supply chain limitations and capability gaps to meet ambitious targets.

Hydrogen remains a topic of focus

Offshore wind is only one of the renewable resources primed in both Germany and New Zealand for hydrogen production. Whereas Germany will not be able to meet its domestic hydrogen demand, New Zealand has many ingredients for a potential green hydrogen export industry. Virtual sessions on developments around EU standards for renewable hydrogen in March, a keynote from the BMWK's Director-General Christian Maaß at the H_2 2 Zero Summit on Germany's hydrogen ambitions in September, and many one-on-one conversations throughout the year deepened the exchange and fostered connections.

Geothermal energy's role in decarbonising power and heat

While the use of geothermal energy has been an important pillar of New Zealand's energy sector for many decades, its role in Germany has so far been comparably smaller. Recently, there has been a notable uptick in interest though, and a virtual workshop convened stakeholders to exchange on current developments. New Zealand's pioneering efforts in CO_2 capture and reinjection to mitigate emissions from geothermal utilisation were only one prime example of the opportunities to learn from each other. Similarly, German advancements in modern drilling technologies and underground resource surveying processes offered valuable knowledge exchange.

Governments confirm high interest in future cooperation

The enduring commitment to further collaboration was underscored during a ministerial meeting held among government representatives in Wellington in November. Many topics were deliberated upon, presenting ample opportunities for future

New Zealand has great potential for both on- and offshore wind.

cooperation. Presently, the priorities of the newly elected New Zealand Government are beginning to take shape.

Outlook to 2024

A major milestone in 2024 will be the release of a study to identify promising opportunities for collaboration in the broad area of decarbonising industrial sectors. Following this milestone, efforts will be directed towards implementing the recommended initiatives. Hydrogen is set to remain a central topic. Additional focus areas will shape up in accordance with developments throughout the year.

BMWK and adelphi visit Mercury Energy's Ngatamariki geothermal power plant in Taupo (October).

Partner ministry:
Ministry of Business, Innovation and Employment
Year of establishment: 2021
Focus on:

- Offshore Wind – Sharing lessons learned from the offshore wind industry in Germany
- Hydrogen – Engaging with New Zealand's hydrogen industry and identifying cooperation potential
- Geothermal – Sharing best practices on geothermal energy use

Website: climateandenergypartnerships.org

Franziska Teichmann
Head of the German Secretariat for the Energy Cooperation
adelphi Consult GmbH

Omani-German
Energy Dialogue

Energy dialogue supports the energy transition and formation of a hydrogen economy in Oman

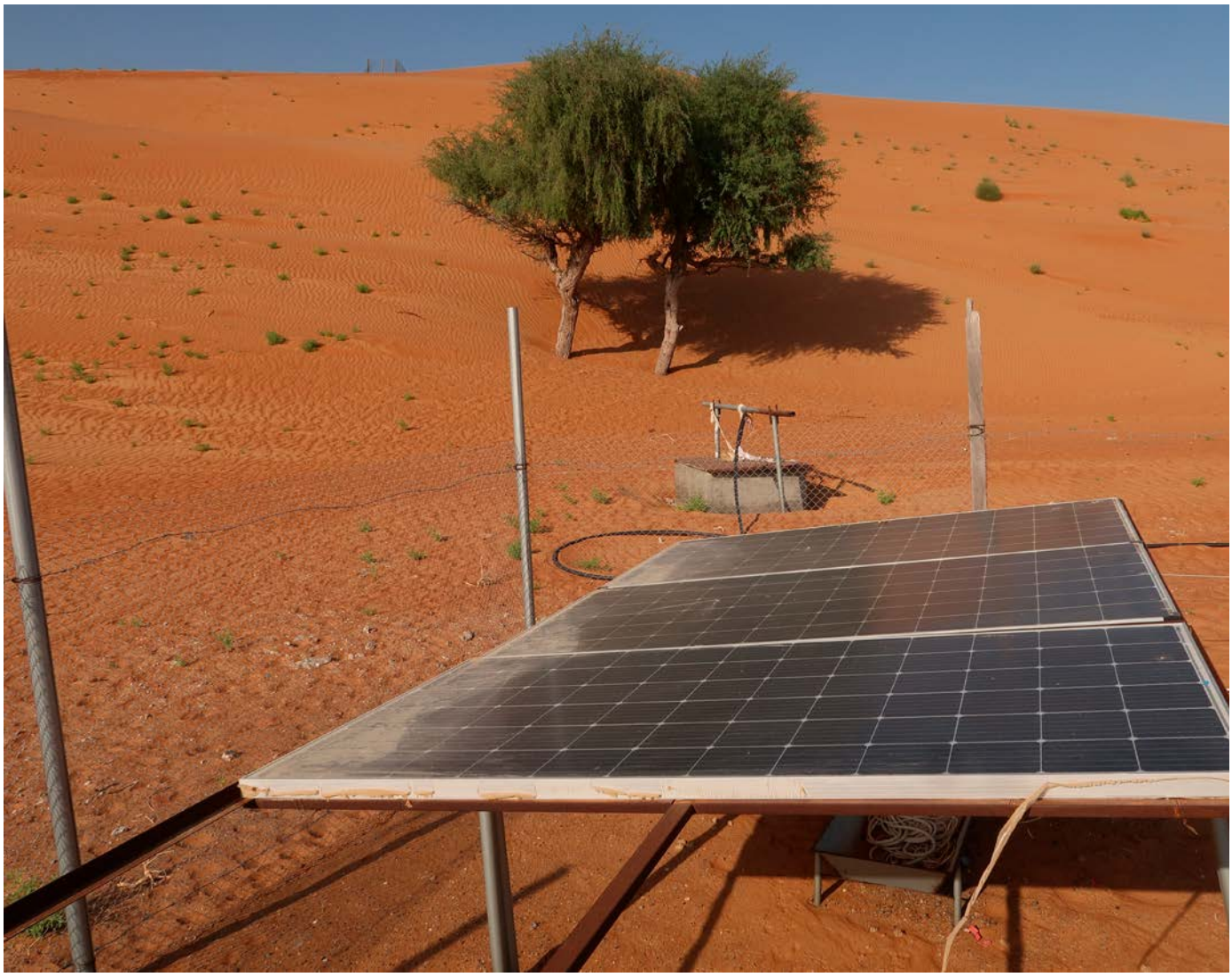
Green hydrogen continued to be in the focus of cooperation under the Omani-German Energy Dialogue in 2023. Oman is pursuing the build-out of green hydrogen production to unlock new streams of economic value beyond fossil fuels and create employment.

