Energy and Economic Growth
Applied Research Programme

Synthesis Report on the "Sixth Roundtable Discussion on Strategic Energy Planning"
(Online event, 1ˢᵗ July 2021)

July 2021

Oxford Policy Management

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Executive Summary

This synthesis report summarises the discussion and outcomes of the **Sixth Roundtable Discussion on Strategic Energy Planning (RD6)**, held on 1st July 2021 as an online event. It was arranged on the back of the **Joint Summer School on Modelling Tools for Sustainable Development**. 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. 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'). **Eighteen high-profile organisations have already endorsed the Principles** (alphabetic order): Agence Française de Développement (AFD), African Development Bank (AfDB), United Kingdom – Department for International Development (DFID), World Bank – Energy Sector Management Assistance Program (ESMAP), Fondazione Eni Enrico Mattei (FEEM), Institut du Développement Durable et des Relations Internationales (IDDRI), International Renewable Energy Agency (IRENA), Swedish Royal Institute of Technology (KTH), Open Tools, Integrated Modelling and Upskilling for Sustainable Development Community of Practice (OpTIMUS), Netherlands – Environmental Assessment Agency (PBL), Politecnico di Milano, Regional Center for Renewable Energy and Energy Efficiency (RCREEE), Stockholm Environment Institute (SEI), The Bartlett Energy Institute – University College London (UCL), United Nations Development Programme (UNDP), United Nations Economic Commission for Africa (UNECA), United Nations Institute for Economic Development and Planning (UNIDEP), World Resources Institute (WRI).

The RD6 was opened by welcoming remarks by the organisers: William Blyth (FCDO), Simon Trace (EEG) and Mark Howells (CCG and OpTIMUS Community). They emphasised the importance of strategic energy planning, as evidence has been building up globally showing that the scale needed of the energy transition is huge and better planning coordination is crucial to succeed. They remarked how the Roundtable Principles are at the heart of what is needed to address key issues such as the general reluctance of policy makers and investors in committing resources in plans and processes in which they have not been sufficiently involved or where the underpinning analytical evidence is not robust, accessible and transparent enough.

The next session was dedicated to the status update of the Roundtable Initiative, the key achievements of which are summarised as follows:

- **The development and endorsement of common Principles** to drive DPs' energy planning support towards overcoming key issues such as lack of ownership of evidence, models and tools by national stakeholders, low political buy-in of the resulting policy recommendations and plans, inability to improve, update, and implement the plans without external help, and ultimately inefficient allocation of resources for energy planning.
- **The provision of ongoing support to capacity development initiatives** like the Summer School that had just ended, pulling together resources and ideas to build communities of energy modellers and planners in developing countries.

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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.

- **The conceptualisation of the U4RIA goals[2]**, a series of principles, with the ambition to become standards for good, transparent and accessible energy data modelling and management.
- **The provision of a regular discussion forum on strategic energy planning** for DPs to exchange knowledge and lessons to improve the harmonisation of their interventions.

The subsequent discussion highlighted a few needs that could be addressed in the future by the Roundtable Initiative:

- **To facilitate the tracking of what each organisation active in the initiative has done in different countries concerning energy planning and modelling support**, including access to open data. This could be done through an online tracking spreadsheet, where initiatives related to strategic energy planning (e.g. modelling studies, capacity building) funded and/or managed by Roundtable organisations can be listed.

- To identify an approach to **measuring the achievement of projects against the 5 Principles "Transparency and accessibility of planning inputs and outputs"**. The application of the U4RIA goals could help with that.

The nest session was dedicated to the Roundtable Principles and the need for widening its endorsement base and for an official launch event. The prevalent sentiment from the audience was that: a) they were **in favour of widening the endorsement**, but without reopening the "negotiations" on the contents of the Principles' document; b) they were **in favour of a formal launch event** to have a very high profile. For the event, the dominant suggestion was to **have a formal call for endorsement from the UN High Level Dialogue for Energy, which could be met by the organisations with a formal event at COP.** This would imply swift and decisive actions from the key Roundtable members who are part of the High Level Dialogue.

