

Proceedings

IRENA Pre-Assembly Event:

International Dialogue on Global Best Practices for Strategic Long-Term Energy Planning

Featuring the CEM - Long-term Energy Scenarios campaign and the Energy Planning Strategic Roundtable

January 10, 2020 • IRENA Headquarters, Abu Dhabi, UAE

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Key takeaways

Part One: Devising official planning scenarios – building the right type of scenario capacity within government

- **It is important not to plan in isolation.** Participatory energy planning can have two dimensions. First, in terms of geographical scope, it means considering neighbouring countries and future energy interconnections. Second, in terms of the scenario building process itself, it translates into integrating various stakeholders, centres of excellence, research institutes and economic sectors to discuss the challenges and interests.
- **Scenarios help inform plans, not predict the future.** The process of developing scenarios and the lessons learned from that process can matter more than the results. Scenario insights inform plans, which are not an end of the planning process, but rather the first step towards its execution. Plans are not to be “believed in”, they require stress testing and constant updating. Planning has always been based on the assumption that renewables are expensive, until it became apparent in the last five years that it is no longer the case – conventional planning wisdom needs updating.
- **It is crucial that governments possess at least some in-house capacity to absorb scenario insights.** There is no one correct approach to developing scenarios (they can be out-sourced or produced in-house); however, using scenarios and translating their information into policy decisions and actions requires capacity building in-house.

Part Two: How can the international community more effectively support national energy planning?

- **International organisations can help improve the ownership of the scenario building process for energy planning, which should lie within a country’s governmental institutions.** Scenarios fully developed by external consultants have created challenges in understanding, implementing and updating master plans. This has led some countries to seek partnerships with international organisations to build capacity.
- **The international community can support peer-to-peer sharing of experience and resources.** In the clean energy transition, it is essential to consider aspects that are sometimes peripheral to long-term energy planning, such as geographic linkages and resource exploitation. More integrated assessments (e.g. energy-climate-water nexus) are needed. Increased communication and exchange of experience can ensure efficient coordination is in place both externally with other countries and international organisations, and internally within ministries, academia, agencies, utilities and civil society.
- **International organisations can support the continuity of energy planning capacity building.** Planning support needs continuity. It is a great challenge to plan a country’s power sector and design NDCs in parallel, with continuous changes of context and technology (e.g. VRE). Building the institutional framework for such continuity may call for a certain amount of support, especially when the initial capacity does not exist.

Programme¹

9:30 Coffee

10:00 Welcome remark by Dolf Gielen, Director Innovation and Technology Centre, IRENA

10:05 Keynote addresses by:

- » Franz-Michael Skjold Mellbin, Ambassador of Denmark to the UAE
- » Thorsten Herdan, Director General for Energy Policy, Federal Ministry of Economic Affairs and Energy, Germany: *The role of scenarios for energy policy making*

Part one: Devising official planning scenarios – building the right type of scenario capacity within government

Chair: Paul Durrant, Programme Officer, Renewable Energy Innovation, IRENA

10:15 Scene-setting presentation by Pablo Carvajal, Associate Programme Officer Clean Energy Transition Scenarios, IRENA

10:25 Panel discussion with country experts

- » **Germany** – Thorsten Herdan, Director General for Energy Policy, Federal Ministry of Economic Affairs and Energy
- » **Nigeria** – Eli Jidere Bala, Director-General/Chief Executive, Energy Commission of Nigeria
- » **UAE** – Fatima Al Foora Al Shamsi, Assistant Undersecretary for Electricity & Water & Future Energy Affairs, Ministry of Energy and Industry
- » **UK** – Simeon Agada, Head of Clean Energy and Advanced Economies, Department for Business, Energy and Industrial Strategy

Topics to be explored include:

- » *How do the governments institutionalise the development of planning scenarios?*
- » *Where does scenario building capacity reside within the government and how do different institutions work together in the planning process?*
- » *What are the advantages and disadvantages of different approaches?*

11:10 Open interventions from the floor

11:20 Concluding remarks from the Chair

11:25 Coffee break

Part two: How can the international community more effectively support national energy planning?