The energy dialogue is supporting Oman's efforts to build a hydrogen-based economy through facilitating knowledge exchange and fostering mutually beneficial cooperation with German companies. In 2023, it prepared a study that examined the local job creation potential of Oman's green hydrogen ambitions as well as additional benefits for sustainable economic development in Oman. The results of the study were showcased in a joint side event in the Omani Pavilion at the 28th UN Climate Change Conference in Dubai. The event was opened by Parliamentary State Secretary Stefan Wenzel (BMWK), and was followed by a lively discussion between panellists from the policy and hydrogen landscape in Oman, higher education and German companies. Earlier that year, the energy dialogue had convened German and Omani stakeholders to discuss cooperation potential on capacity building for the energy transition in support of local value and employment creation.

A delegation led by the BMWK visited Oman's third Green Hydrogen Summit in December 2023. At the sidelines of the summit, the delegation held meetings with key stakeholders of the energy dialogue as well as companies engaged in the hydrogen sector in Oman. Omani stakeholders in the hydrogen area are keen to cooperate with German technology providers and align with industry stakeholders on hydrogen offtake.

Further key areas for policy cooperation include hydrogen policies, support schemes and certification, as well as power market liberalisation and the integration of renewable energy. There is also growing interest in discussing options for achieving Oman's Net Zero by 2050 target such as carbon pricing together with German counterparts.

State Secretary Stefan Wenzel (BMWK) opening the Omani German joint side event at COP28.



Solar panels in the desert of Oman.

Partner ministry:
Ministry of Energy and Minerals
Year of establishment: 2017, 2022 MoU
Focus on:

- Local value creation – Study with launch event at COP28
- Green hydrogen – Delegation visit to Green Hydrogen Summit
- Capacity building – Webinar

Website: climateandenergypartnerships.org

Matthias Schimmel
Associate Director
Guidehouse

Qatari-German
Energy Partnership

The Energy partnership explores business opportunities and challenges

The energy partnership's 2023 programme kicked off in February with a working group meeting between the BMWK and Qatar Energy. Guidehouse presented an overview of the German and European development and regulations in the field of energy transition with a dedicated input on hydrogen. Additionally, German companies were invited to pitch energy transition solutions. A select group of these companies was then invited to Doha in May to further discuss business opportunities. The German delegation also visited the Qatar Economic Forum.

In September, the energy partnership facilitated a webinar on the Carbon Border Adjustment Mechanism (CBAM) for Qatari stakeholders. Inputs were presented by a representative from the EU Commission's Directorate-General for Taxation and Customs Union (TAXUD) and Guidehouse. CBAM is a central new instrument of EU climate policy and complements the EU Emissions Trading System (EU-ETS) in the field of carbon leakage. The new instrument became effective in October. CBAM is becoming an important topic in the bilateral cooperation with partner countries such as Qatar. Early on, it is essential to share knowledge on the requirements in the context of CBAM to secure its successful global implementation.

The aforementioned webinar not only served as a blueprint for other energy partnerships and dialogues, but is designed to serve as a first event in a recurring exchange series.

In the context of the 28th UN Climate Change Conference, the Qatari non-profit organisation Al-Attiyah Foundation reached out to the energy partnership to involve experts from the BMWK in a panel discussion on the topic of voluntary carbon markets (VCM). VCMs are gaining importance in the Gulf region as several countries are exploring carbon pricing mechanism to accelerate decarbonisation. A spokesperson from the BMWK participated in the 28th UN Climate Change Conference side event hosted by the Al-Attiyah Foundation.

Visit of German delegation to Doha, kick-off meeting with Qatar Energy.

Visit of German delegation to Doha.

Partner ministry:
Qatar Energy
Year of establishment: 2022
Focus on:

- CBAM – Webinar
- Technology exchange – Canadian delegation learns about offshore wind during study trip to Germany
- Just Transition – Business pitches Delegation visit

Website: climateandenergypartnerships.org

Diego Bietenholz
Consultant
Guidehouse

Saudi-German
Energy Dialogue

Implementing hydrogen trade and exploring climate cooperation

Hydrogen trade continued to be the dominating topic of the Saudi-German Energy Dialogue in 2023. In February, a hydrogen off-taker conference, organised by the energy dialogue, took place in Düsseldorf. A delegation of Saudi companies with plans to export hydrogen and the Ministry of Energy met potential German off-takers. Alongside business-to-business discussions, the delegation visited the thyssenkrupp steel site in Duisburg, which will start switching to hydrogen by the end of this decade. This successful off-taker event laid the ground for more in-depth discussion between companies over the course of the year, and the format was increasingly also used in the context of other energy partnerships and dialogues.

In May, the 2nd Saudi-Germany Energy Day was held in Berlin. In addition to hydrogen, climate cooperation emerged as a topic of collaboration. State Secretary Philipp and Mohammed Albrahim, Assistant Minister of Oil and Gas Affairs, gave opening remarks followed by three lively panel discussions on clean hydrogen, supply chain resilience and climate action, respectively.

At the sidelines of the Energy Day, a high-level discussion between Federal Minister Habeck, Abdulaziz bin Salman Al Saud, Energy Minister, and numerous CEOs from both countries took place on the topic of hydrogen trade. The mismatch between the desire from the Saudi side to sign long-term (>15 years) contracts and the current hesitance by off-takers to do so due to the uncertainty about the future hydrogen market remains a key challenge.

The bilateral hydrogen collaboration was further strengthened through a webinar on certification in August. Guidehouse presented an overview of requirements for hydrogen, while the Saudi side provided insights into their certification scheme that is under development. Both parties agreed to work together on the mutual recognition of hydrogen certification.

2nd Saudi-German Energy Day.

Hydrogen off-taker meeting in Düsseldorf.

Climate action took centre stage during the bilateral workshop on climate modelling in Berlin in September. Researchers from Saudi institutions discussed with leading experts from Germany different approaches towards net-zero modelling and the role of carbon capture, storage and utilisation (CCUS). There are numerous opportunities for cooperation between Saudi Arabia and Germany when modelling transformation pathways. Germany has over 30 years of experience, while Saudi Arabia is still in the early stages.

Lastly, MENA climate week, the major regional event in the run-up to the 28th UN Climate Change Conference, was held in Riyadh in November. The energy dialogue used this opportunity for a delegation visit to meet local actors in the climate space such as Think Tank KAPSARC and discuss hydrogen trade with the Ministry of Energy and other main stakeholders such as the Public Investment Fund, Saudi's sovereign wealth fund.

Partner ministry:
Ministry of Energy
Year of establishment:
2019 – Energy Dialogue
2021 – Hydrogen Cooperation
Focus on:

- Hydrogen –
  - Off-taker meeting in Düsseldorf and ministerial/CEO roundtable on hydrogen trade
  - Contribution to Saudi's hydrogen certification framework.
- Climate action – Net-zero modelling and CCUS workshop informed Saudi's climate modelling approach

Website: climateandenergypartnerships.org

Matthias Schimmel
Associate Director
Guidehouse

South African-German
Energy Partnership

Energy Partnership
Energiepartnerschaft
South Africa - Deutschland

South Africa and Germany finding mutual gains in the green hydrogen economy

Green hydrogen cooperation took centre stage in the energy partnership between South Africa and Germany in 2023, with the establishment of a bilateral Hydrogen Task Force and several high-level visits to explore the potential of cooperation in this area.