Another key point raised was the need to ensure the **long-term coordination of the Roundtable Initiative**, as the EEG programme (current Secretariat) is due to end within one year. Prof. Mark Howells confirmed that the programme he leads, **CCG**, **will have some resources to take on the coordination** of the Roundtable and will work together with EEG in the handover. However, CCG should then develop a mechanism which would ensure that the Roundtable is institutionally sustainable and it does not depend on the continuation of a single programme.

The aim of the next session was to present an **interim account of the piloting of the ToR Annex defining ways for modelling projects to align with the U4RIA goals.** The Annex was developed by EEG and taken on by GIZ in the tendering of Climate-Economy Modelling in Rwanda and UGANDA activities as part of the project "Policy Dialogue and Knowledge Management on Low Emission Development Strategies (DIAPOL-CE)". The session started with a **presentation from Prof. Mark Howells about the U4RIA goals (appended to this document as Annex C).** This was followed by a brief intervention from Ms. Franziska Boch (GIZ), introducing the DIAPOL-CE project, procured by GIZ and implemented by GWS, and providing some general considerations on how GIZ approached the application of the U4RIA goals. In Rwanda and Uganda, the project is supporting the development of a macro-econometric model as well as a number of scenarios based on it. **While looking at the U4RIA goals, GIZ understood that there are really two main aspects of them:** on the one hand, there is **the part focussing on the data management documentation, which is directly under the control of the implementers** (in this case GIZ and GWS); and on the other hand, there is **the part on the future access to the data and model**.

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[2] The acronym stands for Ubuntu (community), Retrievability, Reusability, Repeatability, Reconstructability, Interoperability, and Auditability.

That is something that is **more under the control of the national counterpart** and will require further discussions. So there are still open questions on: a) to what extent GIZ will be able to share the data and model with academia, civil society etc., as well as to be published online? b) who is going to be responsible for the data repository and management in the long-term?

With these remarks, Ms. Boch left the floor to **Dr. Anett Grossman and Frank Hohmann from GWS**. She explained that **the U4RIA narrative reflects their practical experience in supporting modelling and planning exercises in different countries.** She presented the Excel-based modelling framework (DIOM-X) they are using in the DIAPOL-CE project, which they build by bearing in mind the criteria of openness and transparency advocated by the U4RIA goals. After the event, Dr. Grossman submitted **some slides summarising their approach to the application of U4RIA. These are appended to this document as Annex D.** The presentation summarises the benefits of and barriers to applying the U4RIA goals in modelling as follows:

- **Benefits**
    - U4RIA principles enforce "white box" approach
    - Transparency increases confidence
    - DIOM-X modeling approach simplifies the application of U4RIA principles and allows for easier stakeholder engagement at all levels (data set, model assumptions, scenario design)
- **Barriers**
    - Use of classified data limits transparency and model distribution
    - Additional workload for more detailed documentation and intensive capacity building
    - Limited capacities of involved parties (policymakers, research institutes) hinder application of U4RIA principles.

In the follow up discussion, Mark Howells reminded the audience that **the OpTIMUS Community has created a [forum / wiki that revolves around the U4RIA goals](#)**, to allow for further technical discussion on their merits and contents, and ideally move them forward to become actual standards.

The final session of the RD6 was dedicated to facilitating the share of knowledge between the Roundtable participants. In this regard, the floor was open to several Development Partners to briefly **present their capacity building activities in the field of strategic energy planning.** The full list can be found in Section 5. In the same section you can also find some of the key lessons delivering capacity building in time of COVID-19 and how these lessons can be use to "build back better" the approach for the future.

Finally, Table ES-1 below shows a list of all key actions and actionable recommendations that emerged from the Roundtable Discussion. EEG and CCG will own the overall coordination of their implementation, although each of them has an identified lead.

