Synthesis Report on the "Fourth Roundtable Discussion on Strategic Energy Planning"
(Trieste, 28th June 2019)

August 2019

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1   Introduction

This synthesis report summarises the discussion and outcomes of the **Fourth Roundtable Discussion on Strategic Energy Planning**, convened by the UK Department for International Development (DFID) on 28ᵗʰ June 2019**.** The workshop was part of the **Roundtable Initiative on Strategic Energy Planning**, a global initiative focused on improving the way in which development partners support energy systems modelling and planning in developing countries. The initiative's activities focus on four areas: 1) Harmonised engagement; 2) Capacity building through co-development; 3) Community platforms for data and tools accessibility; 4) Data, models and standards.

To promote harmonised engagement, the Roundtable process has developed the **'Key principles for improving the support to strategic energy planning in developing and emerging economies'[1]** (hereafter referred as 'the Principles')**.** The Principles are a "code of conduct" for development partners to work collectively towards improved effectiveness of their support to country governments on strategic energy system planning. Several organisations have already endorsed or are in the process of endorsing these Principles.

The Fourth Roundtable Discussion was hosted at the International Centre for Theoretical Physics in Trieste, Italy, on the back of the Summer School on Modelling Tools for Sustainable Development. The workshop included targeted discussions based on the agenda and actions that emerged during the previous last Roundtable Discussion (1ˢᵗ February 2019, Cape Town). Annex 1 provides an agenda.

The remainder of this synthesis report is structured along the agenda, with the following sections:

- **Section 2: Endorsement and launch of the Principles**
- **Section 3: Delivery and governance model of the Roundtable Initiative**
- **Section 4: Working groups on modelling standards and capacity building**
- **Section 5: Pilot application of the Principles in one or more countries**
- **Section 6: Summary of the key actions and recommendations**

The event was attended by 28 representatives (4 of whom joined remotely) from 20 organisations, including donors, international organisations, research organisations / academia and the private sector. A full list of participants is provided in Annex 2.

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[1] The Principles that the document advocates for strengthening the energy systems planning support to developing countries are: 1) National ownership; 2) Coherence and inclusivity; 3) Capacity; 4) Robustness of evidence, analysis and tools; and 5) Transparency and accessibility of planning inputs and outputs.

2   Key Energy Planning Principles

The first session began with an **update on each organisations' progress in endorsing the Principles**. Ten organisations had already endorsed the Principles, including the French Development Agency (AFD), the African Development Bank (AfDB), the UN Economic Commission for Africa (UNECA), OpTIMUS, the Royal Institute of Technology of Sweden (KTH), Federazione Eni Enrico Mattei (FEEM), Politecnico di Milano, the Stockholm Environment Institute (SEI), Institut du Développement Durable et des Relations Internationales (IDDRI), and the World Resources Institute (WRI).

Next, the session moved to discuss the **steps needed to finalise the text of the document enunciating the Principles**. Luca Petrarulo (OPML / EEG) explained that comments received since the last Roundtable Discussion in Cape Town were all addressed and a version for review was circulated to the entire Roundtable group few days before the workshop. There was general agreement that it was time to draw a line under the text and focus on endorsement of the Principles and their application. The room agreed that the document will stay open for major redlines or comments for few more weeks, and will then be closed and considered as final. **The proposed deadline for providing comments is Friday, 6th September 2019**.

The discussion moved on the **Principles' endorsement process** and options for an official launch of the document. Regarding the endorsement, the majority of participants pointed out that they were mainly waiting to have the final version of the document before proceeding with the endorsement. The room also discussed whether developing country governments would be allowed to endorse the Principles too if they wished for it. The group concluded that, as the Principles are specifically targeted to development partners, it would not be appropriate for national governments to endorse the Principles themselves. However, the group also agreed to have a sentence included in the page stating the Principles to welcome any manifestation of support from governments that wished to do so. Therefore, the following sentence has now been added: "*Signatories would also welcome feedback and declarations of support by governments to the application of these principles by development partners in their countries*".