South Africa boasts some of the best conditions globally for the green hydrogen economy. Apart from abundant land and ideal wind and solar conditions, the country hosts the world's largest Fischer-Tropsch refinery for the production of synthetic fuels and possesses a range of critical raw materials. With the publication of its commercialisation strategy for green hydrogen in 2023, the South African government has made its ambition clear to become a leader in the global green hydrogen economy.

German delegation led by BMWK Green Hydrogen Envoy Dr Friedrich takes part in the South African Green Hydrogen Summit.

Germany collaborates closely with South Africa in this endeavour as both sides see the benefits for their respective economies. The Energy Partnership has initiated green hydrogen cooperation as early as 2017, and in 2023 this focus area hit a new stride.

In March, a high-level delegation led by the South African Presidency participated in the Berlin Energy Transition Dialogue to promote South Africa's green hydrogen ambitions. The delegation met with German ministries, members of parliament, business leaders and financing institutions.

In June, Federal Minister Habeck and Minister Ramokgopa signed a joint declaration for green hydrogen cooperation. It established a green hydrogen task force as a regular forum to share information, ease market access, facilitate product and infrastructure partnerships, and support the market ramp-up. The first meeting of the task force took place in October on the sidelines of the South African Green Hydrogen Summit in Cape Town. The German Delegation led by the Special Envoy for Green Hydrogen Projects, Dr Jürgen Friedrich, engaged in discussions with the South African side that focused on advancing lighthouse projects and easing offtake relationships.

South African delegation attends the Berlin Energy Transition Dialogue, led by South African Presidency with industry representatives.

Through the continuous engagement, South Africa's green hydrogen strategy considers Germany as a primary partner and principal export market. Regulations, standards and infrastructure projects are being designed to facilitate South African-German trade in green hydrogen and power-to-x products. The green hydrogen task force will continue its work in 2024 to unlock opportunities for trade and industry partnerships.

Partner ministry:
Department of Mineral Resources and Energy
Year of establishment: 2013
Focus on:

- Just Energy Transition – Contribution to implementation of JET Investment Plan, especially in the promotion of the electric vehicle sector and unlocking private finance
- Power Sector –Contributions to transmission management, technical exchanges between renewable energy associations in both countries
- Energy Efficiency – Development of technical application guidelines for energy performance certification for public buildings
- Green Hydrogen / Power-to-X – Establishment of a bilateral task force, various government and business-to-government engagements

Website: energypartnership.org.za

Henrik Hartmann
Head of Secretariat
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Korean-German
Energy Partnership

한·독 에너지 파트너십
Energiepartnerschaft
DEUTSCHLAND – KOREA

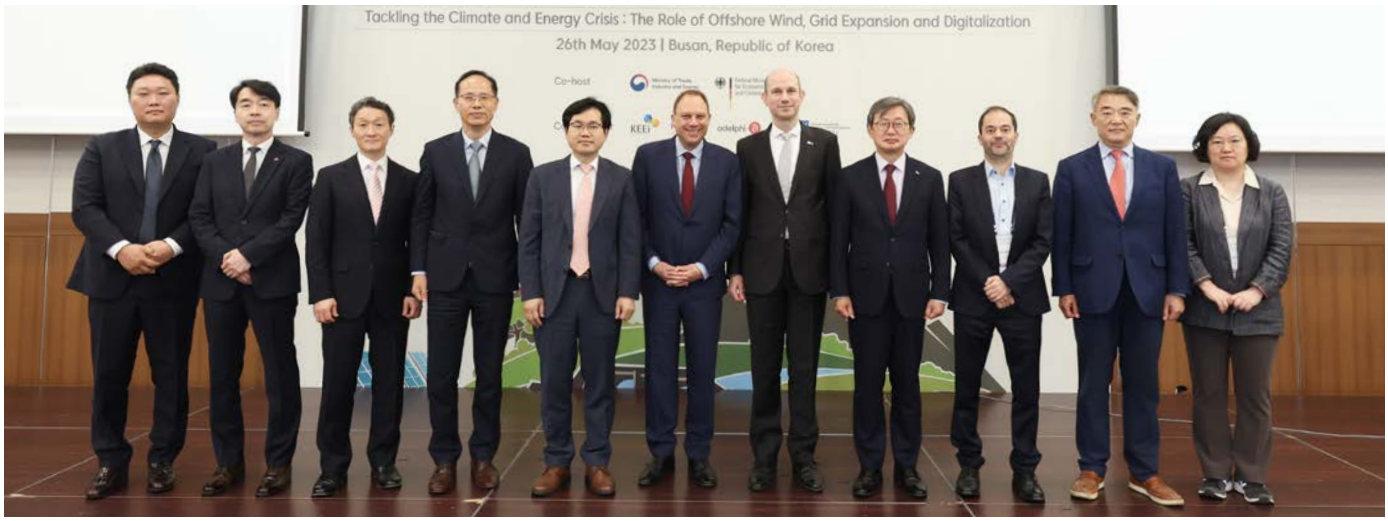
Promoting the energy transition by fostering knowledge and public acceptance

Public acceptance of renewable energies and green technologies is one of the key factors for a successful energy transition. Raising the local acceptance of concrete projects remains a common challenge for Korea and Germany. Additionally, in the Korean public, there are still many misconceptions regarding the energy transition in general. Therefore, increasing public awareness and acceptance for the energy transition in Korea and Germany is a key objective of the Korean-German Energy Partnership, which has been specifically targeted this year.

Among the activities to address this objective was a workshop on acceptance for wind energy which took place in Seoul and a research trip for Korean TV journalists to Germany in November. A delegation of seven TV journalists from Korea visited Germany to document the country's efforts in the area of renewable energy expansion, the necessary policy measures and regulations, and industry efforts with a special focus on offshore wind and social acceptance. The research trip provided worthwhile impressions and valuable video material about the progress of the German energy transition that contributed to a better understanding of this process for the Korean audience. The material was broadcast in 20 separate Korean television programmes by seven different television channels.

Additionally, a comparative study prepared by adelphi and presented at the Korean-German Energy Day in Busan in May, gives a comparative overview of the potential that Korea and Germany have regarding different renewable energy sources. The study shows that contrary to preconceptions existing in Korea, the country has great potential to produce renewable energy within its borders given the right regulatory framework. Korea also has a higher solar PV potential than Germany per square metre and substantially higher potential for offshore wind energy, given its roughly eight-times greater marine area.

Korean journalists visit TenneT during a study tour to Germany (November).



5th Korean-German Energy Day in Busan, Korea (May).