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

Item	Description	Lead	Action / Recommendation
1	**Secure resources for the long-term coordination of the Roundtable Initiative**	Luca Petrarulo (EEG) / Mark Howells (CCG)	Action
2	**Develop an online activity tracker (spreadsheet)** to facilitate the tracking of what the organisations active in the Roundtable Initiative are doing in different countries.	Luca Petrarulo (EEG)	Action

Item	Description	Lead	Action / Recommendation
3	**Publish the ToR Annex for the alignment of projects to the U4RIA and Roundtable Principles**. It will be published on the EEG website for the moment.	Luca Petrarulo (EEG)	Action
4	Roundtable partners to continue with the internal discussions and process for **endorsing the Principles to widen the group of endorsees.**	Luca Petrarulo (EEG)	Action
5	Mobilise the Roundtable group to **reach a formal call for endorsement of the Principles from the UN High Level Dialogue for Energy** (Sep 2021 in New York)	Luca Petrarulo (EEG) / Mark Howells (CCG)	Action
6	Explore the possibility of having a **formal launch event of the Principles during COP26** (Nov 2021 in Glasgow)	Luca Petrarulo (EEG) / Mark Howells (CCG)	Action
7	**Develop additional templates of ToR Annexes** for aligning to the U4RIA and Principles: 1) Large multi-partner projects; 2) Student theses and / or academic papers.	Mark Howells (CCG)	Action
8	**Contribute to the technical discussion in the online forum about the U4RIA goals** to further improve their scope and contents.	Mark Howells (CCG) / Robbie Morrison	Action
9	Produce some **written guidance to clarify the different ways in which DPs can apply the Principles**, building on the lessons learnt that will emerge in future Roundtables and other forums.	Nishant Narayan (SEforALL)	Recommendation
10	**Topics to be covered in the future:** Practical lessons for capacity retention; Lessons for "new learning" to "build back better" capacity building approaches post-COVID; Updates on the application of the U4RIA goals in DIAPOL-CE and other initiatives; Ways for measuring the achievements / progress in the application of the Principles and U4RIA.	All	Recommendation
11	Provide interest about the **network of researchers** established by the DIAPOL-CE project (GIZ)	Franziska Boch (GIZ)	Recommendation

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1   Introduction

This synthesis report summarises the discussion and outcomes of the **Sixth Roundtable Discussion on Strategic Energy Planning** (RD6), jointly convened by the Energy and Economic Growth (EEG) and the Climate Compatible Growth (CCG) programmes, both funded by the UK Foreign and Commonwealth Office (FCDO), and the OpTIMUS community of practice. RD6 was held on 1st July 2021 as an online event, because of the health risk posed by the global pandemic of COVID-19. It was arranged on the back of the **Joint Summer School on Modelling Tools for Sustainable Development**, organised by the International Centre for Theoretical Physics (ICTP), which kindly offered to host the meeting on their Zoom platform.

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. The initiative is coordinated by EEG, a programme managed by Oxford Policy Management (OPM).

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**'[3] (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 objectives of the day was to pick up the agenda where it was left before COVID-19 (the last meeting was held in Abu Dhabi in January 2020) and discuss the key priorities of the Roundtable Initiative for the next year. The event was attended by 41 representatives from 27 organisations, including donors, international organisations, research organisations / academia and the private sector. A full list of participants is provided in Annex B.

The synthesis report is structured along the sessions in the agenda (included in Annex A), as follows:

- Section 2: Status update of the Roundtable Initiative

- Section 3: Roundtable Principles – Official Launch and implementation

- Section 4: U4RIA energy data management standards

- Section 5: Energy planning capacity building initiatives

- Section 6: Summary of key actions and recommendations.

Below the opening remarks are also summarised.

Opening remarks

The RD6 was opened by welcoming remarks by the organisers: William Blyth (FCDO), Simon Trace (EEG) and Mark Howells (CCG and OpTIMUS Community).