In terms of having an **official launch of the Principles**, participants were in favour of the idea of a formal event once a critical mass of signatories was reached. The Sustainable Energy for All (SE4ALL) forum (26-28 May, Kigali, Rwanda) was proposed as a good option for hosting the official launch as the timeframe to work towards on widening the Principles' endorsement seemed reasonable and Rwanda has been one of the first countries to use geospatial modelling in the national energy system planning. It was agreed that EEG/OPM would ask the entire Roundtable group to provide any suggestion for other relevant international events that could be viable alternatives to host the Principles' launch.

The discussion on international events led to the question of the **place and date of the next Roundtable Discussion**. EEG/OPM explained that the original idea was to have one at the next Energy Modelling Platform for Africa (EMP-A) meeting, which was originally planned for January 2020 in Mauritius, but it had now been postponed to March; that would leave too many months in between Roundtable Discussions, and an alternative has to be found. A possible alternative that was proposed is the 10th IRENA Assembly (11-12 January 2020, Abu Dhabi, UAE), although it might not attract the right audience of development partners and technical organisations from the Roundtable group. The decision was to go back to the Roundtable group to ask for suggestions of possible venues for the next Roundtable Discussion, ideally to happen within 6 months of the Trieste meeting.
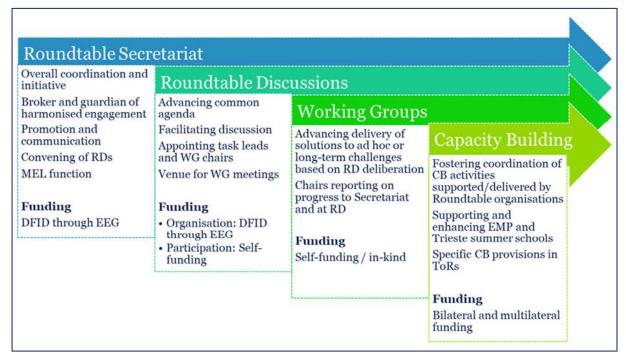
3   Delivery and governance model of the Roundtable Initiative

This session on the delivery model of the Roundtable Initiative covered two key questions:

1. Is the emerging delivery model of the Roundtable Initiative working in the short-term?

2. What is its sustainability for the long-term? What is the long-term vision we are pursuing?

The session began with the presentation by EEG/OPM of the key elements of the delivery model that has been *de facto* emerging in the past two years, which is summarised in Figure 1 below.

Figure 1. Emerging delivery model for the Roundtable Initiative

On the **first question**, the room agreed that so far, the delivery model was working, and it made sense to keep things as they are in the short-term.

Regarding the **long-term vision for the Roundtable Initiative**, participants discussed the main purpose of the Roundtable Initiative and how this could look like in the future. As understood, the Roundtable aims to foster the collaboration of different organisations around the Principles, which are seen as the 'glue' holding the initiative together and, in the long-term, should become the norm of how support for energy planning is provided.

The discussion then moved to address **how to get there**. In summary, there were two main alternative long-term delivery models:

*   Option 1: The Roundtable will become a formal long-term initiative with a permanent Secretariat and generally mimicking the emerging short-term delivery model.

*   Option 2: The Roundtable will be a temporary *ad hoc* initiative with a concerted and coordinated effort to achieve some specific milestones. These milestones will form the basis for the Principles to become the norm and collaboration between Roundtable participants to become self-sustaining.

The preference of participants was the second option, i.e. an *ad hoc* coordinated effort to achieve specific milestones. The idea was that if certain milestones are achieved then the Roundtable can simply be sustained by regular meetings (e.g. annual or biannual), hosted on the back of other regular meetings (SE4All Forums, Trieste Summer Schools, EMP-A events, etc.) without the need for a permanent Secretariat and a separate formal organisation.