In addition, an online lecture series on current developments in energy policy in Germany and Korea was conducted during the academic year 2022/2023. This was targeted at university students, while also being open to anyone interested, and provided an opportunity for students and researchers from both countries to learn about and discuss the topics of energy efficiency in industry, the utilisation of CCS technologies and decarbonisation of heating and energy efficiency in data centres. The comparative perspective between the two countries allowed students to broaden their knowledge of transformation pathways and technology options to address climate change.

The aforementioned activities focused on making information on the energy transition available to a wide audience, thereby helping to alter people's perceptions of these crucial, yet often still contested, strides towards a green economy.

Partner ministry:
Ministry of Trade, Industry and Energy (MOTIE)
Year of establishment: 2019
Focus on:

- Offshore wind – In-person workshop on the acceptance of (offshore) wind power in Korea and Germany
- Hydrogen – Publication of study on "Policy instruments for the market ramp-up of low carbon hydrogen in Korea and Germany"
- Grid expansion and integration of renewables and grid flexibility – Expert workshop on the potential of providing short-term grid flexibility via electric vehicles

Website: energypartnership-korea.org

Jana Narita
Senior Manager
adelphi Consult GmbH

Tunisian-German
Energy Partnership

Partenariat de l'Energie
Energiepartnerschaft
TUNISIE - ALLEMAGNE

Building bridges between Europe and North Africa OR Connecting continents

Preparing for future transcontinental energy trade

Tunisia has an enormous potential to produce more renewable energy than the country needs and to use the excess for promoting green hydrogen. Given its geographical proximity, it is ideally situated to play a key role for providing green hydrogen to Europe. The Tunisian-German Energy Partnership supports the Ministry for Industry, Mines and Energy in becoming an important future energy trade partner for Europe and Germany. A study on transportation options for green hydrogen evaluated the use of the existing gas pipeline and transport by vessels for exporting green hydrogen to Europe and Germany.

It concluded that the use of the gas pipeline has a significant economic advantage which provides Tunisia with an important competitive asset to establish itself as a green hydrogen supplier. Furthermore, Tunisia participated in a pentalateral exchange with H_2 off-takers on the new SoutH2 Corridor project in Munich, presenting itself as a reliable partner for producing green hydrogen and exporting it in the future. Due to its proximity to Europe, Tunisia also provides offers great potential for increased electricity interconnections. Thus, the energy partnership also supports ELMED, a new electricity interconnector.

Supporting the private sector to become an important change agent

The Tunisian-German Energy Partnership supports the Tunisian solar association, CSPV, in its organisational development thereby reinforcing its role as an advocate for the advancement of the Tunisian energy transition. One of its flagship activities is the organisation of an energy transition trade fair in cooperation with the national association of private companies. The second edition of this trade fair took place in October under the Ministry's patronage and in cooperation with all key actors in the Tunisian energy sector.

Lively discussions about the progress of the energy transition between the public and private sector took place at the second energy transition fair (October).

Group picture of participants of the Official Side Event of the Women in Energy Conference in the MENA Region, Munich (June).

More than 800 participants visited the exhibition and discussed the current state of the energy transition during a comprehensive conference programme. Based on this exchange the association developed recommendations to catalyse the energy transition for high level political decision makers.

The Tunisian-German Energy Partnership is an active supporter of gender equality in the energy sector and a side event on this topic was organised at the 2nd Women Energize Women Conference on the 16th of June in Munich within the framework of the Smarter E fair.

Partner ministry:
Ministry for Industry, Mines and Energy
Year of establishment: 2012
Focus on:

- Renewable energies – Revision of the grid code with the national grid operator and energy producers
- Energy efficiency – Creation of a network for SMEs to discuss energy efficiency measures, methodologies and share best practices
- Innovation – Hackathon on e-mobility with startups in the energy sector supported by the National Energy Agency (ANME)
- Cooperation with the private sector and civil society – Hosted the energy transition trade fair for the solar industry to exchange and discuss on the status, challenges, and solutions for accelerating the energy transition

Website: energypartnership-tunisia.org

Nicole Täumel
Head of Secretariat
Deutsche Gesellschaft für Internationel Zusammenarbeit (GIZ) GmbH

Turkish-German
Energy Partnership

Türk-Alman
Enerji Forumu
Deutsch-Türkisches
Energieforum

Empowering innovation: catalysing success in the Turkish energy start-up landscape

Türkiye's energy start-up scene has been experiencing a surge in potential, with approximately 350 energy technology start-ups established to date. This sector has attracted significant attention from investors, reflecting a growing confidence in Türkiye's energy innovation landscape. The evolution of Türkiye's energy start-up ecosystem has seen an emphasis on green technologies and sustainable practices, with energy start-ups increasingly being recognised as key drivers of innovation and sustainability within Türkiye's energy sector.

Against this promising backdrop, the Turkish-German Energy Partnership has been catalysing collaboration and growth within Türkiye's energy start-up ecosystem. Over the last four years, in cooperation with dena's Start Up Energy Transition (SET) Hub, the Turkish-German Energy Partnership has intensified its collaboration with start-ups developing smart solutions for a vast array of topics ranging from electricity trading and early damage detection for wind turbines to the production of biofuels based on microalgae.

These endeavours have created a strong community of start-ups and provided them with invaluable networking opportunities across the Turkish-German Energy Partnership, including with ministries, corporations, research institutions and non-governmental organisations. Thanks to cooperation with the Turkish-German Energy Partnership, start-ups have reported significant growth, new partnerships and the initiation of projects across Türkiye, Germany and beyond.

Its extensive networks enable the Turkish-German Energy Partnership to strategically engage with start-ups and key players in Türkiye's energy ecosystem. Every year, the Turkish-German Energy Partnership promotes participation in the Start Up Energy Transition (SET) award, an international competition for start-ups worldwide that are working on ideas to advance the energy transition and address climate change. This led to five Turkish start-ups being invited to join the SET Tech Festival in Berlin in March 2023.

The co-chairs of the GTEP working groups present the progress of their work in a panel discussion at the fifth Turkish-German Energy Forum which took place in Ankara (October).

Participants at the signing ceremony at the fifth Turkish-German Energy Forum.

In the years 2021-2023, a total of five start-ups from Türkiye made it onto the SET100 list – the annual compilation profiling the best SET Award applications worldwide. Participating start-ups reported that attending the SET Tech festival in Berlin helped them to initiate new collaborations with German and European institutions and expressed a desire for similar events to take place in Türkiye. Building on this momentum, the Turkish-German Energy Partnership organised the first-ever Türkiye Energy Start-Up Day in Istanbul in November 2023. With 120 participants and four stimulating rounds of panels and pitches, the event amplified awareness of the Turkish-German Energy Partnership within the local ecosystem, created opportunities to showcase achievements, and generated exchange between a wide variety of actors. Building on the success of the first Energy Start-Up Day, an extension of this format to other locations in Türkiye is planned, with hubs such as Izmir being recognised as potential areas for the promotion of green technologies.