Chair: Will Blyth, UK Department for International Development

11:45 Introductory remarks from Chair

11:50 Panel interventions from institutions supporting national energy planning

- » **International Renewable Energy Agency** – Asami Miketa, Senior Programme Officer Power Sector Investment Planning

¹ Honourific titles omitted

- » **International Atomic Energy Agency** – Wei Huang, Director of the Division of Planning, Information and Knowledge Management
- » **Oxford Policy Management** – Simon Trace, Director Energy & Economic Growth Programme
- » **United Nations Economic and Social Commission for Asia and the Pacific** – Hongpeng Liu, Director of the Energy Division
- » **World Bank** – Juliette Besnard, Energy Specialist

Topics to be explored include:

- » *What are effective ways in which international communities work together to increase the human and institutional capacity on long-term energy planning?*
- » *What are the successful examples of peer-to-peer learning and capacity building support?*

12:20 Country open interventions: *How to benefit from national and international networks of excellence?*

12:55 Concluding remarks from the Chair

13:00 End of event

Summary of the event

Date and time: Friday, January 10, 2020 (10:00 – 13:00)
Location: IRENA Headquarters in Masdar City, Abu Dhabi, UAE
Participants: 85 delegates, primarily from governments as well as from international organizations, attended the event



Welcome and introductory remarks

Welcoming and introductory remarks were made by Dolf Gielen, IRENA IITC Director.

Dolf Gielen (International Renewable Energy Agency) began by welcoming attendees to this IRENA Pre-Assembly event.

He cited the importance long-term scenario analysis has had in the energy transition, but also highlighted that it needs to adapt to the current needs and characteristics of the energy transformation, as outdated models and scenarios can prove to be costly. He presented an overview of IRENA's work and the rationale for the CEM LTES campaign. He briefly spoke about the three pillars of the campaign: 1) understand how to develop scenarios, 2) how to better use the scenarios and 3) how to develop the capacity for scenario development and use.



The events that the LTES has carried out worldwide were referenced, as well as their outcomes, such as building the right type of scenario development capacity within governments. He mentioned the difference between how governments devise official scenarios (in-house vs outsourcing), and that through the LTES campaign, IRENA has identified pros and cons of the different approaches, and the conditions needed for their effective functioning.

Keynote presentations

Franz-Michael Skjold Mellbin (Danish Embassy, UAE) then followed with stating that many questions are emerging regarding energy planning, and many countries are looking into robust methods to approach the energy transition. He highlighted that Denmark is planning to reach 100% renewable energy by 2028, but will not be able to continue to plan in the same way. And therefore, as Denmark pushes forward, it is essential to partner and coordinate with the private sector to increase technology choices. Thirteen public-private partnerships have been developed (in manufacturing, service, finance and more industries), as part of a comprehensive national approach. He concluded by stating that he hopes it can inspire others attending to do the same, and that ideas can be exchanged in order to develop better solutions for the future.



Thorsten Herdan (Federal Ministry of Economic Affairs and Energy, Germany) then followed with a spoken intervention, which started by commending the CEM-LTES campaign. He echoed Denmark's sentiments, stating that energy planning cannot be done by government alone (a mistake Germany has done before), but with partners in the private sector, civil society and the international community. The national energy and climate plan frameworks (as part of the EU clean energy package), aims to enhance those partnerships between neighbouring countries.



Secondly, he mentioned that we should not “believe” in the planning, stating that plans should constantly be revised according to previously deduced targets and policy measures, as well as disruptive technologies in development (such as advanced PV and hydrogen). This is because a widespread adoption of a disruption technology could completely change those plans, which is why long-term planning should be a constant learning process.

This has led Germany to decide not to perform this planning process on its own, as it would require a large amount of people in government, who may perform it in a way that is distant from the reality on the ground. He also cited that it is important to create a process that allows legislators to develop regulation based on scenarios, using different factors such as technology, experiences and stakeholders, citing the feed-in tariff for RE in Germany.

Part One: Devising official planning scenarios – building the right type of scenario capacity within government

Chair: Paul Durrant (International Renewable Energy Agency) introduced this session by stating that its objective is to discuss different approaches from national governments for devising official planning scenarios. As this is one of the core focus areas of the LTES campaign, the session seeks to identify good practices and recommendations for governments to create and expand their scenario development capacity. Finally, he stressed the importance of establishing and sharing a national vision for the success of the long-term planning process.