Five key milestones were identified that need to be achieved in the short-/medium-term for Option 2 to be successful:

1. The endorsement of the Principles across the development community in the energy planning space;

2. Successful piloting of the Principles in a few countries to demonstrate their applicability;

3. The definition and piloting of common interoperability and metadata reporting standards in energy modelling;

4. The inclusion of clauses in Terms of References guiding energy systems planning support and requiring suppliers to adhere to the Principles and data standards;

5. The creation of a process or platform allowing development partners to share information on 'who is doing what' and coordinate/harmonise their efforts to provide technical assistance and capacity building on energy systems modelling and planning.

4   Working groups on modelling standards and capacity building

The workshop continued with a session to provide an update on the plan for the two working groups that were formed during the Roundtable Discussion in Cape Town:

- Working Group on Modelling and Data Management Standards – Chaired by OpTIMUS and KTH;

- Working Group on Capacity Building and Curricula Strengthening on Energy Systems Modelling and Planning – Chaired by UNIDEP and University of Mauritius.

The session opened with Mark Howells (KTH), who presented the work of the **Working Group on Modelling and Data Management Standards**. The working group proposed a series of standards for modelling and data management: **Retrievable, Repeatable, Reconstructible, Reproducible, Interoperable and Auditable (u4RIA)**:

- **Repeatable:** In theory, models should be showing the same results every time they are run. In practice, this is not always true. For instance, different technical specifications of the machine models are run on may produce the software to crash. Moreover, changes in subsequent versions of the same model could produce different results even if the input data are unchanged, as model calculations or default value (e.g. emission factors) have been amended. This may affect the trust of users in the model and any generated output using it. Therefore, it is important that (a) when results are recorded and disseminated, modellers specify the model's version and machine specifications they have used; and (b) any changes between model versions and minimum technical requirements are clearly specified in new version releases and made the info publicly available.

- **Reconstructible:** There is the need for modellers from donors, academia, and recipient of energy planning services to develop minimum reporting standards for each element of the energy planning ecosystem. These standards will ensure that data (including metadata, assumptions, methodology, and outputs/results) behind energy planning analysis can, as far as possible, be subsequently reconstructed.

- **Reproducible:** Once the reporting of model results is completed, a study is often published and archived. However, as models change – for example because of new software platforms, updates and bug fixes, changes in formulation – and/or data change, re-running old analysis might not be possible. The definition and application of best practices in data management and storage are therefore an important requirement of a sustainable energy planning ecosystem.

- **Interoperable:** The data available from statistical bureaus, administrations, industries or other stakeholder are rarely in the format needed by the energy planner. At the same time, models themselves often require data that are similar in substance, but different in form and/or specific computing requirements (e.g. a specific operating system). The consequence is that models often require extensive data manipulation that is not only lengthy and inefficient, but also multiplies the chances of errors. This risk of errors in existing data often makes it easier for modellers to start from scratch by constructing their own datasets. What is needed to begin with is a guide or manual on 'best practices' to facilitate the interoperability of datasets and models, including the definition of interchange policies with open standards, and interoperable and vendor neutral software.

- **Auditable & Retrievable:** Accountability to the public is essential for every government entity – including funders and bilateral partners. Thus, data should be easily retrievable, with good metadata, clear archiving and formats that allow for interoperability. However, currently data in often not easily retrievable. For instance, even widely cited datasets like the IEA-developed "Projected Cost of Generating Electricity" is not in a format retrievable by data search engines such as Google Data Set Search. Without systematic access to the data and other elements of the energy planning ecosystem, public transparency is greatly reduced. Poor retrievability and inability to test and audit outputs can easily result in lack of trust in modelling. Therefore, clear standards for enhancing the retrievability of/easy access to dataset is required.

The definition of the u4RIA principles was followed by the **presentation of an initial draft of a metadata reporting template** by Holger Rogner (OpTIMUS). Holger and Mark will seek interest from participants to the Roundtable Initiative to help with the definition of the contents of the template. This template will then be piloted by a small number of existing modelling projects to gather feedback on its applicability and the average effort required to scrupulously apply it.