As the Turkish-German Energy Partnership embarks on its next phase, it will continue to foster strategic partnerships, promote participation in international platforms and boost success stories to propel Türkiye's energy start-ups towards greater impact in the global arena.

Partner ministry:
Republic of Türkiye Ministry of Energy and Natural Resources
Year of establishment: 2012
Focus on:

- Renewable energy – Decarbonising industry: "The Future of Process Heat - Dialogue on Concentrated Solar Thermal Solutions in Industry" conference in Izmir
- Energy efficiency – Signing of an agreement to implement a pilot project on ESCO market development between Siemens Türkiye and Daikin
- Flexibilisation of existing power plants – Pilot project on the feasibility of flexible power plant operation in EÜAS power plants
- Green hydrogen – Interdisciplinary hydrogen workshop days in Istanbul – financing, regulation, industry, skilled workforce, sustainable water management

Website: energypartnership-turkiye.org

Lilia Mass
Project Leader
Deutsche Energie-Agentur GmbH (dena) - German Energy Agency

Ukrainian-German
Energy Partnership

Енергетичне Партнерство
Energy Partnership
Ukraine – Germany

Unifying efforts: advancing green and sustainable recovery during wartime

The Ukrainian-German Energy Partnership has continued its unwavering commitment to providing emergency relief and bolstering support for Ukraine's energy infrastructure amidst the ongoing war.

In 2023, the BMWK demonstrated its steadfast support by contributing €54.75 million to the Ukraine Energy Support Fund. Additionally, the Federal Foreign Office (FFO) allocated €33.2 million, while the Ministry for Economic Cooperation and Development (BMZ) provided €121 million to Ukrenergo, the Ukrainian transmission system operator, for repairing war-induced damages to the electricity grid and substations.

Through a collaborative donation campaign, German organisations and companies generously donated 3,726 pieces of energy equipment, ensuring electricity access for over 450,000 individuals in Ukraine. The campaign also facilitated the procurement and delivery of urgently needed materials valued at over €2.4 million, including essential items like long-distance cables, generators and pipes.

Supported by the energy partnership, Ukrenergo achieved a significant milestone in November by successfully synchronising with the European ENTSO-E Network. This achievement represents a crucial step towards integrating Ukraine's energy network with Europe's, following the emergency synchronisation in 2022.

Furthermore, the project “Structural Change in Ukrainian Coal Regions” received additional funding of €20 million from the BMWK, bringing the total budget for 2023 to €45.9 million. This initiative provided strategic and legal framework support, pilot community assistance, and bolstered support for coal community associations and entrepreneurship at the local level.

The Promotion of Energy Efficiency project, backed by an additional €7 million from the BMZ, extended its reach to 25 partner municipalities, offering enhanced energy management assistance and capacity building through vocational education and training. The BMZ also allocated €50 million to the Green for Growth Fund, aimed at reducing energy consumption, resource usage and CO_2 emissions in Ukraine.

Vice Chancellor and Federal Minister Robert Habeck visiting Ukraine in April, presentation of R2U project.

Participants from Ukraine and Germany at the annual Women's Energy Club of Ukraine (WECU) Conference "Energy has no gender" in Berlin (October).

A key focus to modernise Ukraine's energy sector is the decentralisation of energy supply through renewable power and heat generation. The BMWK launched the Renewables for Resilient Ukraine (R2U) project, targeting the expansion of renewables in 16 Ukrainian municipalities. The energy partnership lent its expertise to complement the project's output in two municipalities, employing integrated energy planning approaches.

Moreover, the energy partnership actively participated in international discussions on energy transition and climate action, including events such as the Berlin Energy Transition Dialogue (BETD), the 28th UN Climate Change Conference and the Ukraine Recovery Conference. The 3rd Energy Day in October served as a crucial platform for both partner countries to strengthen energy cooperation, attracting 180 participants from governmental and non-governmental institutions as well as businesses.

Partner ministry:
Ministry of Energy of Ukraine
Year of establishment: 2020
Focus on:

- Decentralisation of energy supply – Launch of the R2U project and local advisory services for municipalities on integrated energy planning
- High-level engagement – Engagement through high-level events such as BETD, the 28th UN Climate Change Conference, Energy Day and others to strengthen dialogue and foster cooperation
- Renewable energies – Development of a software application for the National Biomethane Registry to be launched in 2024
- Donation campaign and procurement – Delivery of procured and donated equipment

Website: energypartnership-ukraine.org

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Project Director EP Ukraine
Deutsche Energie-Agentur GmbH (dena) - German Energy Agency

Emirati-German Energy and Climate Partnership

Emirati-German Energy Partnership
الشراكة الإماراتية الألمانية في مجال الطاقة

The road to COP28: UAE and Germany cooperate on carbon pricing and hydrogen

The UAE have been highly committed as host of the 28th UN Climate Change Conference that took place in Dubai in December. In the run-up of COP28, the Emirati-German Energy and Climate Partnership enabled high-level and working-level political dialogue between the UAE and Germany on topics such as carbon pricing, green hydrogen certification and renewable energy expansion.

During the Berlin Energy Transition Dialogue in March, COP28 President Dr Sultan Al Jaber and Federal Minister Habeck held the opening speeches highlighting the importance of accelerated climate action and international cooperation. At COP28, the UAE and Germany discussed the future of carbon pricing in Europe and the Middle East, enabled green hydrogen certification and informed about the implications of the EU Carbon Border Adjustment Mechanism in high-level dialogues and expert discussions. In addition, a joint study on the potential of wind energy in the UAE carried out by Guidehouse was launched at COP28 in collaboration with the UAE Ministry of Energy and Infrastructure. The study shows suitable onshore wind conditions in the Southwestern desert region of the UAE while offshore wind energy conditions are less favourable.

COP28 President Sultan Ahmed Al Jaber delivering keynote speech during the Berlin Energy Transition Dialogue (March).

Another important milestone was the official launch of the National Hydrogen Strategy of the UAE developed with the support of Fraunhofer and the Emirati-German Energy and Climate Partnership. An industry workshop in Abu Dhabi in September on hydrogen strategies and carbon markets brought together experts to discuss synergies between the national hydrogen strategies of the UAE and Germany. Both countries are in close dialogue to enable an integrated value chain for hydrogen production and trade.

In the spirit of the Abraham Accords, the trilateral dialogue between Germany, the UAE and Israel has been reinforced after its launch during COP27. Experts from the UAE and Israel were invited for a trilateral study tour to Berlin to exchange expertise on sustainable urban planning and energy efficiency to effectively decarbonise the building sector.

The two ministries coordinating their hydrogen strategies to enable green hydrogen imports from the UAE to Germany (September).

The study tour included expert workshops, visits to lighthouse projects and networking with technology providers.

During the visit of a German delegation to Abu Dhabi in January, thyssenkrupp Uhde and the Emirati oil and gas company ADNOC signed an agreement on the joint development of ammonia cracking plants witnessed by Parliamentary State Secretary Stefan Wenzel (BMWK).