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[3] 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.

Will Blyth emphasised the importance of strategic energy planning, as evidence has been building up globally showing that the scale needed of the energy transition is huge and better planning coordination is crucial to succeed. The fact that the international Summer School was oversubscribed is a reflection of the importance of the topic for people in developing countries who are supporting the energy transition. He announced that, in the lead to COP26, the FCDO will launch a 'Green and Grids' initiative, aiming to emphasise the importance of coordination in planning electricity girds, particularly when the need for grid expansion in developing countries is so important to achieve the Sustainable Development Goal number 7 (SDG7) and the electrification of the economy. Finally, Mr. Blyth remarked how important the Roundtable Initiative can be to support that process, by sharing best practices in energy planning that will allow energy policies to be based on robust and transparent evidence.

Simon Trace followed up by underscoring how the Roundtable Principles are at the heart of what is needed to address key issues such as the general reluctance of policy makers and investors in committing resources in plans and processes in which they have not been sufficiently involved or where the underpinning analytical evidence is not robust, accessible and transparent enough. He then expressed his excitement for some of the progress delivered by the initiative, such as the template of contractual annex to be used by Development Partners (DPs) when financing support for strategic energy planning and modelling, which would embed some of the Principles in practice, and that GIZ has been testing (see Section 4). The RD6 can serve to re-energise the process of embedding the Principles into DPs' practice and ensure that there is plan for continuing the work of the Roundtable Initiative in the future by passing the baton from EEG to CCG in the coming months.

Finally, Prof. Mark Howells started by remembering that in the previous 3 weeks, there has been a Summer School with over 100 analysts from over 30 countries working on collecting national data through to developing national financial cases for big infrastructure development. There will be follow up training events regionally, in Asia, Africa and Latin America. Linking to what Mr. Blyth said, this shows that "the hunger for this [gaining capacity on strategic energy planning] is very high" and elements from the Principles have been embedded in the course material and in other practical initiatives (e.g. the GIZ project). On 30th June, there was a high level event to close the Summer School and the conclusions called for better access to open data, more transparent energy planning processes, and more inclusivity in those processes, for example with a more prominent role of stakeholders from academia, civil society and financial institutions. So, Prof. Howells pointed out that the more the DP community is able to embed the Roundtable Principles into capacity building and other practical support to strategic energy planning, the greater will be the positive step change to the way that developing countries plan for their energy transition. Furthermore, Prof. Howells explained how there has been effort put in linking up the Principles to the work of other 'open communities' and coming out with pragmatic ways to apply them. This is for example what has been happening with the OpTIMUS community's involvement in developing the U4RIA data management goals (see Section 4).

2   Status update of the Roundtable Initiative

After the opening remarks, Luca Petrarulo, the Roundtable Coordinator from EEG presented a status update of the Roundtable Initiative. Knowing that some attendees were new, he gave an introduction of the key problems and rational behind the initiative, followed by a list of the main achievements of the initiative from its inception in November 2017 to date. These can be summarised as follows:

- **The development and endorsement of common Principles** to drive DPs' energy planning support towards overcoming key issues such as lack of ownership of evidence,

models and tools by national stakeholders, low political buy-in of the resulting policy recommendations and plans, inability to improve, update, and implement the plans without external help, and ultimately inefficient allocation of resources for energy planning.

- **The provision of ongoing support to capacity development initiatives** like the Summer School that had just ended, pulling together resources and ideas to build communities of energy modellers and planners in developing countries.

- **The conceptualisation of the U4RIA goals[4]**, a series of principles, with the ambition to become standards for good, transparent and accessible energy data modelling and management.

- **The provision of a regular discussion forum on strategic energy planning** for DPs to exchange knowledge and lessons to improve the harmonisation of their interventions.

