




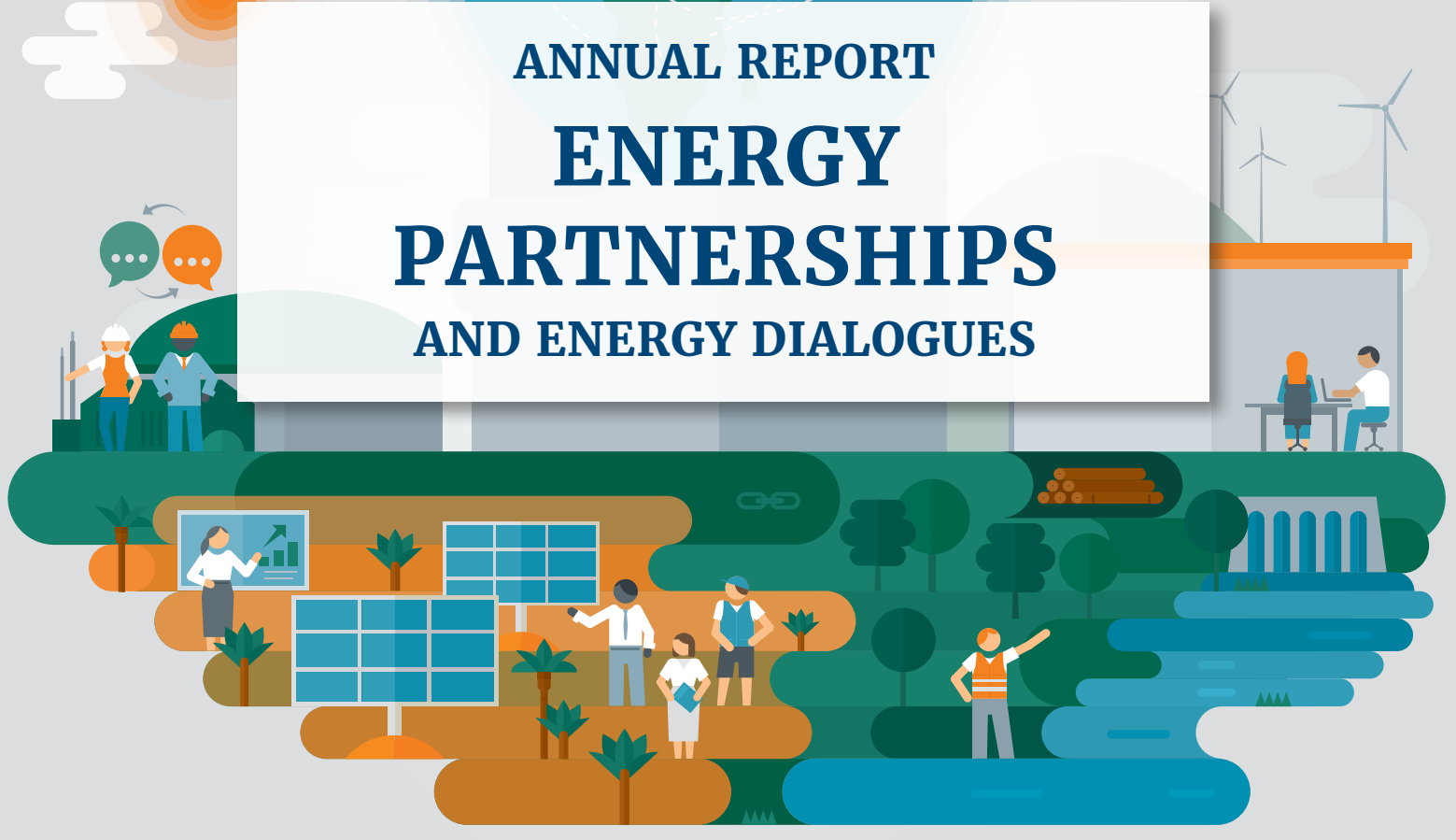
Federal Ministry
for Economic Affairs
and Energy



2018



ANNUAL REPORT
ENERGY
PARTNERSHIPS
AND ENERGY DIALOGUES



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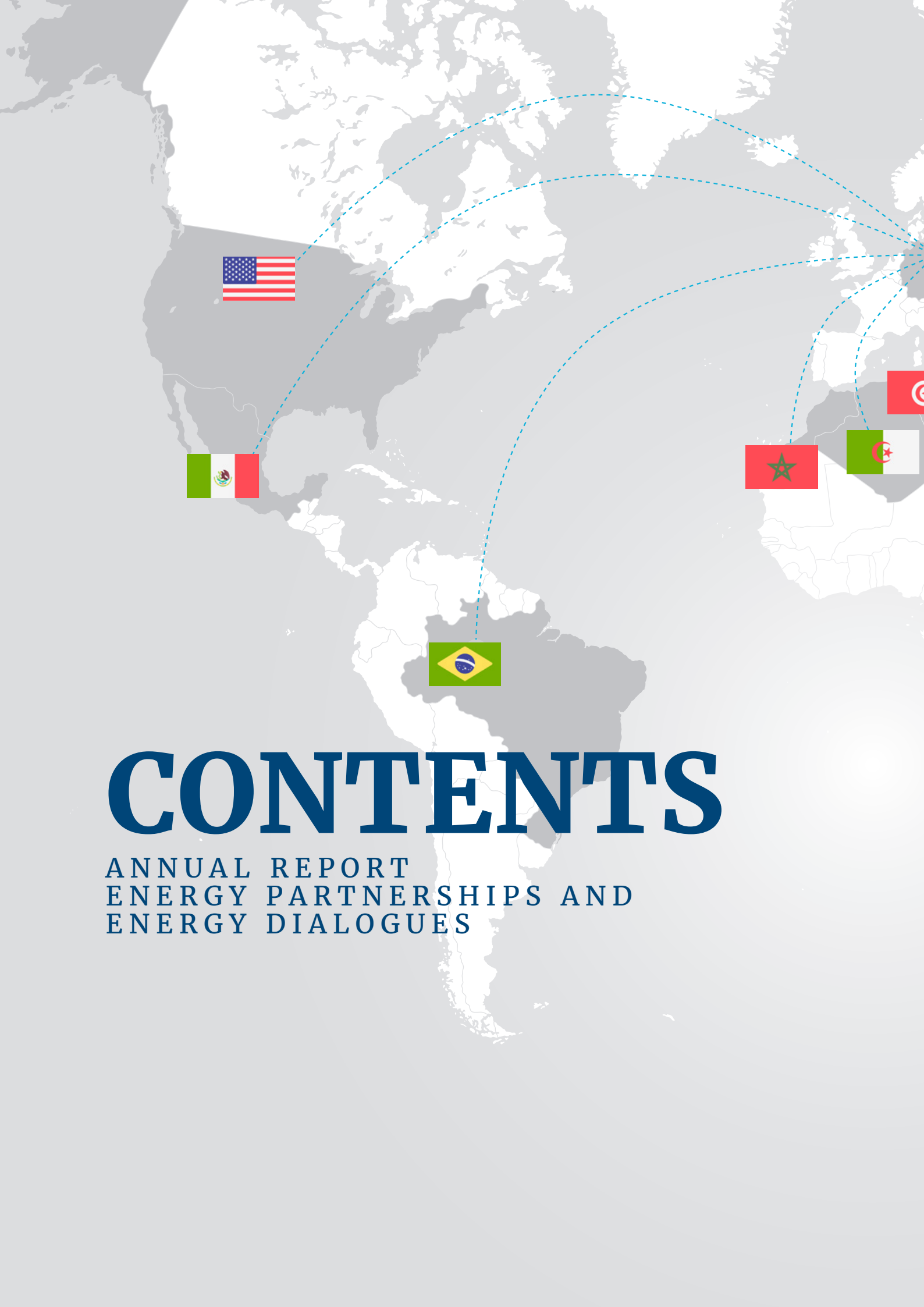
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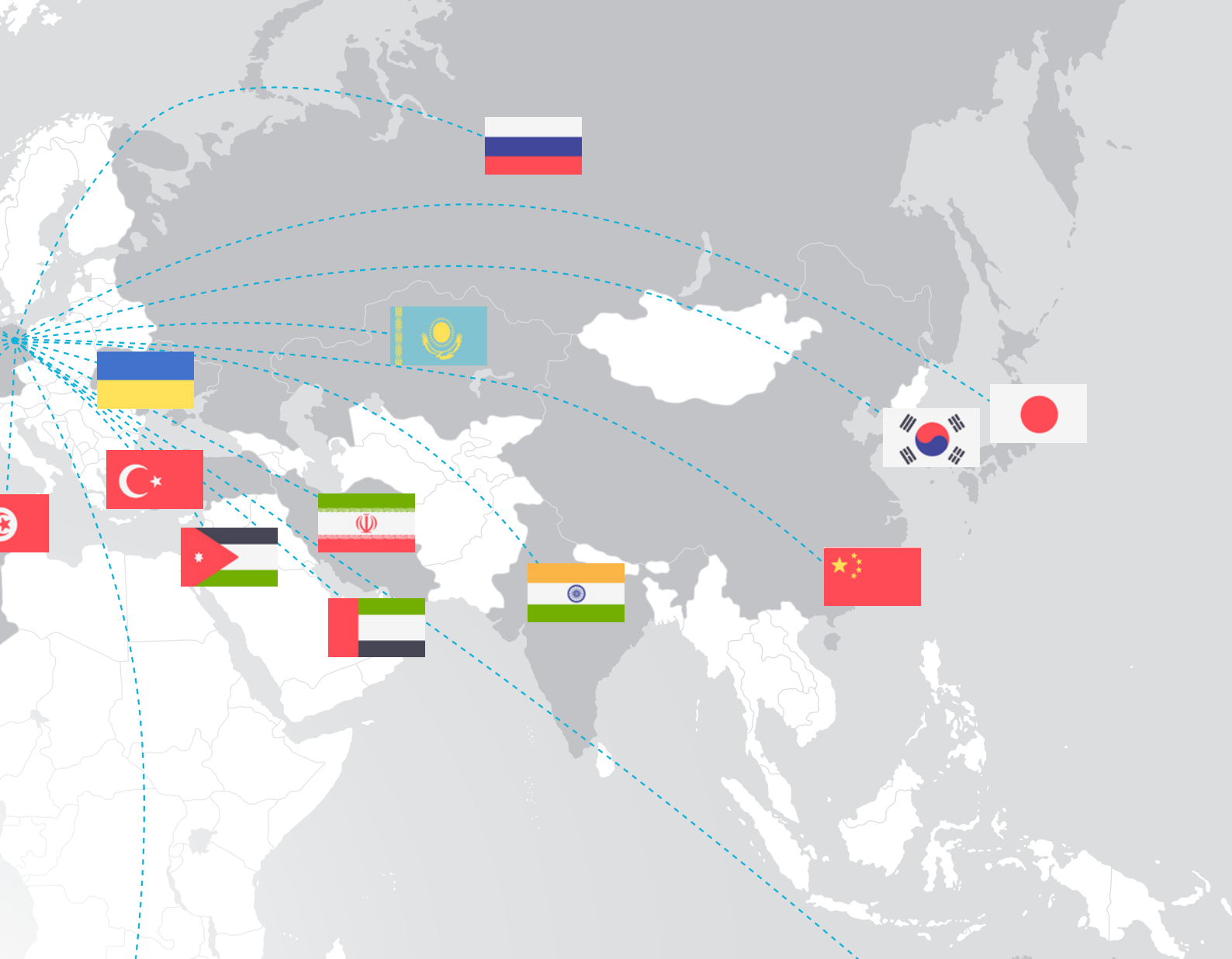
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**ANNUAL REPORT 2018
ENERGY PARTNERSHIPS
AND ENERGY DIALOGUES**



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ENERGY PARTNERSHIPS AND
ENERGY DIALOGUES



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Dear reader,

2018 was a successful year for the energy transition and the expansion of renewables in Germany. The proportion of electricity generated from renewables rose to nearly 40 %. Advances in technology and the level of expansion have enabled renewable energy to become competitive.