Additional private sector projects have been supported under the Energy Security and Industry Accelerator (ESIA) established in 2022 during a UAE visit by Federal Chancellor Olaf Scholz. In 2023, ESIA enabled blue ammonia test cargos from the UAE to German, gas and oil imports to substitute energy imports from Russia following the invasion of Ukraine, and €375 million UAE investment in German offshore wind energy.

Partner ministry:
Ministry of Energy and Infrastructure
Year of establishment: 2017; expansion to climate partnership in 2022
Focus on:

- Climate action – High-level dialogue on carbon pricing, green hydrogen and wind energy during COP28
- Carbon pricing – UAE announced carbon accounting and registry launch
- Ecocities – Trilateral study tour in Berlin with delegations from the UAE and Israel
- Wind energy – Study launch on UAE wind energy potential

Website: energypartnership-uae.org

Henrik Schult
Managing Consultant
Guidehouse

United Kingdom-German
Hydrogen Partnership

New Cooperation on Hydrogen with the United Kingdom

On 26 September 2023, the UK and Germany officially launched their cooperation on hydrogen with a high-profile conference at the Embassy of the United Kingdom in Berlin. German State Secretary Philipp Nimmerman and the British Minister for Energy Efficiency and Green Finance Lord Martin Callanan signed the Joint Declaration of Intent for the UK-German Hydrogen Partnership. The signing was followed by several panel discussions on topics such as regional hydrogen clusters, funding mechanisms, and industry projects. The event continued into the evening and attendees were able to connect at a networking reception.

The UK-German Hydrogen Partnership provides the framework for cooperation on hydrogen infrastructure and technology. In the UK, initiatives such as the Net Zero Hydrogen Fund and the Hydrogen Production Business Model are driving low-carbon hydrogen production. Meanwhile, Germany's National Hydrogen Strategy as well as various programmes including the IPCEI, Carbon Contracts for Difference, R&D and additional national support schemes are catalysing the growth of the hydrogen market.

Panel Discussion at the UK Embassy in Berlin.

This new cooperation seeks to expedite the advancement of hydrogen technology, enabling bilateral ties to deepen in 2024 with a focus on topics such as the expansion of hydrogen trade infrastructure in the North Sea region, the deployment of hydrogen projects for industry and consumers, and the promotion of hydrogen transport and trade. The partnership will also address related goods, technologies and services, financial support mechanisms, hydrogen research and innovation.

These efforts aim to render hydrogen technologies more accessible and affordable, ultimately reducing energy costs for consumers. This partnership is not only a step towards achieving net-zero emissions by 2050 but it also enhances energy security by transitioning away from fossil fuels towards cleaner alternatives.

Initial meetings between the participating ministries took place at the end of 2023 and in the beginning of 2024, with more bilateral events set to follow. The joint declaration signifies a pivotal moment in the journey towards establishing an international hydrogen industry and marks a

State Secretary Nimmerman with UK Minister for Energy Efficiency and Green Finance Lord Martin Callanan.

significant milestone in the global transition towards cleaner energy solutions for Germany and the United Kingdom. Both countries are committed to working together to facilitate the expansion of low-carbon hydrogen within their respective energy mixes, showcasing the viability of net-zero-friendly markets to the world.

By aligning their efforts, both countries are poised to achieve their net-zero emissions targets while bolstering economic and energy security in an evolving geopolitical landscape.

Partner ministry:
UK Department for Energy Security and Net Zero
Year of establishment: 2023
Focus on:

- Hydrogen networks and trade infrastructure
- Promoting of hydrogen trade & investment
- Standards & certification
- Research & Innovation

Website: climateandenergypartnerships.org

Bastian Stenzel
Senior Manager
adelphi Consult GmbH

Uruguayan-German
Energy Partnership

Building a sustainable energy future with Uruguay

Uruguay, with its vast renewable energy resources and progressive energy policies, stands as an attractive partner for Germany. The country's energy sector, powered by over 96 per cent renewables, with wind energy comprising about 30 per cent, is moving towards a 'second energy transition' targeting decarbonisation of heat and transport sectors. Unique in the emerging hydrogen economy, Uruguay's biogenic CO_2 sources from forestry enable sustainable green methanol production, offering a promising avenue for investments necessary for complete decarbonisation and presenting win-win opportunities for both nations in renewable energy and beyond.

In March, the signing of the Joint Declaration of Intent (JDOI) by Minister Paganini and Federal Minister Habeck laid the groundwork for the bilateral energy partnership between both countries. In the first year, the Energy Partnership was underscored by significant studies on hydrogen production conditions and advanced discussions on green methanol trade, solidifying Uruguay's status as a renewable energy leader in Latin America with a high potential to export green methanol to Germany. The activities reflect the shared commitment to fostering sustainable investment environments and knowledge exchange.

The activities in green hydrogen were mainly carried out through the BMWK projects PtX Hub and H_2Uppp, implemented by GIZ alongside the German Chamber of Commerce (AHK). Key outcomes include drafting crucial hydrogen legislation, identifying biogenic CO_2 sources and establishing a business-led hydrogen initiative group, marking substantial progress towards a decarbonised energy sector. These efforts are poised to catalyse long-term impacts, such as enhanced bilateral trade and investment opportunities as well as a robust framework for sustainable energy collaboration.

The partnership's energy efficiency endeavours, carried out by dena, AHK and GIZ, focused on opening market potentials for German enterprises

Eolic energy windmills at countryside landscape in Maldonado outskirts, Uruguay.

Signing of the energy partnership between Germany and Uruguay (Minister of Foreign Relations Paganini and Federal Minister Habeck).

through workshops, studies and strategic planning, demonstrating the synergy between German expertise and Uruguayan renewable ambitions. Together with partners from Uruguay, a work plan for the coming years was developed.

Looking forward, the partnership aims to refine and implement comprehensive strategies on hydrogen and energy efficiency, ensuring continued growth and innovation in renewable energy, reinforcing Germany's and Uruguay's commitment to a sustainable, energy-efficient future.

Partner ministry:
Ministry of Industry, Energy and Mining
Year of establishment: 2023
Focus on:

- Green Hydrogen – Drafting hydrogen legislation (PtX Hub)
- Energy Efficiency –Work plan for coming years

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American-Germany Climate and Energy Partnership

USA-GERMANY Climate & Energy Partnership

Building a transatlantic clean hydrogen economy and strengthening ties with subnational actors

In 2023, the climate and energy partnership saw another productive year in its main working groups and beyond. Key highlights included the German Embassy's annual German Unity Day Reception co-hosted by the partnership, two expert trips to Germany, several workshops and business advisory roundtables, publications on offshore wind supply chains, the Inflation Reduction Act (IRA) and the North American experiences with Carbon Capture, Utilisation and Storage (CCU/S).