Following that, Simon Trace facilitated a brief discussion aiming to identify the Roundtable's short- and medium-term priorities:

- Prof. Jim Watson (UCL and Research Director of CCG) asked whether the **link between the data, tools, and evidence work from the Roundtable and the debate on power sector reform** had come up before, and whether this should be something to be considered in the medium-term. To that, Will Blyth remembered how this topic was part to some extent of the initial debate in determining the focus of the initiative: he explained that there is a strategic question on finding the balance between broadening the focus of the approach to try and address the need for more coherent power sector reform versus narrowing it down to address concrete issues about efficiency and transparency in data management and modelling. There is no easy answer to this broad challenge. Simon Trace added that to some extent broad research programmes such as EEG and CCG need to look at a wide range of issues that affect the sector, definitely broader than models and data, but this has been an area on which the Roundtable has tried to focus to have a concrete impact on a problem that can clearly affect the ability of policymakers to take the right decisions in energy planning.

- Ioannis Pappis (KTH) underscored that a key contribution that can come from the Roundtable is to **facilitate the tracking of what each organisation active in the initiative has done in different countries concerning energy planning and modelling support**, including access to open data. It is important that the energy planning community is able to know and potentially build on previous work, which is something that is currently very difficult, according to Mr. Pappis. Luca Petrarulo pointed out that the Roundtable could **develop and then maintain a tracking spreadsheet**, possibly to be hosted online, where initiatives related to strategic energy planning (e.g. modelling studies, capacity building) funded and/or managed by Roundtable organisations can be listed. The possible process to populate this simple database would be for DPs that are starting a relevant initiative to proactively communicate the details to the Roundtable Coordinator, who would then add the information on the online spreadsheet. The same process should also be done at the end of the project to have the activity closed on the database. This could potentially be a low-effort-high-benefit task in the short-term for the Roundtable. Several participants expressed their appreciation of this idea. In relation to the area of tracking relevant activities, Thibaud Voita (NDC Partnership) explained that his organisation has a full

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database of countries' requests of support of their NDCs which can be interesting to the Roundtable organisations. The database also reports the DPs that have responded to and worked on those requests. The database covers different sectors, but energy is the one with the greatest number of requests.

- Francesco Gardumi (KTH) proposed that, after the launch of the Principles, one of the Roundtable's priorities should be to agree on a way to **include the Principles in project's ToRs** [something that, to some extent, the Roundtable has been already doing (see Section 4), ed.], and identifying an approach to **measuring the achievement of projects against the 5 Principles**. Mark Howells remarked that the development of contractual or ToR annexes is a "powerful" instrument to embed the Principles in DPs' support activities, but the risk to beware is to not over-coordinate the organisations' efforts or else it could make the process of applying the Principles too complicated and burdensome. He pointed out that light touch efforts like having ToR templates are the right flexible approach, because they align with the existing processes and incentives of DPs. Moreover, Prof. Howells seems to favour the currently ongoing development of a community of practice that proposes improvements to the system from the bottom-up, and the coordination of this community will then naturally happen around the common Principles vis-à-vis having a more structured top-down coordination.

- Albert Osueke (USAID / Power Africa) raised the important issue of **adding capacity retention to capacity building**. This is a clear problem in developing country contexts, whereby staff turnover in government agencies is very high, and those who acquire new skillset via training are often the first to move, causing the loss of institutional memory and capacity. He was keen to know how the Roundtable organisations have dealt with this problem and how the common Principles can cover it. Luca Petrarulo explained that this point is at the very core of the approach advocated by the Principles, whereby DPs' support is not only directed to direct training of government officials, but rather at the **nurturing of the "energy planning ecosystem"**. This implies the involvement of a broader range of stakeholders (NGOs, academia, other institutions) so that a local community of energy modellers and planners is developed and sustained, including through supporting science-policy interface and effective communication, the institutional strengthening of higher education, and regional and international capacity building efforts, such as the Summer School that had just ended.