An optimised auction procedure for renewable energy has cut the cost of the ongoing expansion. This is crucial, because the energy transition needs to be affordable if it is to meet with broad public acceptance.

At the end of the year, the international community agreed at COP24 in Katowice on a set of rules for the implementation of the Paris Climate Agreement and on binding minimum standards. There is little time in which to attain these goals.

We are working with a growing number of partners around the world to make the energy transition a success on a global scale. We now have energy partnerships and dialogues with around 20 countries. We want to work together to put the policies in place for a fair and economically successful global energy transition.

2018 has shown us that the energy transition is continuing to gain traction. China is engaged in numerous pilot projects to pave the way for a long-term switch to alternative energy sources. India is making rapid progress on photovoltaics. Since April 2018, all of the country's villages have had access to electricity. A determined expansion of grid connections and funding for photovoltaic installations is to give all the remaining households access to electricity in 2019.

There are of course challenges, such as when key partners alter their energy and climate policy focus. In situations like these, it is particularly important to

continue strong energy partnerships – which, I should add, are driven not solely by governments, but also by a dialogue with commerce, science and civil society.

At the same time, we gained new partners in 2018. For example, we will be cooperating closely with Jordan on renewable energy and energy efficiency in a German-Jordanian Energy Partnership. Cooperation between small and medium-sized enterprises offering climate-friendly energy technologies and Jordanian energy companies is to be intensified in the context of the Energy Export Initiative of the Federal Ministry for Economic Affairs and Energy. We are also moving towards close and structured cooperation with Chile, Korea and Israel to the benefit of the global energy transition.

This annual report for 2018 offers a comprehensive overview of the various bilateral activities of the Federal Ministry for Economic Affairs and Energy in the field of energy. The results also encourage us to continue expanding the work in the various partnerships and to progress renewable energy in an intensive dialogue with our partner countries. My staff and I will continue to work very hard to make this happen.

I wish you an interesting read!



Peter Altmaier
Federal Minister for Economic Affairs and Energy



A strong network for the global energy transition

How 19 energy partnerships and dialogues work towards a common goal

Energy partnerships and dialogues play a key role for the German Federal Government as it works to progress the global energy transition. In the context of this cooperation, 19 countries are now sharing their experience with energy policy measures with Germany and providing a boost for innovations in the energy sector.

KEY FACTS

What are energy partnerships and energy dialogues?

In an energy partnership, Germany works together with a partner country on various energy policy issues relating to the energy transition. The work is based on a declaration of intent signed by the two sides. An energy dialogue pursues the same goals, but is not based on a declaration of intent. The issues to be covered and specific activities are agreed jointly by the two partners.

Who takes part in energy partnerships and energy dialogues?

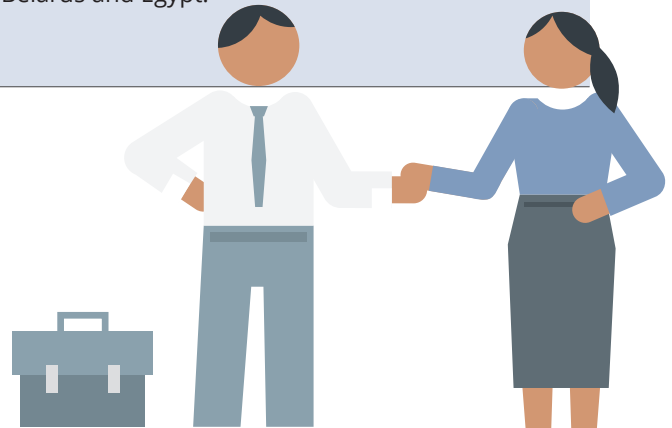
In Germany, this is the Federal Ministry for Economic Affairs and Energy, as well as ministries like the Federal Ministry for Economic Cooperation and Development, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, and the Federal Foreign Office. On the side of the partner, the energy ministry takes part, along with other relevant and interested ministries. When it

comes to implementing the activities in the partner countries, the Federal Government works together with implementing agencies like the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), various bilateral chambers of commerce, the German Energy Agency (dena), adelphi consult and Navigant.

What countries have energy partnerships or energy dialogues with Germany?

There are energy partnerships between Germany and: Algeria, Australia, Brazil, China, India, Mexico, Morocco, South Africa, Tunisia, Turkey and the United Arab Emirates.

Germany maintains energy dialogues with: Iran, Japan, Jordan, Kazakhstan, Russia, South Korea, Ukraine and the United States, including selected states in the U.S. Also, the BMWi is working together with Belarus and Egypt.



In 2018, the energy transition increasingly became a global objective. Around the world, countries with various backgrounds wish to reform their energy supply and energy systems – industrialised countries, major emerging economies, and ambitious developing countries. The focus is on climate targets and the need to meet a rising demand for energy, to give more people access to energy, and to reduce the damage caused by fossil fuels to the environment and to human health.

In order to keep accelerating the global energy transition and to make it more economically viable and socially attractive for everyone, it is vital to engage in a proactive sharing of knowledge and experience. As a survey by the German Energy Agency (dena) shows, there is a high level of interest around the world, particularly in issues like the conversion of entire energy systems, technology-based solutions and technology transfer, and funding and financing concepts.

The Federal Ministry of Economic Affairs and Energy (BMWi) continued to build up its international cooperation in 11 energy partnerships and 8 energy dialogues. The common aim is to learn from the experience made by the partner country and to share the experience made with Germany's energy transition. The main focus is on issues like the roll-out of renewable energy, boosting energy efficiency, integrating renewables into the systems and grids, upgrading energy infrastructure, and rules for the electricity and energy market.

Partner countries working on ambitious energy transition projects

The partner countries are displaying great ambition in their energy transition projects. In India, every village has had access to electricity since 2018, and in future this is to be largely based on renewable energy. Mexico is increasing the share of renewable energy. In Morocco, ONEE, the



electricity utility, has adapted the goals of its new electricity expansion plan in favour of renewable energy. Morocco is adding Power-to-X (PtX) technology to the agenda of the German-Moroccan Energy Partnership. Tunisia initiated auctions for a total of 500 MW of large-scale photovoltaic and wind energy projects up to the end of 2018. In Algeria, smaller solar auctions for 150 MW will also be held, so that Algerian companies can realise them using equipment manufactured in the country. Sonatrach, the state oil and gas company, is investing in solar farms to supply itself with electricity. The United Arab Emirates is regularly achieving record results in auctions for renewable energy. An energy efficiency strategy – with a view to cutting consumption by 40 % by 2050 – is currently being drawn up.

Cooperation stimulating advances in technology

2018 has again shown how international cooperation can lend a vital stimulus to advances in technology in the field of renewable energy. Steady market growth and rising annual investment in renewable energy around the world have made the sector a competitive market going forward.

For this reason, the companies and investors play a key role as a driving force for progress in the energy partnerships and dialogues. A variety of formats have become established in the partner countries – local business advisory boards and working groups, as well as regular fact-finding missions. For example, a delegation from Algeria learnt about the systems integration of renewable energy and flexibility, whilst Brazilian experts and a BMWi delegation met in Brazil to discuss energy efficiency. The secretariats of the energy partnerships and dialogues have developed into interfaces between the stakeholders in government, commerce and associations in the various countries. Last year, the staff of the secretariats arranged and assisted numerous events and fact-finding missions. Their expertise and strong network are making an indispensable contribution towards the expansion and strengthening of the energy partnerships and dialogues.

At the same time, they are advising German companies on how to support energy transition projects around the world by offering innovative services – e.g. via dialogues with local business advisory boards, bilateral meetings and information services via websites and newsletters.



Energy days reach a broad target audience

The core activities of the energy partnerships and dialogues last year included the energy days. For example, 2018 saw the first German-Algerian Energy Day, German-Brazilian Energy Day and German-Korean Energy Day. Further to this, India, Japan and Tunisia again hosted energy days. The energy days have developed into a key platform from which to reach a broad target audience of the interested public, media, commerce and associations. The dialogue is benefiting the political stakeholders both in Germany and in the partner countries: milestones and approaches to the respective energy transition agendas show how such a project can be implemented. The platform also offers German companies a chance to engage with stakeholders and investors in the host country and to present innovative solutions for a successful energy transition.

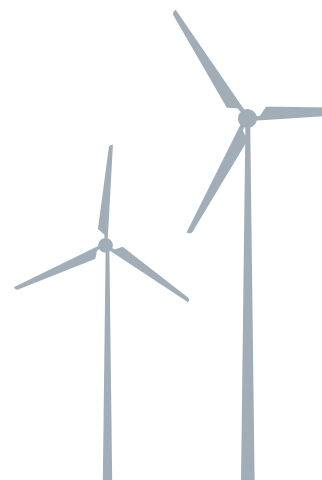
More than 80 workshops have already been held in the context of the energy partnerships and dialogues. For example, the programme of the German-Brazilian Business Days in Cologne offered an opportunity for a dialogue between some 500 participants from business

and government on issues like the interaction of digitisation and energy efficiency in industry.

German-Jordanian Energy Dialogue launched

Jordan has become the 19th partner country. The German-Jordanian Energy Dialogue is making an important contribution to the establishment of a sustainable energy system in Jordan. So far, the country has been meeting most of its energy needs by importing fossil fuels, but in future it wishes to use more renewable energy and improve its energy efficiency. In 2019, the German-Jordanian Energy Dialogue is to be expanded to become an energy partnership.

The following pages provide an overview of the many and varied activities of our energy partnerships and energy dialogues, and also furnish details of contacts and liaison staff for all the partnerships and dialogues.





From economic impacts to the grid code: stimulating Algeria’s energy revolution

German-Algerian Energy Partnership

The first German-Algerian Energy Day marked the climax of an intensified bilateral dialogue. In view of Algeria’s efforts to reduce its dependency on the import of international products and services, the focus of the energy partnership has been on the economic impact of the energy transition.