Scene-setting presentation: Pablo Carvajal (International Renewable Energy Agency) began by speaking about the CEM-LTES campaign, and the creation of IRENA's LTES network which expands the campaign to countries that are not in the CEM group of countries. He stated that modelling tools feed into long-term scenarios, and those scenarios feed into energy policy-making. He referenced the three pillars of the campaign, along with the questions they pose. First, strengthening the development of LTES, and how to develop scenarios to account for transformative changes and developments. Second, how to use scenarios to influence decision-making by governments and investors, and creating bridges between the users and developers of scenarios. Third, the approaches to building capacities for the development of LTES.



Following the first year of the campaign, five key recommendations were developed by IRENA to address the former issues. First, to establish a strong governance structure for the scenario development process. Second, to expand the boundaries of scenarios to capture the characteristics of the clean energy transition. Third, to clarify the use of the scenarios and its purpose. Fourth, to develop transparency and effective communication of scenarios. Fifth, to build the right type of capacity in governments for the development of scenarios.

In-sourcing and out-sourcing of scenario development was then discussed, and the approaches of the campaign's countries were displayed. Key success factors for in-sourcing were then stated. First, quality assurance and engaging with academia. Second, setting a dedicated and constant team for the development of scenarios according to context. Third, setting an institutional process for regular updates of LTES. For outsourcing, first it is important to have capacity within the government to understand the modelling results. Second, full disclosure of methodologies and inputs to avoid black boxes. Third, access to high-quality institutions to outsource to.

First topic of discussion: institutionalising the development of planning scenarios in governments.

Paul Durrant asked the following question to all panellists: *Where does scenario building capacity reside, and how do different institutions work together in the planning process?*

Eli Jidere Bala (Energy Commission, Nigeria) – stated that energy planning is situated in the energy commission of Nigeria. However, energy planning should be also situated within the planning of the national planning commission’s objectives. In Nigeria, the energy sector is mainly divided into electricity and fossil fuels, hence the existence of both a Ministry of Power and a Ministry of Petroleum. The energy commission’s role is to coordinate between them and the Ministry of National Planning. He mentioned that LTES are not taken seriously by governments, but having a baseline is important for whichever government is in place. He also mentioned conflicting interests, and that the commission’s position outside the Ministry means their plans are only suggestions to decision makers.



Capacity development for LTES development has been supported, especially from GIZ and the EU, with importance placed on increasing percentage of renewables in the system.

Fatima Al Foora Al Shamsi (Ministry of Energy and Industry, United Arab Emirates) – stated that in the UAE it has been decided to go with the in-house approach to avoid black boxes, by developing an integrated energy strategy team led by the Ministry, with involvement from other stakeholders. The development of a scenario modelling tool itself was outsourced but tailored to suit the requirements of the in-house team. Other stakeholders (such as NGOs) were also invited to be part of the stress-testing of scenarios.



Al-Shamsi also mentioned that the strategies need to be revised every three to five years at least due to the accelerated deployment of disruptive technologies and assumptions. It was also mentioned that the Ministry is moving toward a mix of in-house and outsourcing with universities that aims to create a research center, which will help with the regular update process, and to build local capacities using the guidance of the government. Regarding the modelling tool, a lesson learned was that it is important to have a modular structure which allows developers to add or remove features, rather than having a full model built.

Simeon Agada (Department of Business, Energy and Industrial Strategy, UK) – responded by stating the importance of solid targets, as knowing where to go is the first step in developing scenarios to get there. He said that scenario development is a niche skill requiring a high degree of expertise. He also said that in the context of constant government change, it is important to build in-house capacity to develop scenarios that are resilient to that change. He referred to the data collection stage as a key stage, as governments need to ensure that scenarios are built with the right information.



He also mentioned the importance of having an open and consultative process in scenario development so that independent critics can interrogate and challenge the outcomes of the scenario development process.

Second topic of discussion: in-house vs outsourcing.

Paul Durrant asked the following question to all panellists: *what are the advantages and disadvantages of these approaches (insourcing or outsourcing) according to your experience?*

Thorsten Herdan (Federal Ministry of Economic Affairs and Energy, Germany) – stated that the challenge of Germany’s approach is that the legislator is not free to do whatever they want. But this is an advantage as well, as everyone can be engaged in the process, although not all interests of every group can be met. He also mentioned that the discussion in Germany is to expand the scope of the LTES to an overall long-term development scenario for the country (e.g. to include the shift in car manufacturing or other industries), as these matters feed back into the energy planning process, and thus, should be integrated. That is why the EU energy and climate frameworks, which involve all stakeholders and neighbours, can be very positive, as they can help avoid mistakes, such as the ones Germany made by not looking at infrastructure in early plans for deploying PV and wind, nor looking at the potential to export electricity to neighbouring countries.