The session continued with a presentation by Ron Kamiendo and Mustapha Sadni Jallab (UNIDEP), who presented on the progress of the **Working Group on Capacity Building and Curricula Development**. The UNIDEP colleagues highlighted an interesting capacity building initiative that would have brought representatives from 14 countries to receive training on energy policy matters for 3 weeks in July 2019. UNIDEP was in discussion with IRENA to support the training and explored with the Roundtable Discussion participants the possibility for them to collaborate in the capacity building activities too. Unfortunately, Roundtable Discussion attendees felt it was too short notice to provide additional support to the specific event.

The agreed next step for the Working Group on Capacity Building and Curricula Development will be for UNIDEP to further define the aim and scope of the group and discuss it in a call with OPM/EEG, which will then lead to a draft work plan to be shared with the entire Roundtable group to gather interest for participating in the working group.

Before the session ended, Luca Petrarulo (EEG/OPM) proposed that the working group be included in efforts to explore ways to improve gender inclusion in energy planning capacity building and training activities. The floor agreed with this proposal, and UNIDEP will consider it.

5   Pilot application of the Principles in one or more countries

The final session of the day, chaired by Ryan Hogarth (EEG/OPM), explored a proposal for the piloting of the Principles in one or more countries. The pilots would aim to **showcase the concrete applicability of the Principles by having key development partners and national stakeholders work together to trial them in one or more countries**. The piloting would work along the following steps:

1. **Select one or two countries** that are supportive of the Principles and ideally already have strong engagement with Roundtable participants. Ethiopia, Costa Rica, Uganda, Zambia were mentioned in the discussion as possible examples of candidates for the Principles piloting.

2. **Seek government and local partners' buy-in and conduct a preliminary analysis**. There should be an initial scoping phase during which the country's 'energy planning ecosystem' is analysed to understand whether and how some of the Principles have been already applied in the support received by the country and to identify the key development partners and local stakeholders involved in the national energy system planning. Preliminary engagement and buy-in of the government, development partners and local stakeholders will be sought.

3. **Develop a multi-stakeholder roadmap for the Principles.** The roadmap will be co-developed in a participatory way and should lead to a local operational version of the Principles that would be tailored to the country's context and needs.

4. **Work with government and partners to deliver Roadmap to Principles.**

The Roundtable Discussion participants were positive about the need to pilot the application of the Principles. EEG/OPM will be leading on the pilot, with the understanding that Roundtable development partners operating in the pilot countries will support the initiative on the ground. For instance, once the pilot countries are selected, the central teams involved in the Roundtable will be expected to help EEG to liaise with their country teams and get their buy-in.

The understanding is that the piloting process will run in parallel to the Principles' endorsement process, although the outcomes of the piloting may inform future revisions of the Principles document, which would be discussed and agreed by the Roundtable group.

6   Summary of key actions and recommendations

Table 1 below shows a list of all key actions and actionable recommendations that were agreed at the workshop in Trieste. OPM/EEG will own the overall coordination of their implementation, although each of them has an identified lead.

Table 1. Key actions and recommendations from the Trieste Roundtable Discussion

Item	Description	Lead	Action / Recommendation
1	**Add a sentence in the Principles document** to welcome feedback and declarations of support by governments for the application of the Principles by development partners in their countries	Luca Petrarulo (EEG/OPM)	Action
2	Provide comments on the final version of the Principles within few more weeks. **Proposed deadline: 6th September 2019.**	All	Action
3	Roundtable partners to continue with the internal discussions and process for **endorsing the Principles**	All	Action
4	Roundtable group to provide suggestion for relevant international events that could be viable alternatives to host the **Principles' launch**	All	Action
5	Roundtable group to provide any suggestion for relevant international events that could be viable options to host the **next Roundtable Discussion** during the period Nov 2019 – Jan 2020.	All	Action
6	Chairpersons of the working group on standards will seek interested people from the Roundtable group to help with the definition of the contents of the **u4RIA metadata reporting template**	Holger Rogner (OpTIMUS) / Mark Howells (KTH)	Action
7	Chairpersons of the working group on capacity building to further think about the **aim and scope of the working group** and discuss it in a call with OPM/EEG	Ron Kamiendo and Mustapha Sadni Jallab (UNIDEP)	Action
8	Consider including the explorations of ways to **improve gender inclusion in energy planning capacity building and training** in the scope of the working group on capacity building	Ron Kamiendo and Mustapha Sadni Jallab (UNIDEP)	Recommendation
9	Plan and lead the **piloting of the Principles** in one or two countries	Luca Petrarulo (EEG/OPM)	Action
10	Roundtable partners operating in the pilot countries to **support the piloting initiative**	Relevant Roundtable partners	Action