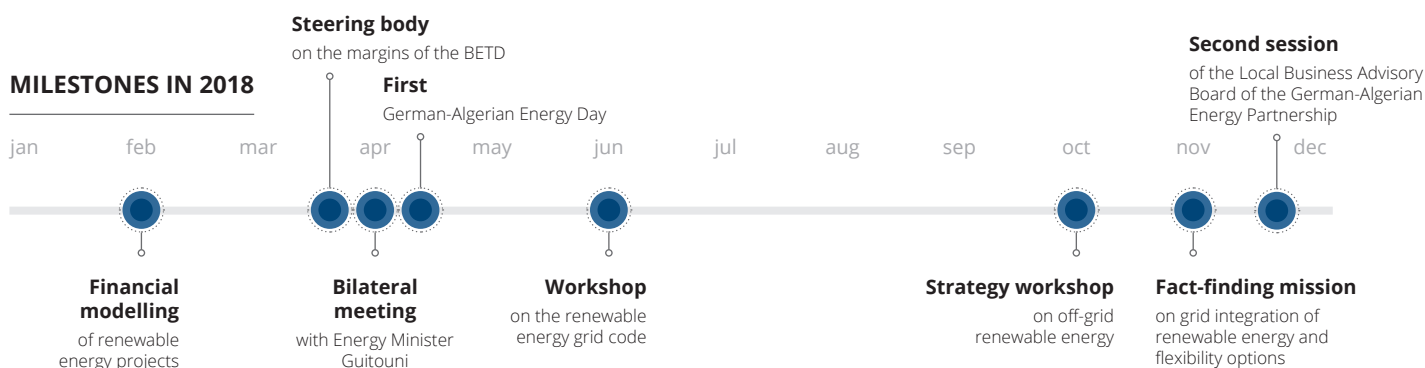
Martin Schöpe (Federal Ministry for Economic Affairs and Energy, I.) and Zoubir Boulkroun (Algerian Energy Ministry) at the working group meeting of the German-Algerian Energy Partnership in Algiers.

As an exporter of oil and gas, the implementation of Algeria’s energy transition is confronting Algeria with a restructuring not only of its energy system, but of its entire economy. How, and how quickly, the Algerian energy transition is to take place is therefore a highly contentious issue in the country. In this challenging situation, the energy partnership is supporting the Algerian partners as they find their way to their own energy transition. Initially, 2018 appeared to be a year of slow progress for renewable energy. The promised procurement procedures for the tendering of 4,000 megawatts of renewable energy were put on ice at the beginning of the year for financial reasons. In the spring, Energy Minister Mustapha Guitouni decided instead to invite smaller bids of 150 megawatts for solar installations, which Algerian companies can realise with locally manufactured equipment.

At the same time, Sonatrach, the state oil and gas company, is investing in solar farms to supply itself with electricity. For this reason, the bilateral dialogue in 2018 focused particularly on the economic impact of the energy transition, local value creation in renewable energy projects, and improving energy efficiency.

Making the energy transition possible: a fresh boost for the political dialogue

The highlight of the political dialogue attracted a lot of public attention: the first German-Algerian Energy Day, which took place in Algiers in April 2018. 120 participants engaged in a lively debate entitled “Making the energy transition possible: utilising opportunities, tackling challenges”. On the margins of the meeting, Minister



Guitouni received the delegation of the Federal Ministry for Economic Affairs and Energy (BMWi) for a discussion of the Algerian energy transition. At the meeting of the steering group in Berlin in April, Director-General Zoubir Boulkroun of the Algerian Energy Ministry and Director-General Thorsten Herdan of the BMWi decided to continue the work on the existing priorities and to extend the joint activities.

Renewable energy projects and their economic impact

The highlights of the advice provided to the Energy Ministry were the work on the renewables grid code and a fact-finding mission to Germany on the grid integration of renewable energy systems. The economic impact of the Algerian energy transition is analysed in a study into new jobs to be generated by the planned renewable energy projects and the macroeconomic modelling of an ambitious expansion scenario. Also, the energy partnership supported the work being done by the Ministry of Environment and Renewable Energies on an off-grid development strategy, which was presented in Algiers in February 2019.

The Local Business Advisory Board in Algeria

The second meeting of the Local Business Advisory Board, held in December 2018, discussed key issues for German companies. The topics included the attractiveness of the market and local value creation for German companies in the photovoltaics sector, in view of the current auctions and the current challenges. The company representatives at the meeting welcomed the dialogue.



KEY DATA OF THE PARTNERSHIP

Partner ministry

Energy Ministry
of the People's Democratic Republic of Algeria

Office headquarters

Algiers

Year of establishment

2015

Priority issues

- Expansion and grid integration of renewable energies
- Energy efficiency in industry
- Energy scenarios

Contact



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Website

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KEY FACTS





Work on common challenges

Australia-Germany Energy Partnership

Australia and Germany have been engaged in formal cooperation in a partnership on energy and raw materials since 2017. The main focus is on discussing political, economic and technical aspects of the energy transition.



Study tour to Germany: German-Australian dialogue on electricity market design and security of supply.

Both Australia and Germany pursue the aim of applying appropriate policies to incentivise investment in technologies which will allow them to achieve a highly reliable energy supply and to attain their energy and climate targets quickly and cheaply.

Institutionalised cooperation

Against this background, the two governments signed a declaration of intent in 2017 on institutionalised cooperation between Germany and Australia in the fields of energy and raw materials. The main focus of the joint working group on energy is on long-term energy strategies to promote and accelerate the shift to an environmentally friendly, secure and affordable energy supply. A regular

exchange of experience and best practices is enabling both governments to boost energy productivity, to foster the expansion of renewable energy, to put stable investment conditions in place, and to improve security of supply via a diversification of energy sources. In view of the government reorganisation in Australia, the working group session scheduled for October 2018 is being held in 2019.

Flexibilisation of the electricity system

Despite Australia's wealth of fossil resources, the expansion of renewable energy is growing in importance, not least due to the very favourable solar and wind situation. Three of Australia's states have already set themselves the target of generating 50 % or more of their electricity

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from renewable energy. By 2020, South Australia will probably have achieved well over 70 %.

Here, both Australia and Germany are facing the challenge of integrating high proportions of fluctuating renewable energy into the electricity system. This means that they can benefit from an exchange of experience with the mobilisation of flexible resources, both on the generation and on the demand side. For geographical reasons, the grid infrastructure in Australia is not as tightly meshed as it is in Germany. In view of this, the widespread use of electricity storage technology is already on the agenda.

Discussions with experts in Germany

A high-level delegation consisting of representatives of Australian energy companies, regulatory authorities, universities and state governments visited Berlin in October 2018. The main focus was on the policy framework for and public acceptance of the energy transition, electricity market design, making the electricity system more flexible, and auctions. At the presentation of the new Power-to-X Roadmap of the World Energy Council in Berlin, a shared interest in hydrogen technology manifested itself. One highlight was the open and trusting conversation over a dinner with the Australian ambassador, who stressed the desire for greater cooperation.



KEY DATA OF THE PARTNERSHIP

Partner ministry

Department of the Environment and Energy

Year of establishment

2017

Priority issues

- Electricity market design and security of supply
- Expansion and integration of renewable energy
- Energy storage
- Power-to-X
- Long-term scenarios

Contact



Raffaele Piria
adelphi

KEY FACTS





A partnership of equals – the exchange with companies drives the dialogue

German-Brazilian Energy Partnership

The German-Brazilian Energy Partnership makes an important contribution towards bilateral cooperation on energy policy. Innovative topics like digitisation and auction models for electricity are addressed in successful dialogue formats and policy dialogues.



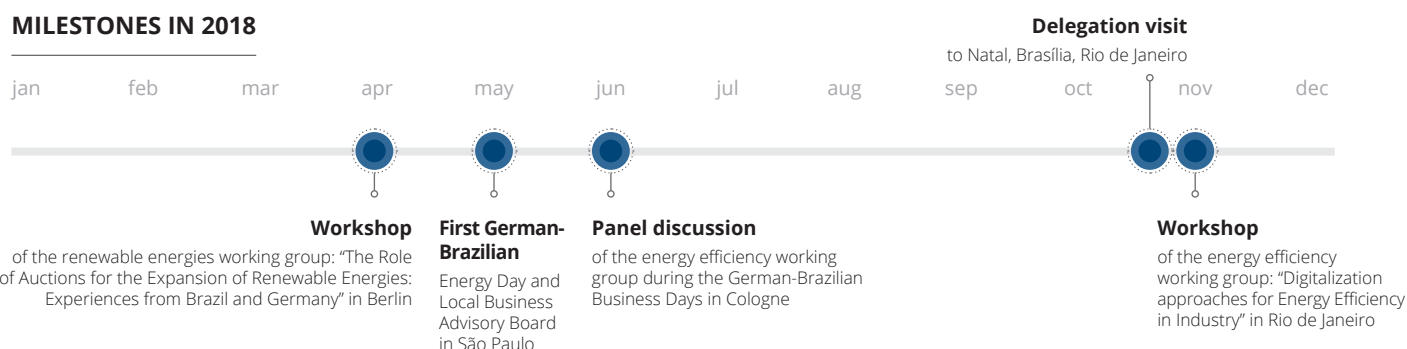
The BMWi delegation headed by Deputy Director-General Ursula Borak attended the first German-Brazilian Energy Day in São Paulo. The Brazilian side included Carlos Alexandre Pires, Director responsible for energy development in the MME. The event focused on energy efficiency in buildings.

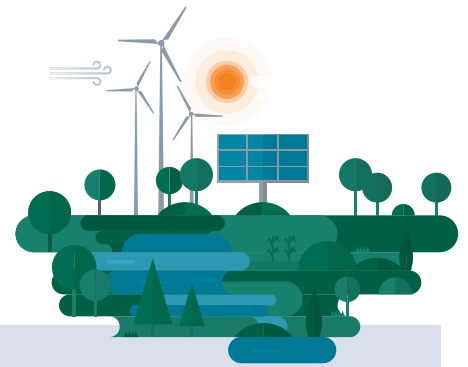
Due to its high proportion of hydro power, Brazil already has a relatively low-carbon system of electricity generation. However, a repeated lack of rain in recent years has reduced the volume of electricity generated from hydro-electric installations. In view of this, a diversification of the electricity generation based on renewable energy is becoming increasingly important for a secure and low-cost supply in Brazil. Further progress was made on this diversification in 2018, with particular contributions coming from wind, biomass and photovoltaics, as the country offers excellent conditions for these sources. Most recently, there were significant increases in wind power capacity, which has conquered an 8.2 % share (13.4 gigawatts) of

the national electricity mix over just a few years, and can now compete on price with fossil fuels. Challenges deriving from this include the expansion of the transmission system and the integration of a rising share of electricity from intermittent sources into the system.

These developments are in line with the joint declaration by Brazil and Germany of 2015 in which they commit to a complete decarbonisation of the world economy in the course of the 21st century. Despite the current political and economic turbulence in Brazil, this cooperation has strengthened over the last two years as a result of the following activities.