Eli Jidere Bala (Energy Commission, Nigeria) – stated that the in-house capacity of the commission has an advantage that it is within the control of the country. Therefore, it can ensure that things are in the national interest. However, when it is not possible to have all the necessary capacity within the government, others should be brought in, such as academia, consultants and international organisations. Bala mentioned that he believes it is best if local academic capacity can be built, and that the approach must take a broad view, as the country cannot plan as an “island”.

Fatima Al Foora Al Shamsi (Ministry of Energy and Industry, United Arab Emirates) – stated that in-house capacity can have advantages, such as being sure about changes in parameters and the actions done, as well as ownership of the tool. However, some difficulties can be found in the time and skills needed for development and maintenance of models. Therefore, they believe a “semi-in-house model” can be best, with an energy research lab led by the Ministry, with the involvement and skills of additional stakeholders.

Simeon Agada (Department of Business, Energy and Industrial Strategy, UK) – stated that another big advantage of having capability in-house is having many who understand and can explain the models to decision makers in government. He emphasised the importance of quality assurance during the development of complex scenarios, and highlighted the need for scenarios to be peer-reviewed at each stage to protect the integrity of the policy recommendations.

Interventions from the floor:

- Energy Charter Secretariat - How do regional and international commitments (e.g. Paris agreement) impact scenario development and how can they be taken into account?
 - **Thorsten Herdan** – national, EU and international commitments are inputs in each and every scenario, and they fight hard with other organisations to ensure Paris commitments are part of every scenario.
 - **Eli Jidere Bala** – the national interests are paramount, especially in developing countries where energy access is a key driver. Therefore, it makes an impact on scenario development. However, it is important to recognise that without being oblivious to regional and international commitments.
- Mark Howells (Loughborough University, UK) – stated the importance of universities, mentioning a group of UK universities which is putting together a platform with materials on this subject, and is interested in learning where to partner.
- Nishant Bhardwaj (GGGI) – noted that electricity in some contexts is a provincial subject, and therefore capacities have to be built at the sub-national level. He also noted that it is important that the model is built for the country context (grid, economic, technology). In many countries, there is an institutional structure in place for developing models, and therefore there is no need to develop them from scratch. Energy planning should also be understood in relation to the in-house capacity in the country.
- Alberto Montoya (Ministry of Energy, Mexico) – stated that first, the problem of planning has certain political principles at its basis, which should be explicitly stated (e.g. in Mexico, being self-sufficient in energy, secondly, the ethical imperative to cooperate in global community to face climate change, thirdly, who are the economic stakeholders). Second point, what kind of resources the nation has (e.g. in Mexico limited fossil resources, fiscal resources, but other natural resources). Third point, that it is not only a technological choice issue, but an energy system wide problem that must be planned – a public responsibility, and must set who are the institutions responsible for the different planning steps, and production of technology inputs must be included in the planning process, e.g. local content requirements.

Take-aways from the chair:

- Not to plan in isolation, both in country contexts (e.g. considering different neighbours and sectors), as well as in terms of processes (e.g. going from purely in-house to broader integration of centres of expertise, such as in the case of the UAE and Germany).
- Do not “believe the planning” – it is not so much the results of the scenarios but the process itself and the lessons learned.
- There is no one correct approach to developing scenarios, but it is crucial that governments possess some in-house capacity to absorb those scenarios, and to share those experiences with other countries.

Part Two: How can the international community more effectively support national energy planning?

Chair: Will Blyth (Department for International Development, UK) started his introductory remarks by referencing the different approaches countries take in developing and using their national energy planning capacity. He stated that the approaches reflect different national circumstances and contexts. He reiterated the idea of not believing the planning, citing an example where planning has always been based on the assumption that renewables are expensive, until it became apparent in the last 5 years that it is not the case. This signified a change in the landscape that was not expected. Therefore, it is important to employ good practices such as stress testing and consistent updating. Blyth also referenced the “Strategic Energy Planning Roundtable” initiative, and that principles have been developed and endorsed by 15 international organisations around how to best support the implementation of capacity enhancement for planning.



Discussion: How can the international community more effectively support national energy planning?