Annex A   Third Roundtable Discussion Agenda

Fourth Roundtable Discussion on Strategic Energy Planning, Trieste, 28th June 2019

12.30 – 14.00	**Welcome lunch at Tavernetta al Molo**
14:00 – 14:15	**Introduction** Opening remarks – Will Blyth (DFID) in videoconference Introductions and objectives of the day – Luca Petrarulo (EEG)
14:15 – 15:00	**Key Energy Planning Principles** Plenary discussion moderated by Ryan Hogarth (EEG) 1. Endorsement of the Key Principles by Roundtable participants (review progress, and agree launch and communications strategy) 2. In-country piloting of the Key Principles (discussion on proposal from EGG/DFID)
15:00 – 15:30	**Long-term vision for the Roundtable Initiative** Plenary discussion moderated by Luca Petrarulo (EEG)
15:30 – 15.45	**Coffee break**
15:45 – 16:15	**Introduction to Working Group Sessions** Presentation of draft work plans from the Chairmen of the: 1. <u>Working Group on Modelling and data management standards</u> (Mark Howells, KTH & Holger Rogner, OpTIMUS) 2. <u>Working Group on Capacity building and curricula strengthening on energy systems modelling and planning</u> (Ron Kamwendo, Mustapha Sadni Jallab, UNIDEP – videoconference)
16:15 – 17.15	**Parallel Working Group Sessions** Group work to refine the WG work plans Feedback from WG sessions – 5-10 minutes per group
17.15 – 17:30	**Summing up and closing remarks** Summing up of action points from the day – Luca Petrarulo (EEG) Concluding remarks – Will Blyth (DFID) in videoconference

Annex B   List of attendees

List of participants: **Fourth Roundtable Discussion on Strategic Energy Planning**

Date and time: Trieste, 28th June 2019, 2:00 pm – 5:30 pm

Location: International Centre for Theoretical Physics, Adriatico Guest House, Grignano, Trieste, Italy

No.	Name	Organisation
1	Mamahloko Senatla (remotely)	CSIR Energy Centre
2	William Blyth (remotely)	DFID
3	Anjana Das	EnergyVille
4	Paolo Carnevale	Fondazione Eni Enrico Mattei
5	Franziska Bock	GIZ
6	Ilse Berdellans-Escobar	IAEA
7	Adrian Tompkins	ICTP
8	Daniel Russo	IRENA
9	Ioannis Kougias	Joint Research Centre / EC
10	Magda Moner	Joint Research Centre / EC
11	Eric Williams	King Abdullah Petroleum Studies and Research Center (KAPSARC)
12	Mark Howells	KTH
13	Vignesh Sridharan	KTH
14	Eunice Pereira	KTH
15	Carla Cannone	KTH
16	Saga Kubulenso	KTH
17	Luca Petrarulo	OPML / EEG
18	Ryan Hogarth	OPML / EEG
19	Holger Rogner	OpTIMUS
20	Nicolo' Stevanato	Politecnico di Milano
21	Taco Niet	Simon Fraser University (SFU)
22	Federico Bruno Pontoni	Tony Blair Institute
23	Tomas Alfstad	UNDESA
24	Ron Kamiendo (remotely)	UNIDEP
25	Mustapha Sadni Jallab (remotely)	UNIDEP
26	Chiara Rogate	World Bank / ESMAP
27	Nicolina Lindblad	World Bank / ESMAP
28	Dimitrios Mentis	WRI