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First German-Brazilian Energy Day in São Paulo

A highlight of the year was the first German-Brazilian Energy Day in May 2018. This new format, which is increasingly involving stakeholders like universities, associations and business in the work of the partnership, was rolled out in São Paulo and focused on energy efficiency in buildings.

Cooperation with the private sector

The BMWi also invited German companies already involved in the Brazilian energy sector to the first session of the Local Business Advisory Board, which was held in the bilateral chamber of commerce in São Paulo in May. The energy partnership was presented to the companies with a view to feeding their suggestions and views into future cooperation. The 30 or so business representatives confirmed that the German-Brazilian Energy Partnership can be very helpful for their activities and should be expanded. They explicitly welcomed the establishment of a Local Business Advisory Board for the discussion of specific interests of the companies at government level. Follow-up meetings of the Local Business Advisory Board are scheduled for 2019.

Energy efficiency in the industrial sector, auctions for the expansion of renewable energy, digitisation and energy efficiency

These were the issues covered by the working groups on renewable energy and energy efficiency in 2018. The highlights included a panel discussion during the German-Brazilian Business Days in Cologne and workshops on auctions and the interaction of digitisation and energy efficiency in industry.

KEY DATA OF THE PARTNERSHIP

Partner ministry

Ministério de Minas e Energia MME (Ministry of Mines and Energy), Ministério das Relações Exteriores MRE (Foreign Ministry)

Office headquarters

Brasília

Year of establishment

2017

Priority issues

- Systems integration of renewable energy, including grid integration
- Electricity market development; flexibility options for the electricity system
- Assistance with the development of a national energy efficiency plan
- Renewable energy/energy efficiency auction models
- Digitisation

Contact



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KEY FACTS





Deeper cooperation and a holistic approach to China's energy revolution

Sino-German Energy Partnership

The energy revolution in China is continuing. Consideration is increasingly being given to a holistic approach to the system. This is also impacting the bilateral dialogue. In addition to energy efficiency and energy generation, the focus is being placed more on sector coupling, funding policy and the energy system.



The BMWi delegation headed by Thorsten Herdan (centre) views a Sino-German cooperation project on energy efficiency in Shanghai.

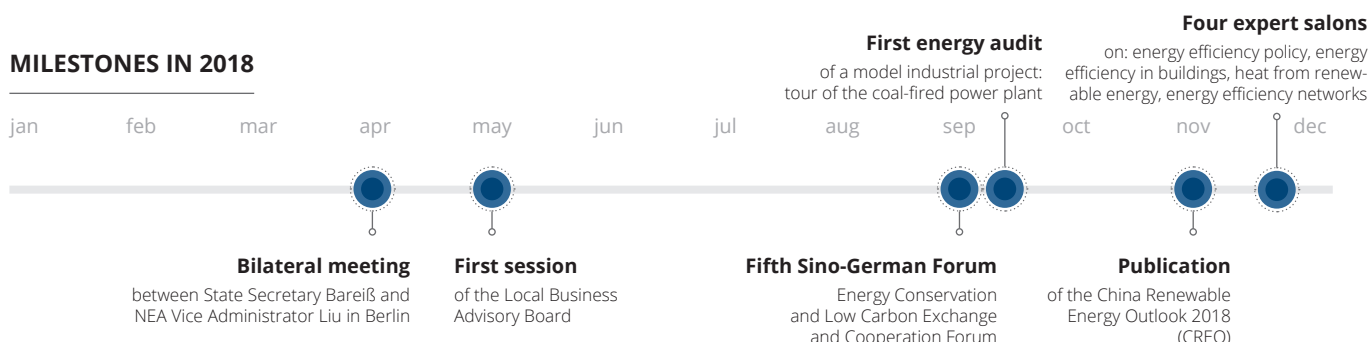
China's energy transition is entering the next phase: numerous pilot projects, from the introduction of electricity markets to auctions for renewable energy, are paving the way for a holistic energy transition. The next few years are expected to see a nationwide roll-out of these market instruments. Whilst China made significant progress in terms of the local curtailment of renewable energy in 2018, key issues for the cooperation were energy efficiency, sector coupling, clean heat generation and the integration of renewable energy into the system. During the seventh session of the working group on energy in Suzhou, additional topics were added to the agenda of the partnership: electricity markets, storage and competition-based funding for renewable energy. This means

that the energy partnership covered not just energy efficiency but also the other main pillars of a holistic energy transition.

Energy efficiency in industry: the model project

Following a successful start in the previous year, the model project for energy audits in industry, which is being undertaken in cooperation with the German Energy Agency, entered its decisive phase. Onsite diagnoses by German and Chinese experts in six energy-intensive companies – from a cement factory to Beijing Airport – illustrated energy efficiency measures to the participating

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companies. In addition to this, the energy partnership offered a training workshop to introduce Chinese experts to the topic of the life-cycle cost analysis.

A boost from business: the Local Business Advisory Board

The energy partnership registered two key milestones in its cooperation with the private sector: The first session of the Local Business Advisory Board in May 2018 gave 16 German companies an opportunity to play a direct part in the energy partnership. The second session was held in October 2018. Discussions focused on challenges for companies in China's energy sector and possible solutions. Some initial measures have already been implemented. Regular meetings of the Local Business Advisory Board will continue to form an important pillar of the cooperation with the private sector and will permit business interests to feed into the intergovernmental dialogue. Further to this, numerous other formats in the energy partnership also bring the private sector on board and flag up solutions based on German technology.

Dialogue is deepening the cooperation

2018 once again saw a vigorous dialogue between the partner countries. Vice Administrator Liu Baohua met with Parliamentary State Secretary Thomas Bareiß in April on the margins of the Berlin Energy Transition Dialogue, and Director-General Thorsten Herdan led a German delegation to the International Forum on Energy Transitions (IFET) in Suzhou in October 2018. Making more than ten speeches and contributions to the discussions, the German speakers were highly visible – a sign of the high level of mutual appreciation of the cooperation between China and Germany towards the end of 2018.



KEY DATA OF THE PARTNERSHIP

Partner ministry

National Development and Reform Commission of the People's Republic (NDRC), National Energy Administration (NEA)

Office headquarters

Beijing

Year of establishment

2007

Priority issues

- Renewable energy and energy generation (funding policy, flexibility, heat, electricity market)
- Energy efficiency in buildings and in industry

Contact



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KEY FACTS





India studies the importance of the grid integration of renewable energy in greater depth

Indo-German Energy Forum

India and Germany have been discussing the transformation of their energy systems for more than a decade now. The cooperation involves all the central German and Indian stakeholders in the energy sector. It produces innovative projects and funding models. Highlights in 2018: the visit of Secretary Anand Kumar to Intersolar Europe in Munich and the participation of a BMWi delegation at the 2nd RE-Invest event in Delhi (Noida) in October 2018.



Energy Secretary Mr Raj Gopal (2nd right) visits an offshore wind farm in the North Sea.

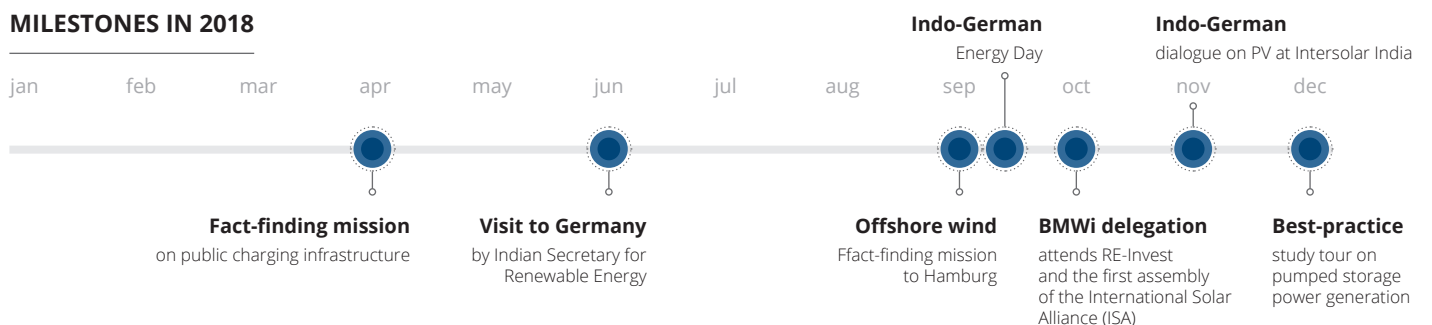
India is planning to invest more than € 20 billion each year in photovoltaics and wind energy, and aims to add a further 200 GW of photovoltaics and wind energy to the grid by 2027. Since April 2018, all of India's villages have had access to electricity. By March 2019, all of the households which still lack access to electricity are to be given a grid connection or a solar installation. The additional electricity demand is to be covered chiefly by electricity from renewable energy sources. It remains to be seen whether alternative energy sources will render new coal-fired power plants irrelevant by then. In any case, the integration into the system of large amounts of electricity from intermittent

renewable sources is a challenge which both Germany and India need to tackle together. Experience is also being shared about how to handle a growing shortage of suitable sites for the new wind and PV installations. The two countries aim to learn and benefit from each other here.

Responsibility at the highest level for the integration of intermittent renewable energy sources

The task force on flexibility set up by the Indo-German Energy Forum conducted successful minimum load tests

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on a state-owned coal-fired power plant in 2018. A minimum load of below 40 % of total capacity was achieved, showing for the first time that Indian coal-fired power plants are able to reduce their output during times of high infeed of electricity from photovoltaics and wind. Further key aspects of the work of the task force are technical feasibility analyses, awareness raising and training measures, and the regulatory environment for the flexible operation of existing coal-fired power plants.

Establishment of a public charging infrastructure for electric vehicles

The high-level fact-finding mission on public charging infrastructure for electric vehicles organised by the liaison office of the Indo-German Energy Forum provided a comprehensive picture of the situation in Germany. The Indian delegation was headed by Joint Secretary Aniruddha Kumar. During the fact-finding mission, the participants held discussions with, among others, the German Association of Energy and Water Industries (BDEW), the Joint Unit for Electric Mobility (GGEMO), the Berlin Senate Department for the Environment, Transport and Climate Protection, charging infrastructure operators and the association CharIN e.V. The main finding was that cross-sectoral coordination between the various stakeholders and state funding are needed if there is to be a successful roll-out of public charging infrastructure.

Offshore wind fact-finding mission

A high-level Indian delegation visited WindEnergy, the world's largest wind energy trade fair, in Hamburg in September 2018. At several events organised by the Energy Forum, business and government representatives were able to learn more about India's offshore wind energy plans. By 2022, India plans to have 5 gigawatts of offshore wind capacity on the grid, rising to 30 gigawatts by 2030. This entails investment of more than €45 billion. The Indo-German Energy Forum's working group on renewable energy is providing support for India's plans.