- At the end of the session, William Usher (KTH and CCG), raised two important points: 1) **The Roundtable Principles are clearly valid beyond the energy sector only** and can apply to other sectors, such as transport or infrastructure. Hence, the Roundtable could consider how to collaborate beyond the energy sector and stakeholder. 2) Dr. Usher is also part of the European Climate and Energy Modelling Forum, the aim of which is to reduce the fragmentation of European climate and energy modelling to inform EU policy. He noticed that the same challenges in developing regions which are behind the rationale for the Roundtable are also broadly affecting Europe, and **lessons can be transferred from the projects in Europe to the developing areas**. In addition, developing a suite of open tools to address some of the common issues on transparency, interoperability and accessibility would be an important longer-term step in the right direction.

3   Roundtable Principles – Official Launch and implementation

In the next session, Luca Petrarulo presented the Key Energy Planning Principles in more detail. Figure 1 provides an overview of the **18 organisations that have officially endorsed the Principles** so far.

Figure 1. Current organisations endorsing the Roundtable Principles

After the presentation, the discussion was open around three topics:

1. Do you see the need for widening the endorsement of the Principles?

2. Do you think it would be important to have a formal launch event of the Principles?

3. What are willing to do to support the application of the Principles to the in-country work you are doing and what next steps do we need to get there?

Here are the highlights from the discussion grouped around the three topics:

- Asami Miketa (IRENA) expressed her support for widening the endorsement of the Principles and organising a formal launch event. She also asked if while **widening of the group of endorsees**, the process of defining the Principles' content would be re-opened. Luca Petrarulo confirmed that this is something to be discussed and agreed. By knowing that it took substantial effort to reach agreement on the contents of the Principles, his personal recommendation would be to seek for additional organisations to join on the basis of the current Principles, without aiming to amend them further.

- Ms. Miketa also asked for **clarifications on the future of the Roundtable Initiative**, considering that EEG (current coordinating entity) will end in less than a year. Mark Howells confirmed that EEG's sister programme **CCG will have some resources to take on the coordination** of the Roundtable and will work together with EEG in the handover. However, CCG should then develop a mechanism which would ensure that the Roundtable is institutionally sustainable and it does not depend on the continuation of a single programme.

- Nishant Narayan (SEforALL) agreed that the Principles as they are formulated now are broad enough to have multiple and diverse institutions to rally behind them. The way organisations apply them will be different from one another, and some room of flexibilities needs to be retained to allow for tailored implementing approaches according to the specificities of the different organisations. He suggested that some **written guidance** could be produced **to clarify the different ways in which DPs can apply the Principles**, building on the lessons learnt that will emerge in future Roundtables and other forums. Such learning document could be kept as a live one, to be updated with further lessons as they become available. Luca Petrarulo agreed that this was a good idea and offered to explored it further offline.

- Several people either in the call or in its chat expressed their **support for having a formal launch event of the Principles**. One option for such event seemed to be the **UNFCCC COP26**, hosted by the UK during 1-12 November 2021. Mark Howells pointed out that several of the Roundtable partners would have side events to COP and it would definitely attract. Mekalia Paulos (UNECA) flagged that there is a summit in September 2021 in New York for the **UN High Level Dialogue for Energy** and a large international audience from the energy sector is expected. Andrii Gritevsky (IAEA) suggested that **a practical way forward could be to have a formal call for endorsement from the UN High Level Dialogue for Energy, which could be met by the organisations with a formal event at COP.** The benefit of this approach is that the very high profile of both processes will constitute a real incentive to actually implement the Principles, as they will be under scrutiny of the international community. Finally, Eunice Ramos (KTH) also shared that in November 2021 there will be an **EU conference on modelling for policy support**, which will be interdisciplinary, including energy.

4   U4RIA energy data management standards

The aim of this session was to present an **interim account of the piloting of the ToR Annex defining ways for modelling projects to align with the U4RIA goals.** The Annex was developed by EEG and taken on by GIZ in the tendering of Climate-Economy Modelling in Rwanda and UGANDA activities as part of the project "Policy Dialogue and Knowledge Management on Low Emission Development Strategies (DIAPOL-CE)".