Will Blyth asked all panellists to give interventions with:

- *Examples they have seen of effective international cooperation in support of strengthening long-term energy planning.*
- *Their thoughts on how the international community can work together.*

Asami Miketa (International Renewable Energy Agency) stated that IRENA works in several different contexts, with different countries and different interests. Therefore, Miketa highlighted two relevant contexts to IRENA’s work: 1) supporting the exchange of experiences between countries, at an institutional level (i.e. LTES campaign and network) and a technical level (more specific planning aspects, modelling approaches, and linkage of approaches for the integration of RE), which is done through events and workshops; and 2) to build institutional capacities in countries to develop national master plans and have the skills to maintain and update them. This is done through training programmes along with other organisations, with subjects such as stakeholder consultations, training of modelling tools, and other subjects, citing the example of Eswatini.



To conclude, she highlighted the importance of peer-to-peer sharing of experience, as well as, the ownership of the planning process.

Wei Huang (International Atomic Energy Agency) introduced the IAEA and its dedicated role to promote peaceful use of nuclear technology. He then referenced the IAEA’s Director-General’s presence at the COP, where he met with other international organisations to discuss cooperation. He stated their responsibility to convince decisionmakers of the value of the long-term planning process. He mentioned that the IAEA develops tools that focus on analysis of energy demand and systems that are widely used, which give a good basis for international cooperation. He continued by



agreeing with the importance of continuity in planning support (i.e. in Eswatini), as well as working with UN organisations on more integrated assessments (i.e. CLEWs). Huang's key message was that it is vital to start and continue sharing those various resources across the international community.

Simon Trace (Oxford Policy Management) started by calling for supporting planning activities by building a body of evidence around how reforms and energy projects can have positive economic impacts, particularly in African countries. He continued by stating that national ownership of energy planning processes is one of the core principles agreed in the Strategic Energy Planning Roundtable. He also emphasised the importance of partnerships between centres of energy research excellence and governments (i.e. UC Berkley with Indian stakeholders). Trace concluded by citing a process applied across eight countries, which ranked policy questions and priorities.



This process led to the identification of several themes to focus on, that provide direction for future planning, such as how to develop capacity to integrate large-scale VRE into the grid, the vulnerability of infrastructure to climate, and questions regarding the political and economic effect of planning.

Hongpeng Liu (United Nations Economic and Social Commission for Asia and the Pacific) started by referencing an established platform for 53 member States in the Asia-Pacific region that received a mandate to help develop pathways and national implementation plan for SDG 7. He stated that for the region, national targets are now clear, however, the next challenge is to clarify how those targets will link to global targets such as the SDGs. He continued to say that national consultations have been started to understand how some countries can coordinate/integrate their national plans with SDGs – using economic, technology, and poverty analysis models for the interrelated targets. He gave an example at the regional level, where scenarios based on SDGs and NDCs have given higher targets for deployments of renewable energy than previously-developed RE scenarios.



Juliette Besnard (World Bank) began by stating that the World Bank has been working on energy planning strategies with countries, citing the example of Ethiopia. This planning has been done for both sector-wide and project-level electrification. She mentioned that the Energy Sector Management Assistance Program (ESMAP) gathers electrification agencies and utilities annually to provide training for planning and modelling for electrification efforts, including high-level geo-spatial planning with all technologies (grid, mini-grids, off-grid). In addition to training schools (i.e. in Trieste), the WB also provides ad-hoc training at country level. She mentioned that they also support development of tools, such as the global electrification platform released in 2019.



Interventions from the floor: How to benefit from national and international networks of excellence?