KEY DATA OF THE PARTNERSHIP

Partner ministry

Ministry of Power (MoP)

Ministry of New and Renewable Energy (MNRE)

Office headquarters

New Delhi and Berlin

Year of establishment

2006

Priority issues

- Integration of renewable energies by making existing coal-fired power plants more flexible
- Renewable energy
- Energy efficiency
- Systems integration of renewable energies

Contact

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KEY FACTS





Expert dialogue on energy efficiency and the systems integration of renewable energy

German-Iranian Energy Dialogue

It is important to share experience and expertise as Iran modernises its energy system. Relevant regulatory and technical parameters were discussed in depth in the context of the German-Iranian Energy Dialogue.

The imposition of the U.S. sanctions meant that Iran's energy sector was faced with political and economic challenges in 2018. Despite this, Iran remained committed to pressing ahead with the expansion of renewable energy, the modernisation of its energy infrastructure, and the introduction of energy-efficiency measures.

Germany supports these goals and provides appropriate expertise and training opportunities. Several workshops were held with a view not only to sharing the experience gathered in the course of Germany's energy transition, but also to discussing international standards with the Iranian side. At the same time, instruments and rules for energy efficiency in industry and buildings were explained to the Iranian stakeholders, as were technical and regulatory standards for the integration of renewable energy into the electricity grid. Networking meetings established contacts with organisations and business representatives.

The BMWi and Iran's Ministries of Petroleum and of Energy agreed in 2016 to set up a German-Iranian Energy Committee, which held its inaugural meeting in October 2017. Since then, it has served as a high-level dialogue platform for energy issues and joint projects. The BMWi has tasked the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) with implementing the energy dialogue. Whilst it focuses on cooperation on renewable energy, the German Energy Agency (dena) is implementing the measures relating to energy efficiency.



KEY DATA OF THE PARTNERSHIP

Partner ministry

Ministry of Petroleum, Ministry of Energy

Office headquarters

Berlin

Year of establishment

2017

Priority issues

- Regulatory environment for renewable energy
- Incentives for energy efficiency

Contact

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Hendrik Meller

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KEY FACTS





Focus on hydrogen and sustainable mobility

German-Japanese Energy Dialogue

The focus of the bilateral dialogue between Japan and Germany in 2018 was on solutions for sustainable mobility and the role of hydrogen in the energy system.

The 9th German-Japanese Environment and Energy Dialogue Forum was held in Berlin in April 2018, hosted by the BMWi, the Federal Environment Ministry and Japan's New Energy and Industrial Technology Development Organisation (NEDO). At the event, experts discussed the subject of low-emission transport systems and possibilities for the effective use of renewable energy in the transport sector with around 160 participants. The dialogue on sustainable mobility was continued at a bilateral meeting of experts in Yokohama in June 2018.

During a visit to Berlin by a delegation from Japan's Economy Ministry (METI) and NEDO in August 2018, the programme covered various energy policy issues, ranging from hydrogen to the integration of renewable energy into the system.

The dialogue on the outlook for hydrogen in the two countries' energy systems was intensified at the Energy Day in Tokyo in October. The event attracted 120 participants and presented programmes and applications for hydrogen, discussing challenges and opportunities for the further development and implementation of the technology. In parallel to this, a comparative study was launched in the autumn of 2018, into the future role of hydrogen in the energy systems of Germany and Japan, and is to indicate ways to strengthen sustainable supply chains for green hydrogen.

In the Fireplace Talks, a series of energy policy events in Tokyo which is to continue in 2019, discussions also

focused on energy efficiency in buildings, the decarbonisation of the final consumption sectors, and bioenergy.



KEY DATA OF THE PARTNERSHIP

Partner ministry

Ministry of Economy, Trade and Industry (METI)

Office headquarters

Berlin (Zweigstelle Tokio)

Priority issues

- Solutions for a sustainable mobility sector
- The role of hydrogen in the energy system
- Integration of renewable energies

Contact



Gunnar Will
adelphi

KEY FACTS

<p>5 Key issues</p>	<p>3 Steering group sessions, WG meetings and bilateral talks</p>	<p>4 Workshops in the EP/ED countries</p>	<p>2 Large-scale events</p>	<p>1 Fact-finding mission/delegation</p>	<p>1 Publication</p>
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Launch of joint energy dialogue

German-Jordanian Energy Dialogue

Germany and Jordan established key elements for their cooperation in 2018: digitisation, systems integration and storage technology.

Jordan has virtually no energy resources of its own. Energy demand is therefore largely met by imported fossil fuels. In the light of this, Jordan aims to expand the use of renewable energy and boost energy efficiency.

In order to support this goal, the two countries agreed in 2016 to set up a German-Jordanian Energy Dialogue with a view to providing an important contribution to the establishment of a sustainable energy system in Jordan. The inaugural meeting of the working group for the German-Jordanian Energy Dialogue was held in Amman in early 2018. Agreement was reached on specific topics, activities and formats.

In talks between the then Jordanian Energy Minister Kharabsheh and former Minister Zypries in November 2017 and a further high-level meeting on the margins of the BETD in April 2018, the two countries agreed to upgrade the energy dialogue into an energy partnership in the coming year.

The highpoint of the activities in 2018 was a four-day study tour to Germany by high-level representatives of the Jordanian energy sector. The focus of the visit was on digitisation, systems integration and storage technology.

KEY DATA OF THE PARTNERSHIP

Partner ministry
Ministry of Energy and Mineral Resources (MEMR)

Office headquarters
Berlin

Year of establishment
2016

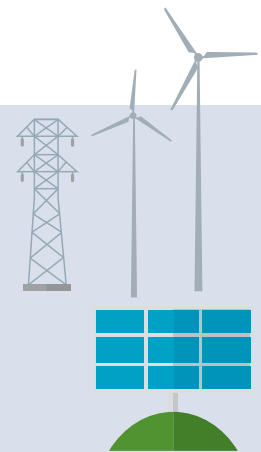
Priority issue

- Renewable energy: systems integration, digitisation, storage technology

Contact

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KEY FACTS





Saving energy across the board: focus on industry and municipalities

German-Kazakh energy cooperation

Kazakhstan's cities and economy are growing. Energy demand has been rising for years. Energy-intensive industry offers great potential for energy conservation. Municipalities also offer a lot of potential for energy efficiency, especially in public buildings and installations.

Kazakhstan is one of the countries with the largest oil and gas reserves worldwide. Industry accounts for over half of total electricity and heat consumption (62 % and 43 % respectively). The enormous potential for energy saving is a focus of the bilateral cooperation.

Good experience has been made in recent years with measures to get the message out to industry about horizontal technologies. A project on the supply of industrial heat is deepening this public relations work. The measures in 2018 included a study tour in which German technology and expertise was presented and the exchange of experience was strengthened. Further to this, a brochure on the supply of industrial heat in Kazakhstan was produced.

Kazakhstan's government has recognised that municipalities can play a key role in the attainment of the energy policy goals. However, the potential for energy efficiency is only just beginning to be tapped. Building on the launch of the national energy efficiency campaign in 2017, a public relations campaign for the municipal sector is now being developed. The introduction of energy and climate management in a pilot municipality focused attention on a new field of action for cooperation in 2018: municipal buildings.

Numerous stakeholders from Kazakhstan are participating in dena's cross-border dialogue platform on urban

energy infrastructure and are talking with experts from Belarus, Russia, Ukraine and Germany about the latest energy-related challenges facing towns and cities.

KEY DATA OF THE PARTNERSHIP

Partner ministry

Ministry of
Investment and Development

Year of establishment

2012; bilateral "Memorandum of
Understanding" (MoU)

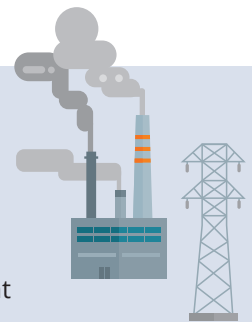
Priority issue

- Energy efficiency in industry and municipalities

Contact

Michael Hackethal

Federal Ministry
for Economic Affairs and Energy



KEY FACTS





Fostering key elements: energy planning, forward-looking technologies, and stakeholder diversity

German-Moroccan Energy Partnership (PAREMA)

As is shown by experience in Germany, the energy transition is driven not least by the promotion of new technologies and the inclusion of the private sector and civil society. PAREMA took corresponding measures in 2018 to shape a sustainable energy transition in Morocco.



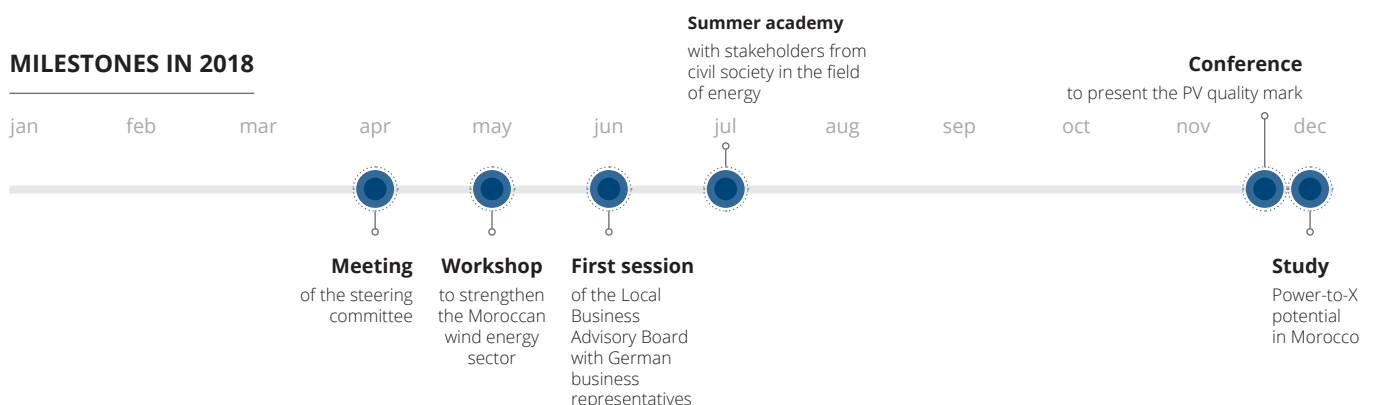
Thorsten Herdan (Federal Ministry for Economic Affairs and Energy, I.) welcomes then Secretary-General Abderrahim El Hafidi of the Moroccan Ministry of Energy, Mines and Sustainable Development to the energy partnership steering meeting in Berlin.

Morocco is displaying a strong political desire for a sustainable energy transition and taking vital steps to attain the desired goals for the expansion of renewable energy. Nevertheless, the country is facing energy policy challenges like the systems integration of renewable energy and long-term electricity planning. PAREMA worked on these aspects of the Moroccan energy transition in 2018 and gave a fresh boost to the dialogue with government, commerce and civil society.