US and Germany team up for transatlantic hydrogen cooperation

Since 2022, the climate and energy partnership has worked on establishing and strengthening of direct channels between German and American hydrogen stakeholders as well as promoting clean hydrogen trade and technology cooperation to pave the way for a modern transatlantic energy alliance. In 2023, the first fruits of these endeavours have been harvested. Against the backdrop of new or revised hydrogen strategies in the US and Germany as well as a generous hydrogen production tax credit under the IRA, hydrogen and technology trade have been officially added to the portfolio of the Partnership.

Various events and meetings in the course of the year - including talks with potential hydrogen exporters around CERAWeek in Houston in March 2023 - led up to the first-ever US-Germany Hydrogen Conference in Berlin in October. More than 150 stakeholders from both countries explored the potential for trade in hydrogen derivatives and technology and looked at incentives and support programs, signalling the gradual fruition of a transatlantic hydrogen economy propelled by German and American companies.

Looking ahead to 2024, plans are underway to establish a business-driven hydrogen trade task force under the partnership. As many clean hydrogen projects in the US, especially along the Gulf of Mexico, are focused on trade ambitions, first shipments of hydrogen derivatives to Germany are close to becoming reality.

Strengthening ties in German-Minnesotan energy collaboration

Minnesota, a leading US state and role model for energy transition and climate action, and Germany share a long-standing and fruitful high-level exchange on energy-related topics. In 2023, this collaboration was furthered by a week-long delegation visit of high-ranking lawmakers and government officials from Minnesota to Germany, including Democratic House Majority Leader Jamie Long, the chairs of the Climate and Energy, Commerce and Capital Investments committees, and commissioners of the Departments of Commerce, Transport, and the Public Utilities Commission, as well as a delegation visit from the BMWK to Minnesota,

Panellists and US hydrogen delegation on stage at the US-Germany Hydrogen Conference in Berlin (October).

both organised in cooperation with the University of Minnesota.

The exchange with Germany has supported the development of energy transition policies in Minnesota over the last years and has been explicitly referenced several times in this context, most recently during the political debate around the eventual adoption of the ambitious 2023 law for the decarbonisation of the electricity sector in Minnesota by 2040, authored by Rep. Long.

Delegates at the second offshore wind expert trip to Germany visiting an offshore wind site (September).

Partner ministry:
US Department of Energy, US Department of State (and its US Special Presidential Envoy for Climate)
Year of establishment: 2021
Focus on:

- Offshore wind – Second expert delegation trip to Germany to continue transatlantic discussion, leading to a workshop on grid connection
- Clean tech – Co-hosted prestigious German Unity Day Reception at the German Embassy in DC, including a clean tech exhibition and presentation and a business roundtable and hydrogen conference before the reception
- Hydrogen – US-Germany Hydrogen Conference in Berlin
- Third country cooperation – Exchange and coordination on the global renewables and energy efficiency targets, the methane finance sprint ahead of COP28, forests, Just Energy Transition Partnerships and G20.

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Uzbek-German
Energy Dialogue

Energy Dialogue
Germany – Central Asia

Green skills in Uzbekistan: building capacity for a sustainable future

In response to progress in Uzbekistan's energy and climate agenda, the Uzbek-German Energy Dialogue has broadened and deepened its areas of cooperation in 2023. Key areas of focus include green education and capacity building, the development of a concept for gas-free cities for urban electrification and the institutional framework for energy-efficient renovation of residential buildings in Uzbekistan.

Uzbekistan is committed to transitioning its economy towards a more sustainable future in the coming decades. This will involve reducing the energy intensity of the economy and switching to renewable energy sources, which will create new opportunities for economic development and benefit the country's population. However, to ensure long-term energy security and sustainability, the entire energy sector will need to evolve, and the demand for skilled labour in green technologies will continue to grow. By 2030 Uzbekistan will need to create up to 150,000 jobs to facilitate its green transformation. This is a significant challenge that requires international support.

Aerial panorama view of scyscrapers in the city center of Tashkent, Uzbekistan.

In 2023, the Uzbek Ministry of Energy approached dena and the Uzbek-German Energy Dialogue with an initiative for cooperation in the field of green education and capacity building.

This led to the idea of establishing a training centre in Uzbekistan in the field of renewable energy and energy efficiency.

dena's task was to develop a concept for such a centre within the framework of the Uzbek-German Energy Dialogue. The centre should serve as a beacon for Uzbekistan's green transformation and provide tailored, market-driven training, drawing on the expertise of the German energy sector. The training centre is expected to achieve long-term financial self-sustainability upon completion of the development project.

The concept development started with research and data collection on the (technical) vocational and academic education sector in Uzbekistan, considering energy policy challenges, target groups

Development of an analytical framework for areas of cooperation.

and required green skills. Best practices and experiences from other training centres were then evaluated, such as the German Energy Academy in Jordan. A concept for the training centre in Uzbekistan was subsequently developed. This includes institutional anchoring in the Uzbek educational landscape, the development of modular courses and certifications, involvement of German and Uzbek companies, and financing options for the establishment and operation of the centre.

The development plan was carried out in close communication with the Uzbek Ministry of Energy to ensure maximum focus on the needs of the partner. As a result, at the final stage of concept development, the Ministry suggested that the centre should be considered as part of a comprehensive plan for the Academy of Energy. This is a government project aimed at capacity building in the field of green skills, which is due to start in 2024.

Partner ministry:
Ministry of Energy of the Republic of Uzbekistan
Ministry of Construction and Housing and Communal Services of the Republic of Uzbekistan
Year of establishment: 2018
Focus on:

- Green education and capacity building – Development of a concept for a training centre for the green transformation in Uzbekistan
- Urban electrification and energy efficiency – Development of a "gas-free cities for Uzbekistan" concept
- Energy efficiency: buildings – Advising on establishment of an institutional framework for the energy-efficient refurbishment of residential buildings in Uzbekistan

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Vietnamese-German
Energy Dialogue

Viet Nam and Germany intensify the Energy Dialogue on the energy transition

Starting the dialogue on Viet Nam's national hydrogen strategy

Viet Nam boasts immense potential in renewable energy, particularly in photovoltaic and wind energy. Leveraging the potential of a renewable hydrogen economy is recognised as a pivotal element in Viet Nam's just energy transition. In this context, the Prime Minister instructed the Ministry of Industry and Trade to draw up a national hydrogen strategy by the end of 2023 to define the legal framework for domestic use of green hydrogen and its export within the Asian region.

The country's strategic plans, including the Power Development Plan 8, highlight the vital role of green hydrogen in decarbonising the electricity sector. Viet Nam is thus focusing on the co-combustion of green hydrogen/ammonia in thermal power plants, unlike most countries in the world that pursue the more efficient application of green hydrogen for hard-to-abate industrial sectors.

Thanks to a study tour to the Berlin Energy Transition Dialogue, industrial actors in the hydrogen sector and representatives from the Ministry of Industry and Trade had the chance to engage with officials from German and international ministries to get to know the latest state-of-the-art technologies and international policy developments.