- **Yiheyis Gudeta (Ministry of Water, Irrigation and Energy, Ethiopia):** the current plan in the country has been guided by a national power expansion master plan, which was fully developed by an external consultant. This has caused problems in following, implementing and updating the master plan. This has led them to seek partnerships with international organisations to build capacity.
 - **Question from chair:** *is Ethiopia planning to perform scenario planning in-house in this case?*
 - **Response:** yes, the plan is to build capacity and develop skills in the country in order to avoid the issues that came along with outsourcing completely to an external consultant, in a bid to maintain understanding and ownerships of the scenario-planning.
- **Mohammad Alauddin (Ministry of Power, Energy and Mineral Resources, Bangladesh) –** cited the challenge of the country’s power sector plan with the NDC, with continuously changes of context and planning, as well as technology changes (with VRE). This calls for a certain amount of support at first, especially when the initial capacity does not exist.
 - **Question from chair:** *how is the internal coordination of NDCs done?*
 - **Response:** it is led by the Ministry of Energy and Department of Climate Change.
- **Wisdom Togobo (Ministry of Energy, Ghana) –** added that Ghana has made significant efforts in integrating RE in its portfolio, and have developed plans in line with Ghana’s NDC and SDG. They recognize the important role RE can play, particularly in remote areas; Ghana is also a developing country, and will like to add value to mineral resources, so they are also looking into traditional (thermal) technologies to support industrialisation and expansion of mineral exploitation. They are focusing on rooftops, mini-grids, and off-grid integration.
 - **Question from chair:** *can you reflect on any experience your department had with international organisations or neighbours around sharing information and experiences?*
 - **Response:** Acknowledged the partnerships with international organisations. IRENA supported Ghana with resource assessments and the energy corridor initiative. World Bank supported the development of RE laws and mini-grid implementation. SERCO provided financial and technical support. ADB provided funding (around 200m USD) for 3 projects around utility-scale wind and rooftop PV. The government of China supported Ghana through the Ghana-China technology development program. Japan also provided support in capacity building for renewables. Germany also supported through the energy reform partnerships, with 100m euros to support development of RE.
- **Amal Eldirdiri (Ministry of Energy and Mining, Sudan) –** cited some challenges in reducing fossil consumption, such as energy access, costs, introduction of RE in the system (Sudan is looking for 20% RE in the power mix by 2030), and rural energy solutions. There is the clean energy corridor, which is connected with Ethiopia, but a main challenge that remains is the expansion of the East African Power Pool (EAPP), which needs further integration to take advantage of unique potentials (i.e. solar in Sudan, wind in Ethiopia, geothermal in Kenya). Sudan worked with UNDP to fund two projects that have been very successful.
 - **Question from chair:** *how is the electrification plan being developed?*

- **Response:** It is being done inside the government, with RE being looked at a solution for Sudan's rural areas.
- **Olga Madeira (Electricidade de Mocambique, EP, Mozambique)** –Mozambique has a 25-year masterplan for long-term planning, and a WB-funded electrification strategy, however, it is still a challenge due lack of RE targets, because there is no link between the medium and long-term targets. The challenge now is to see in the short-term what the targets for RE could be and the operational strategy. The country is working with AFD on different strategies. They also have a very sensitive and small grid, so they are concerned about the level of RE penetration, and have requested IRENA's technical assistance support and would like to thank them this. A second challenge is the regulatory framework and outdated grid code; however, they are working to update this. They are also looking into storage options in the context of the SAPP, to understand how they may help integrate greater amounts of RE. Mozambique is working on various RE projects, and promoting RE.

Take-aways from the chair:

- There are deep political questions around how important it is to be self-sufficient in different respects in the planning process.
- Aspects need to be looked into such as geographic linkages and resource exploitation in the context of long-term energy planning.
- Coordination needs to be in place both externally (with other countries and organisations), as well as internally within ministries, academia, agencies, utilities and civil society.

Concluding remarks

Asami Miketa (International Renewable Energy Agency) commenced the event's concluding remarks by restating the importance of planning, and confirming that IRENA is committed to supporting the integration of RE into power and energy system planning. She mentioned that IRENA along with its partners can help bring expertise, as the integration of RE requires a great deal of coordination to achieve the goals of the energy transition, to ensure inclusive stakeholder engagement. The event also showcased the different ways the international community can cooperate to achieve their planning goals.

Background

IRENA is coordinating a group of leading government institutions from 12 countries, seven technical institutions/associations as well as other interested stakeholders and agencies to explore these issues as part of the Clean Energy Ministerial (CEM) campaign on “Long-term Scenarios for the Energy Transition” (LTES campaign). The campaign aims to promote the improved use of scenarios for the clean energy transition, enable the exchange of best practices and facilitate work to strengthen and broaden their use. The campaign has been running since May 2018 and has since over ten events and 20 webinars.

For any questions or more information, please contact LTES@irena.org.

IRENA also contributes to the UK DFID initiative “Strategic Energy Planning Roundtable” where leading international organisations and donor agencies work together to improve the effectiveness of support provided for strategic energy planning, through the implementation of “Energy Planning Principles” – a code of conduct for institutions supporting energy planning capacity building in developing countries.