Political dialogue for future energy planning

The German-Moroccan energy dialogue continued in April 2018 at the meeting of the high-level steering committee on the margins of the Berlin Energy Transition Dialogue. The meeting was organised for both sides by the secretariat of PAREMA. The main focus of the dialogue was on the liberalisation and flexibilisation of the electricity market, multilateral initiatives like the Sustainable Energy Trade (SET) Roadmap, and recommendations

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for the expansion of the grid and for Morocco's future energy planning. In response, ONEE, Morocco's electricity utility, adapted the goals of the new electricity expansion plan in favour of renewable energy, as recommended in the PAREMA/GIZ scenarios.

Following a presentation of Power-to-X (PtX) technology at the last German-Moroccan Energy Day, the increased interest on the Moroccan side in PtX led to this topic being placed on the agenda for bilateral cooperation. In view of its potential for renewable energy and its geographical situation, Morocco is a particularly interesting location for the development of this technology. PAREMA worked with IRESEN, a renewable energy research institute, to produce a study on the potential of PtX in Morocco.

National quality label for the installers of photovoltaic modules

So far, the business sector and civil society have played little part in Morocco's energy transition. Promoting their participation was another key focus of PAREMA: a national quality label for installers of photovoltaic modules was introduced as a result of cooperation between the German solar industry association BSW, its Moroccan counterpart AMISOLE, the Moroccan Agency for Energy Efficiency AMEE and the solar cluster. In this process, AMISOLE's role as the representative of industry in Morocco was strengthened.

Further to this, the secretariat organised a summer school for NGOs on the energy transition in order to enhance their capacities on energy issues and thus their role in the energy transition.

Also, PAREMA played an increased role as a mediator between commerce and government. A study on the strengthening of the wind energy value chain was carried out in order to ascertain how German support can foster the creation of jobs and growth.

KEY DATA OF THE PARTNERSHIP

Partner ministry

Ministry of Energy, Mines and Sustainable Development (MEMDD)

Office headquarters

Rabat

Year of establishment

2012

Priority issues

- Long-term energy scenarios (2050) and think tank (centre d'analyse)
- Grid expansion and interconnectors
- Systems integration and electricity market regulation
- Energy efficiency
- Economic cooperation

Contact



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KEY FACTS





From industrial cooperation to innovative digital solutions

German-Mexican Energy Partnership

Various pillars of the energy transition were promoted in 2018 in the context of the German-Mexican Energy Partnership: the energy policy dialogue, cooperation with industry, and innovative digital technologies for the energy sector.



The Latin America Side Event was held in Berlin on the margins of the 40th EITI Board Meeting.

Mexico’s energy transition has been attracting a lot of attention. The process was launched in 2014, and it has seen Mexico liberalise its oil, gas and electricity sector, establish its first wholesale market, and obtain international recognition for the results of its clean energy auctions. Like Germany, the country is not only involved in numerous international initiatives, but has also been a member of the International Energy Agency (IEA) since the beginning of 2018. These developments are stimulating the interest of German and international investors in Mexico.

The bilateral energy partnership between Germany and Mexico has developed into a central dialogue platform for both sides, involving a high-level political

exchange, the energy sector and energy experts from both countries.

Mexico as a partner country of the world’s largest industrial trade fair

In 2018, Mexico was the first Latin American country to be an official partner country of the Hannover Messe trade fair, and thus played a key role at the event: the world’s largest industrial trade fair was opened jointly by the heads of government of the two countries.

On the margins of the trade fair, a bilateral meeting took place between Minister Peter Altmaier (BMW) and the then Minister Joaquín Coldwell (SENER).



Cooperation with the energy industry

The German-Mexican Energy Partnership further developed its cooperation with the industrial sector in 2018. The first official meeting of the B2G Energy Council was held with a total of ten high-level representatives of German and Mexican companies. The meeting was chaired by Parliamentary State Secretary Oliver Wittke (BMWi) and former Undersecretary Fernando Zendejas (SENER). The industry representatives explained their clear expectations to the high-level steering group and stressed their interest in enhanced cooperation between the two countries.

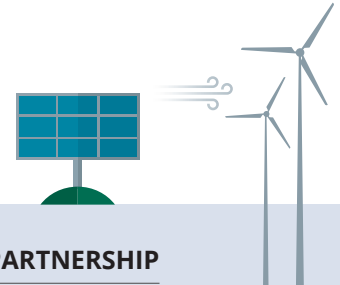
Also, the energy partnership secretariat presented the brochure "Mexico's New Energy Era" at numerous conferences during the Hannover Messe.

Transparency, cyber security and blockchain

Both Germany and Mexico are official candidate countries for the Extractive Industries Transparency Initiative (EITI). This common interest is also being fostered in the context of the bilateral energy partnership.

In this context, a number of high-level experts from government, commerce and civil society travelled to Berlin in June 2018 for the 40th EITI Board Meeting. Further to this, the energy partnership organised meetings with key stakeholders such as the German D-EITI Secretariat.

The increasing degree of digitisation of commerce and society is boosting the level of interest in data security and new applications like blockchain. A workshop was held on this in November 2018 with international experts on cyber security and blockchain.



KEY DATA OF THE PARTNERSHIP

Partner ministry

Energy Ministry SENER (Secretaría de Energía)

Office headquarters

Mexico City

Year of establishment

2016

Priority issues

- Electricity market
- Integration of fluctuating renewable energies
- Energy efficiency in industry
- Information and transparency in the fossil sector
- Bilateral cooperation at international level

Contact



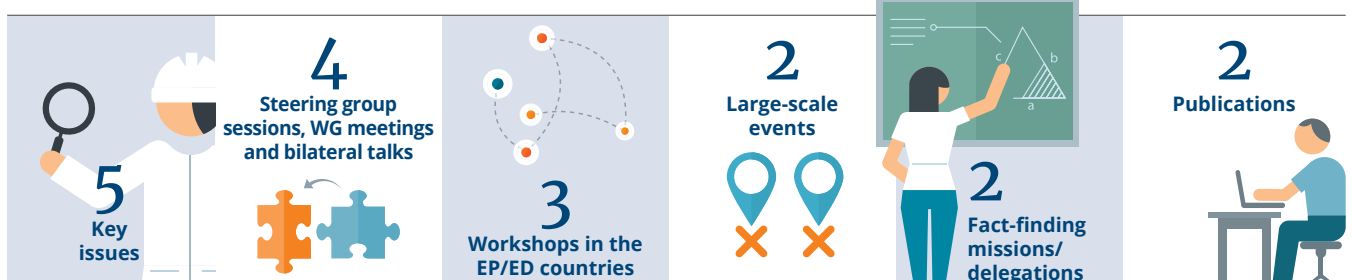
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KEY FACTS





Modernising the economy: efficient, innovative and sustainable

German-Russian dialogue on energy efficiency and renewable energy

Russia has set itself ambitious targets for the modernisation of its economy. The calls for a sustainable economic development which conserves resources are increasing the level of interest in German technologies and expertise in the field of energy efficiency and renewable energy.

At the beginning of 2018, the Russian government presented wide-ranging targets for a sustainable and ecological modernisation of the economy. The focus of the energy dialogue was on energy efficiency in buildings/municipalities and on renewable energy.

In order to support Russian municipalities as they address the complex challenges of energy-efficient, sustainable urban development, experience with the management of these processes in German municipalities was shared in workshops. At the request of and in cooperation with the Ministry of Construction, Housing and Utilities, a workshop was held on the experience gained with the renovation of prefabricated apartment blocks in Germany since the 1990s. The large number of ministry representatives and other experts who attended reflected the importance of the issue for Russia.

The first auctions and expansion targets are revealing a high level of interest in the use of renewable energy, particularly in Russia's regions. The fourth International REENCON Congress and the second EU-Russia climate and energy transition dialogue, with more than 700 attendees, underscored the rising level of interest in the Russian energy transition. Initial insights into possibilities for cooperation on distributed energy supply with German companies are flagged up by a study by dena on the market potential for German firms in Russia.

Numerous stakeholders from Russia are playing an active part in the cross-border dialogue platform entitled "Urban Energy Infrastructure". Thematic workshops provide a

backdrop for discussions with experts from Belarus, Kazakhstan, Ukraine and Germany on the latest energy-related challenges facing towns and cities.



KEY DATA OF THE PARTNERSHIP

Partner ministry

Ministry of Energy
of the Russian Federation

Year of establishment

2010

Priority issues

- Energy efficiency in buildings/municipalities
- Renewable energy

Contact

Michael Hackethal

Federal Ministry
for Economic Affairs and Energy

KEY FACTS





Bringing the knowledge acquired to the public

German-Korean Energy Dialogue

Several bilateral dialogue formats intensified the cooperation between Korea and Germany in the course of 2018. The main focus was on the promotion and integration of renewable energy as well as the aspect of creating public acceptance of and public participation in the energy transition.

The high point was the first Korean-German Energy Day, which took place in May 2018 and was hosted jointly by Korea's Ministry of Trade, Industry and Energy (MOTIE) and the BMWi during the International Renewable Expo & Conference in Incheon, Songdo Convensia. Experts from government, commerce and research in the two countries discussed challenges and solutions for future low-carbon energy systems before an audience of more than 100 attendees. Director-General Thorsten Herdan represented the BMWi at the event and engaged with Kim Hyun-cheol, Director-General at the MOTIE. The dialogue on the two countries' energy transition policies was continued on 5 November 2018 at the Korean-German Energy Transition Forum held during the international Korean Energy Transition Conference in Seoul.

In addition to the potential and challenges of the energy transition, the focus was particularly on the integration of renewable energy into the system and the inclusion of the public in the energy transition. Study tours to Germany took place regarding both topics, involving participants from the MOTIE, subordinate institutions, the state electricity utility KEPCO and research establishments. Also, a delegation headed by the MOTIE attended the Berlin Energy Transition Dialogue in April 2018.

The Fireplace Talks, a series of events in Seoul, were established as a forum for the discussion of energy issues between Korean and German energy experts.

KEY DATA OF THE PARTNERSHIP

Partner ministry

Ministry of Trade, Industry and Energy (MOTIE)

Office headquarters

Berlin (Seoul branch office)

Priority issues

- Opportunities and challenges linked to the energy transition
- Expansion of renewable energy and its integration into the grid
- Public acceptance and public participation in the energy transition
- Energy efficiency

Contact



Gunnar Will
adelphi



KEY FACTS





Lively dialogue on a broad range of issues

German-South African Energy Partnership

The energy partnership with South Africa covers a wide range of topics. It complements development cooperation and climate action programmes, adding a dialogue between Germany and South Africa which primarily focuses on energy market design, hydrogen and fuel cell technology as well as energy efficiency.



German-South African Energy Partnership Workshop on hydrogen and fuel cell funding organisation held in Pretoria.