As part of the Vietnamese-German Energy Dialogue and in close cooperation with the PtX Hub, several studies were conducted that addressed key issues relating to the development of the hydrogen market, such as export potential, technical requirements and key sustainability criteria for the Vietnamese PtX industry. In particular, the study on green ammonia for power generation brought in international perspectives and informed the Ministry of Industry and Trade about the level of efficiency of and the environmental challenges relating to the process of green ammonia combustion.

At a round-table dialogue with representatives from the Ministry of Industry and Trade, universities, PetroVietnam, German technology providers and Vietnamese developers, opportunities and challenges associated with a green hydrogen

Exhibition and workshop on start-of-the-art technologies to promote variable renewable energy grid integration in June; participants included representatives from industry/universities and government officials.

Bilateral roundtable meeting between German delegation and Vietnam Electricity (EVN) in February; attended by representatives from Vietnam Electricity (EVN) and the BMWK.

industry in Viet Nam were discussed, as was the question of how actual market developments should be aligned with current policy developments. Furthermore, Vietnamese developers were matched with German solution providers and agreed on joint efforts in and around green hydrogen, e.g., TÜV SÜD and The Green Solutions joint activities in the hydrogen sector in Viet Nam.

Thanks to these efforts, GIZ is now a regular member of the national hydrogen steering committee and contributes actively to the strategy development process. At the same time, GIZ was instructed by the government to support the process of developing the hydrogen strategy of Viet Nam, as well as subordinated policies such as its implementation plan, in 2024.

The early involvement of the energy dialogue has enabled Germany to very effectively position itself in the area of green hydrogen in Viet Nam.

Partner ministry:
Ministry of Industry and Trade
Year of establishment: 2022
Focus on:

- Renewable energy development – Strengthening the capacity of the state-owned power utility Vietnam Electricity to develop and operate offshore wind grid infrastructure
- Power system development – Workshop and exhibition on state-of-the-art technologies to promote the integration of variable renewable energies into electricity supply systems
- Energy efficiency – Design and implementation of a training programme for energy efficiency practitioners in industry
- Green hydrogen– Conducted research on the most important aspects of hydrogen market development

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Members of the Women's Energy Club of Ukraine (WECU) at a networking event with BMWK, German-Ukrainian Energy Day in Berlin.

Women's empowerment in the energy sector

To ensure a successful and inclusive energy transition, it is vital to involve women at all levels. They contribute valuable perspectives and skills that are essential for innovative solutions. Furthermore, to achieve the 1.5°C scenario, the global energy sector must expand its workforce to 139 million by 2030, generating 85 million new jobs. Women constitute a significant untapped resource in this effort. Nevertheless, women face persistent barriers in the renewable energy sector, remaining overrepresented in low-qualified roles and underrepresented in senior positions. Prioritising gender diversity in renewable energy policies and initiatives is therefore crucial for fostering a more equitable and sustainable future.

Women Energise Women - connecting and highlighting female energy talents

To realise this potential, the BMWK launched the global Women Energize Women (WEW) campaign through its climate and energy partnerships. WEW serves as a platform to connect and inspire female energy experts and their networks. The 2023 WEW activities were coordinated by the GIZ and the German Renewable Energy Federation (BEE) in close cooperation with dena, adelphi and Guidehouse, collaborating with a range of partners including the Global Women's Network for the Energy Transition (GWNET).

In 2023, WEW organised a panel discussion within the framework of the Berlin Energy Transition Dialogue (BETD) featuring BMWK State Secretary Dr Franziska Brantner and a workshop for women in energy networks together with GWNET. A highlight of 2023 was the 2nd WEW Conference which focused on "Financing the Energy Transition and Investing in Women" with more than 250 participants from over 50 countries.

Throughout the year, WEW cooperated with more than 35 women's energy networks, engaging in joint events, mutual promotion, and knowledge transfer. At the 28th UN Climate Change Conference (COP28), WEW hosted the first official "Women Energise Women & Allies" event in cooperation with GWNET with opening words from Parliamentary State Secretary Stefan Wenzel. WEW also participated as a partner at the COP28 - Dubai Dialogue organised by the Women in Renewables Alliance (WiRA), GWNET and Women in Renewable Energy (WiRE).

The value of women's networks across the world

In 2023 the Climate and Energy Partnerships continued to support women's networking in the energy sector, for example, through events such as

"Connecting women from the energy sector across borders" in South Korea, "Success and Inspiring Stories for Women in the Energy Sector" in Jordan, "Women Connected" in Brazil, and Ethiopia's annual "Influential Women in Energy Award". In Viet Nam the new Viet Nam Energy Women Network established four thematic working groups, enabling women to join forces on topics such as communication, capacity building, advocacy and networking. In South Africa collaborative efforts to promote the role of women in renewables were showcased in a study presented at the South African Green Hydrogen Summit. These are just a few of the ground-breaking women's networks with which the Climate and Energy Partnerships collaborate.

Boosting potential through mentoring

The BMWK promotes women's career development through targeted trainings and a mentorship programme together with GWNET. In 2023, 140 women from 22 climate and energy partnership countries took part in this programme with the aim of advancing the professional growth of mid-career women in the energy sector. Moreover, the "Young Women Students Mentorship Programme in Renewable Energies" (MMUJEER) in Mexico fostered vocational mentorship in STEM subjects, assisting mentees in identifying growth opportunities in the job market. The German Energy Academy (GEA) in Jordan achieved a significant female participation rate and empowerment through its internship programme, promoting women's advancement in renewable energy.

Gender equality at the top of the agenda at global conferences

In cooperation with dena, the Women's Energy Club of Ukraine organised its 5th annual conference "Energy has no gender" in Berlin. The participating Ukrainian and European experts discussed women's involvement in addressing the challenges of Ukraine's green recovery in the context of Russia's invasion. In China, gender equality was on the agenda of a high-level forum organised by the National Energy Administration for the first time, indicating growing awareness for this subject at the top levels of government.

At the 1st Latin American conference on "Capacities for Change and Gender Empowerment in Energy (CEGEN LAC)" which was held in Santiago de Chile, representatives of over 100 political institutions and experts from Latin America and Europe discussed means to integrate more women into the energy sector. The meeting received high-level recognition through the presence of the former President of Chile, Michelle Bachelet. The CEGEN LAC provided the setting for trilateral cooperation on women's empowerment with a peer-to-peer exchange between Chile, Uruguay, and BMWK representatives.

All these efforts underscore the global potential that is to be reaped from fostering inclusivity and diversity. By recognising women as agents of change and promoting their leadership and representation in the energy sector, the BMWK and its partner countries aim to accelerate progress towards a climate-neutral and just future.

Women energize Women & Allies Event at COP28 "All in for 1.5°: Accelerating technologies and gender equality in renewable energy".

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