New business models for public utilities

The discussion of a new energy market design which regulates and facilitates electricity generation by customers (e.g. in roof-top solar installations) as well as further diversification of the generator community is fully underway in South Africa. This involves both Eskom, the national utility, and the 180 or so municipal energy providers, which sell electricity to roughly half of South Africa's households. Thanks to the energy partnership, South African experts have been able to feed newly acquired expertise about the German energy market

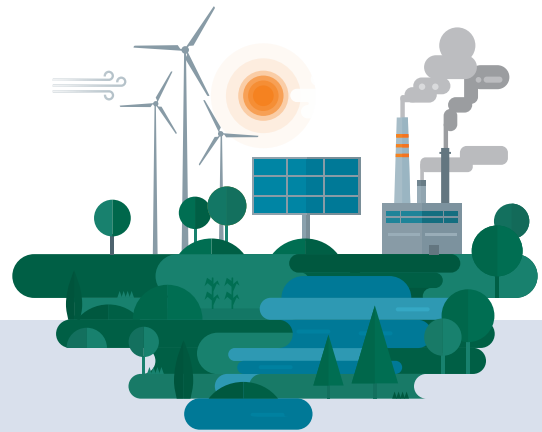
design into this discussion, e.g. at the major energy summit of SALGA, the association of South African local governments, in February 2018. They had participated in a workshop visit to Germany on this issue in December 2017. The energy partnership disseminated the content and results of this workshop visit in the form of two webinars and a discussion paper.

Hydrogen and fuel cell technology

The South African government is promoting the development of a hydrogen and fuel cell industry in the country

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for three reasons: large deposits of platinum (a raw material for fuel cells), a great potential for solar and wind energy as a precondition for the manufacturing of green hydrogen, and a lot of experience with synthetic fuels which were previously produced from coal and in future can be produced from hydrogen. In order to foster the development of this industry, the government is planning to set up a promotional institution like Germany's Nationale Organisation Wasserstoff (NOW) GmbH. The energy partnership is helping to process the experience made in Germany and to develop a business plan, adapted to the South African context, for such an organisation.

Energy efficiency funding programmes

South African municipalities spend a large proportion of their budgets on electricity for street lighting, traffic lights, water works, sewage plants and public buildings. In October 2018, the energy partnership organised a study tour to show South African delegates what Germany is doing in terms of efficiency promotion programmes, contracting models for municipal infrastructure and the latest energy-efficiency technologies. This supplements ongoing joint projects between Germany and South Africa in the field of development work and the climate with a German-South African dialogue on energy efficiency.

Further to this, the energy partnership supplied German panellists and speakers to key South African conferences in 2018 like the African Utility Week in May and the Eskom Research Conference.

KEY DATA OF THE PARTNERSHIP

Partner ministry

Department of Energy

Office headquarters

Pretoria

Year of establishment

2013

Priority issues

- New business models for public utilities
- Hydrogen and fuel cell technology
- Energy efficiency
- Flexibility of the conventional power stations

Contact



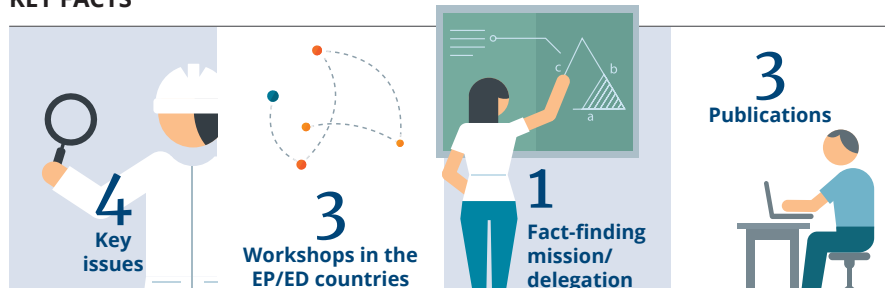
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KEY FACTS





Solid cooperation in eventful times

German-Tunisian Energy Partnership

2018 was an eventful year in the Tunisian energy sector. Despite political turbulence, prequalification for a first auction round for a total of 1 gigawatt of large-scale renewable energy projects was completed – a milestone in the implementation of Tunisia’s energy policy targets.



As part of a training course on energy issues, a group of Tunisian journalists visit a photovoltaic installation on the roof of the Tunisian energy agency.

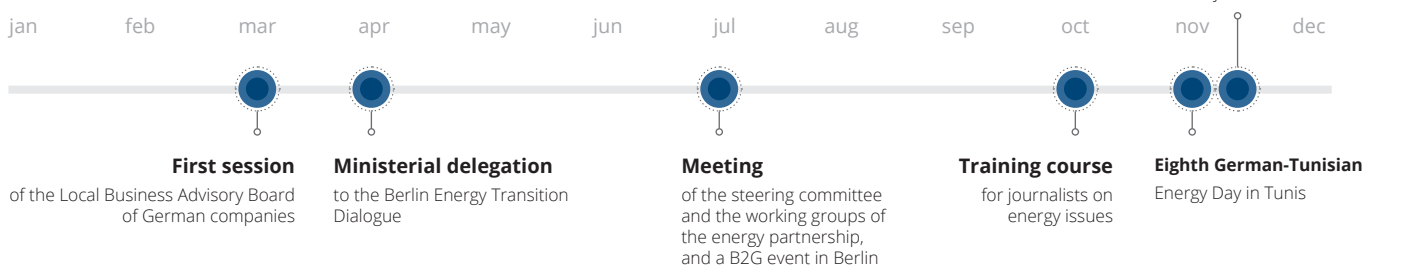
The Tunisian energy sector experienced many changes in 2018. An action plan to speed up the expansion of renewables was presented. Two auction rounds for small-scale renewable energy projects followed, and German firms were awarded some funding in this context. Also, 2018 saw the launch of the prequalification process for 500 megawatts of photovoltaic and 500 megawatts of large-scale wind energy projects; the auction is to take place in 2019. In this way, Tunisia aims to come closer to its goal of 30 % renewables in its electricity mix by 2030. There was a shock at the end of August when the Minister of Energy, Mining and Renewables was removed from his

post. The ministry was broken up shortly afterwards. The energy sector is now once again the responsibility of the Ministry of Industry and Small and Mid-size Enterprises (MIPME).

Bilateral dialogue on energy policy

A Tunisian delegation visited Berlin in July 2018 for the meeting of the steering committee and the working groups of the energy partnership. Discussions focused on the joint projects like the metering campaign on the quality of Tunisian solar PV installations and the

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experience made by the private sector with the auctions, and reference was again made to the key role played by energy efficiency. In addition to the measures already decided, it was proposed that a study be made into the trading of electricity between Tunisia and Algeria. The development of cross-border market rules should help both countries to balance their supply of and demand for electricity.

Activities of the energy partnership

As well as supporting the various meetings, the energy partnership secretariat also facilitated further activities to shape the Tunisian energy transition. Inspired by the experience made by Deutsche Post, a pre-feasibility study into the electrification of the Tunisian postal service's vehicle fleet was carried out. The question was how best to undertake the electrification in technical and financial terms. October also saw a training course for 16 journalists from Tunisian media, bolstering their expertise in electricity generation and renewable energy. This included a direct dialogue with the participating stakeholders in the sector. The dialogue with businesses was also fostered at the first and second sessions of the Local Business Advisory Board of German companies in March and November.

German-Tunisian Energy Day

On 29 November, the German-Tunisian Energy Day focused on energy efficiency as the basis for a sustainable society. Consideration was given to how state actors can promote energy efficiency and what role can be played by companies and civil society. At the heart of the event was the question of what the two countries can learn from each other in the field of energy efficiency. More than 300 guests followed the event. The working groups of the energy partnership met directly afterwards in order not least to decide the issues for German-Tunisian cooperation in 2019. A delegation of German ministerial representatives travelled to Tunisia for the dialogue.



KEY DATA OF THE PARTNERSHIP

Partner ministry

Ministry of Industry and Small and Mid-size Enterprises (MIPME)

Office headquarters

Tunis

Year of establishment

2012

Priority issues

- Energy policy, with a particular focus on promoting renewable energies and grid development
- Low-emission strategies
- Local market development

Contact



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Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Website

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KEY FACTS





Intensification of the energy partnership

Turkish-German Energy Forum

Like Germany, Turkey depends on imports of raw materials and is therefore aiming to become self-reliant in terms of electricity generation. The Turkish-German Energy Dialogue has taken important steps towards identifying potential measures like the integration and expansion of renewable energy and an increase in energy efficiency.

In view of high levels of energy imports, rising energy demand and the low level of domestic value creation, the transformation of Turkey's energy industry is being further progressed by means of state funding. Alongside the expansion, integration into the system and storage of renewable energy and the establishment of local production sites to manufacture components for the energy market, energy efficiency is also becoming more and more important in Turkey.

At the second Turkish-German Energy Forum in Ankara in October 2018, Energy Ministers Peter Altmaier and Fatih Dönmez met with representatives of the private sector to identify specific projects for cooperation. A high-level German-Turkish CEO Roundtable was held, and several agreements on cooperation were signed between German and Turkish companies. The Energy Ministers of the two countries signed a declaration of intent to restructure the energy partnership.

Four meetings of working groups also took place. The energy partnership also featured German experts in the congress programmes of various Turkish trade fairs, providing valuable input on energy efficiency and the integration of renewable energy into the system. July 2018 saw the first meeting of the Local Business Advisory Board.

In addition, two technical information tours to Germany provided insights into pumped-storage power plants and energy performance contracting.

KEY DATA OF THE PARTNERSHIP

Partner ministry

Ministry of Energy and Natural Resources

Office headquarters

Istanbul

Year of establishment

2012

Priority issues

- Expansion of renewable energy and integration into the grids
- Energy efficiency funding models and networks
- Energy storage technology
- EU energy systems integration and market transparency

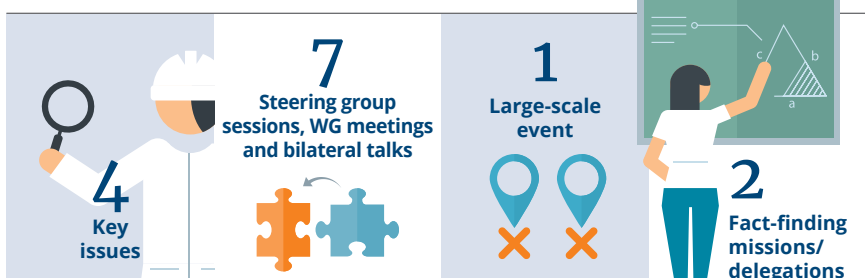
Contact



Zafer Koç
German-Turkish
Chamber of Industry
and Commerce



KEY FACTS





Pilot projects on retrofitting buildings to make them more energy-efficient

German-Ukrainian energy-efficient homes

Residential buildings in Ukraine are generally not very energy-efficient. As part of the German-Ukrainian energy-efficient homes pilot project, twenty buildings are to be retrofitted to make them more energy-efficient, by working with residents and home-owners. This means a lot of work providing information to people and raising awareness for energy efficiency.

Ukraine's energy sector is undergoing change. As the country has one of Europe's highest levels of energy consumption, one of the key challenges is to increase energy efficiency in the long term. Buildings play a key role here.

Retrofitting the Ukrainian building stock to make it more energy-efficient is a highly complex undertaking. This is partly because many of the apartments in Soviet-era tower blocks were sold to individuals, often resulting in heterogeneous ownership structures. The partners to the German-Ukrainian Energy Cooperation are to launch a pilot project showing how these challenges can be mastered. As part of this project, 20 Ukrainian multi-residential buildings are to undergo extensive renovation to make them more energy-efficient. The work will involve providing information to residents and home-owners and persuading them to accept the improvements.

In 2018, the focus was on the planning of retrofitting for buildings, i.e. the preparation of invitations to bid, planning and the search for sources of finance. A particularly important role is played by the energy efficiency fund, which is supported by the EU and is to be launched in 2019. The model projects could be the fund's first demonstration projects.

Numerous stakeholders from Ukraine are playing an active part in dena's cross-border dialogue platform

entitled "Urban Energy Infrastructure". Thematic workshops provide a backdrop for discussions with experts from Belarus, Kazakhstan, Russia and Germany on the latest energy-related challenges facing towns and cities.



KEY DATA OF THE PARTNERSHIP

Partner ministry

Ministry for Regional Development, Building and Housing

Year of establishment

Project start in October 2015

Priority issue

- Energy-efficient construction

Contact

Michael Hackethal

Federal Ministry
for Economic Affairs and Energy

KEY FACTS





Expansion of the dialogue to further states and electricity system operators

U.S.-German Energy Dialogue

Germany broadened and deepened the energy dialogue with the U.S. in 2018. The high points included major conferences with the Californian government and the Organization of the PJM States (OPSI) as well as high-level bilateral meetings with many U.S. states and electricity system operators.



Director-General Thorsten Herdan (centre) and Falk Bömeke (r.) of the BMWi talking to Andy Ott (l.), President and CEO of PJM, the largest U.S. electricity system operator, on the margins of the first Germany-PJM States Energy Trends Forum in Chicago.

Germany is engaged in a broad-based energy dialogue with the U.S. The dialogue is to help the two countries learn from each other when it comes to dealing with the challenges of the energy transition, and to maintain and develop their energy and economic policy contacts. The relevant players include decision-makers, stakeholders from government, administration, electricity system operators, companies, think tanks, academia and civil society.

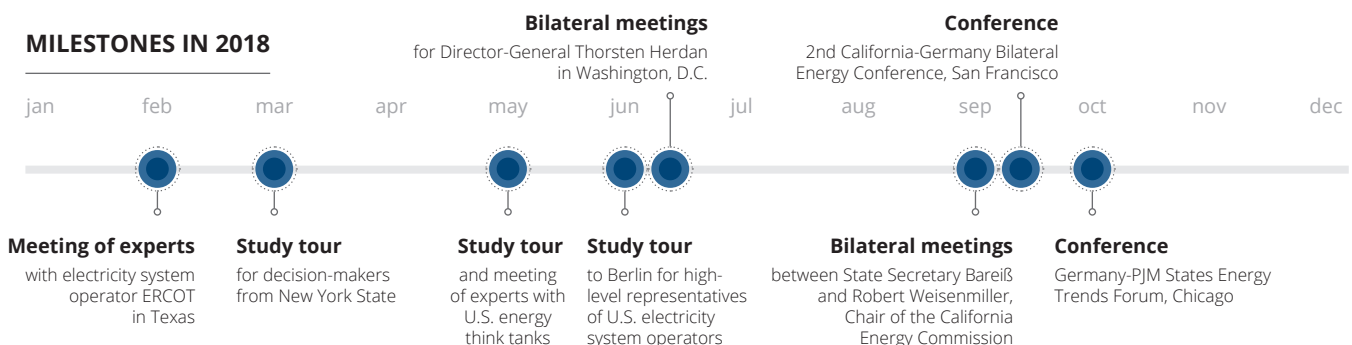
Apart from maintaining its contacts with the Federal government level, in 2018 Germany also intensified

numerous contacts with key states and electricity system operators playing a key role in driving forward the energy transition in the U.S.

Dialogue with the PJM states

As the largest electricity system operator in the U.S., PJM serves Washington, DC and 13 states. The commissioners responsible for energy of these states work together in the Organization of the PJM States (OPSI). Hosted jointly by OPSI, the BMWi and in cooperation with PJM, the First Germany-PJM States Energy Trends Forum was held in

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Chicago in October 2018. More than 70 participants, including nine representatives of U.S. states at commissioner level and the executive level of PJM, engaged in an intensive discussion of key issues of the energy transition like electricity market design, electricity system resilience and governance processes.

Deepening cooperation with California

Prior to this, the BMWi worked together with three Californian departments to host the second California-Germany Bilateral Energy Conference, which was successfully held in San Francisco as a side event at the Global Climate Action conference and attracted 250 attendees. High-level speakers and panellists discussed the possibilities and challenges of a climate-neutral electricity supply and mobility. In view of the positive response, plans are being made to hold the event again in 2019. A week before the 2018 conference, Robert Weisenmiller, the Chair of the California Energy Commission, held bilateral talks in Berlin with Parliamentary State Secretary Thomas Bareiß (BMWi) and stakeholders in the German energy transition.

A bilateral meeting took place in Austin in February 2018 with experts from ERCOT, the Texan electricity system provider. More than 40 participants discussed questions of the flexibilisation of the electricity system, electricity market design and grid planning. The three study tours to Germany also met with a very positive response. These were targeted at high-level representatives of U.S. system operators, U.S. think tanks, commerce and civil society from New York State.



KEY DATA OF THE PARTNERSHIP

Priority issues

- Long-term vision and scenarios
- Resilience and security of supply
- Electricity market design
- Flexibility sources
- Renewable energy
- Energy efficiency
- Electric mobility

Contact



Raffaele Piria
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KEY FACTS





From the vision to realisation: working together to progress the global energy transition

Emirati-German Energy Partnership

Ideas become plans, initial contacts led to a permanent dialogue – the second year of the Emirati-German Energy Partnership saw relationships being deepened and new developments launched. The focus was on strategies for the successful integration of renewable energy into systems and markets.



Bilateral expert workshop on integration of renewable energies at the Embassy of the United Arab Emirates in Berlin.

A pioneer for renewable energy in the Gulf

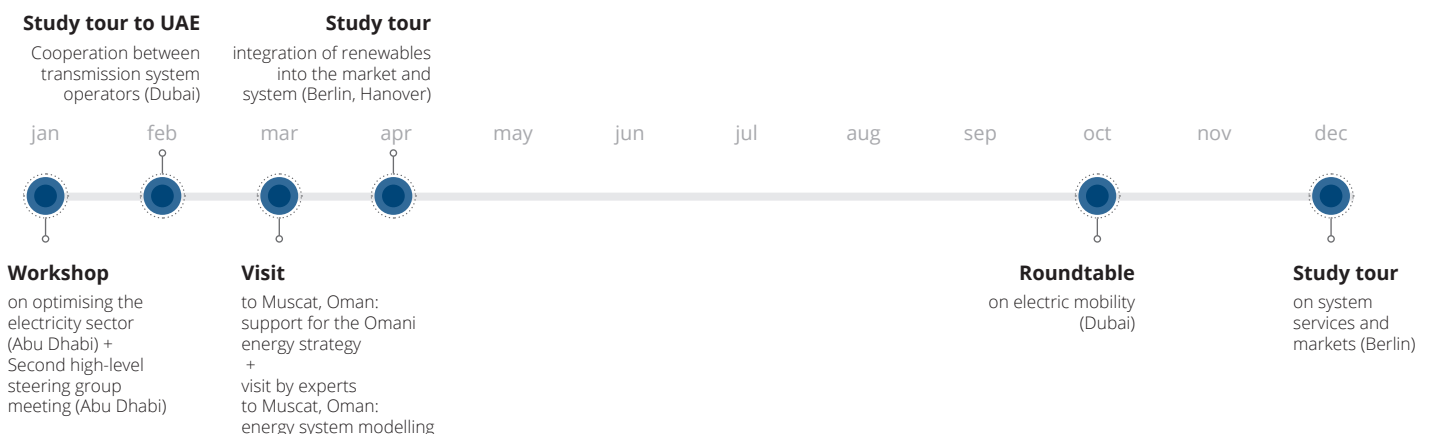
The United Arab Emirates (UAE) is regularly hitting the headlines with record results in auctions for renewable energy. The figures achieved are based on the vision of making the energy system and the entire economy less dependent on oil and gas and making better use of the solar resources.

In its 2050 energy strategy, the UAE has stated that around 44 % of electricity generation capacity should be

based on renewables by 2050. An energy efficiency strategy – with a view to cutting consumption by 40 % – is currently being drawn up.

A host of questions are arising for the UAE as it moves towards a more sustainable energy future: How can the integration of variable solar-based generation be securely integrated into the system? Can cross-border trade help to achieve an even faster expansion of renewable energy? What strategies exist for energy efficiency in buildings and

MILESTONES IN 2018



in industry? As answers are found to these questions, the exchange with Germany and its experience with the energy transition provide valuable input. In its second year, the Emirati-German Energy Partnership facilitated an in-depth expert dialogue in support of reforms and the sharing of experience between Germany and the UAE.

Integrating renewable energy: a shared challenge

The UAE’s path to the expansion of renewable energy involves concerns about the stability of the supply and fresh challenges relating to the operation of the grid. In order to develop a joint strategy for this, the four major energy companies in the Gulf state have intensified their cooperation. In addition to these technical and regulatory challenges, consideration is also being given to introducing market elements to the electricity sector.

This subject was discussed in detail in the context of the Emirati-German Energy Partnership in 2018. In total, three study tours took place in 2018 on various aspects – the electricity market and cooperation between transmission system operators, the systems integration of renewable energy, and system services – in the UAE and in Germany. Alongside bilateral workshops, these offered an opportunity for in-depth discussion between system operators, ministries and companies.

Energy dialogue deepened with countries in the Arabian peninsula

The energy dialogue was also deepened with the other countries of the Arabian peninsula. Oman is currently drawing up a new energy strategy stipulating new goals for renewable energy. At the beginning of 2018, the German government undertook visits to Muscat to strengthen the working relationship with the relevant institutions there. German experts also presented experience gained from the energy transition relating to electric mobility and energy efficiency at regional conferences in Dubai, Kuwait and Oman.



KEY DATA OF THE PARTNERSHIP

Partner ministry

Ministry of Energy and Industry

Office headquarters

Berlin

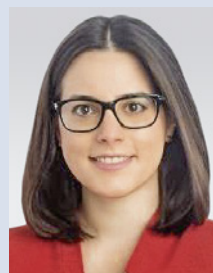
Year of establishment

2017

Priority issues

- Integration of fluctuating renewable energy
- The electricity market and grids
- Energy efficiency in buildings and in industry
- Electric mobility and sustainable transport

Contact



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KEY FACTS

8 Key issues

1 Steering group session, WG meeting and bilateral talk

1 Workshop in the EP/ED countries

1 Large-scale event

3 Fact-finding missions/delegations

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German-Mexican Energy Partnership

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German-Russian dialogue on
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'German-Ukrainian energy-efficient homes'
pilot project

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