The session started with a **presentation from Prof. Mark Howells about the U4RIA goals** (appended to this document as Annex C).

Mark Howell's presentation was followed by a **brief intervention from Ms. Franziska Boch (GIZ), introducing the DIAPOL-CE project**, procured by GIZ and implemented by GWS, **and providing some general considerations on how GIZ approached the application of the U4RIA goals.** The project assists different countries in the use and understanding of quantitative models to support their climate and energy policies. Ms. Boch explained that the topic of evidence-based policy-making and modelling has been gaining a lot of momentum in the last couple of years, predominantly in the energy sector, in view of supporting countries in developing national strategies for low carbon development. GIZ has been active in this field to some degrees in Algeria, Tunisia, Jordan, Morocco, Nigeria, as well as in Rwanda and Uganda, which is where they decided to apply the U4RIA Annex. In particular, GIZ's approach is to aim to fully handover the models and tools they use to the country counterparts, so that the tools can be used and further advanced in the future by them. Furthermore, GIZ undertakes close collaboration with academia,

so that a local "expert group" (more or less formalised according to the country context) is left behind by the project.

In Rwanda and Uganda, the project is supporting the development of a macro-econometric model as well as a number of scenarios based on it. Specifically, in Rwanda, the model is supporting an economic advisor also provided by GIZ to design a green recovery plan, working closely with the Ministry of Finance and Economic Planning. In Uganda, the national counterpart is the Ministry of Energy and Mineral Development and the modelling will support analysis around energy strategy development, Long-Term Strategies and Nationally Determined Contributions (NDC).

While looking at the U4RIA goals, GIZ understood that there are really two main aspects of them: on the one hand, there is **the part focussing on the data management documentation, which is directly under the control of the implementers** (in this case GIZ and GWS); and on the other hand, there is **the part on the future access to the data and model**. That is something that is **more under the control of the national counterpart** and will require further discussions. So there are still open questions on: a) to what extent GIZ will be able to share the data and model with academia, civil society etc., as well as to be published online? b) who is going to be responsible for the data repository and management in the long-term?

With these remarks, Ms. Boch left the floor to **Dr. Anett Grossman and Frank Hohmann from GWS**. Dr. Grossman emphasised how important capacity building and access to data are important to foster ownership of models in national stakeholders. She explained that **the U4RIA narrative reflects their practical experience in supporting modelling and planning exercises in different countries.** Therefore, she pointed out that they felt the request of considering all the U4RIA goals in the project design and implementation is actually very useful. Dr. Grossman, then continued by presenting the Excel-based modelling framework (DIOM-X) they are using in the DIAPOL-CE project, which they build by bearing in mind the criteria of openness and transparency advocated by the U4RIA goals. After the event, Dr. Grossman submitted **some slides summarising their approach to the application of U4RIA. These are appended to this document as Annex D.** The presentation summarises the benefits of and barriers to applying the U4RIA goals in modelling as follows:

- **Benefits**

    o U4RIA principles enforce "white box" approach

    o Transparency increases confidence

    o DIOM-X modeling approach simplifies the application of U4RIA principles and allows for easier stakeholder engagement at all levels (data set, model assumptions, scenario design)

- **Barriers**

    o Use of classified data limits transparency and model distribution

    o Additional workload for more detailed documentation and intensive capacity building

    o Limited capacities of involved parties (policymakers, research institutes) hinder application of U4RIA principles.

In the follow up discussion, Mark Howells reminded the audience that **the OpTIMUS Community has created a [forum / wiki that revolves around the U4RIA goals](#)**, to allow for further technical

discussion on their merits and contents, and ideally move them forward to become actual standards.

5   Energy planning capacity building initiatives

In this session, in a view of facilitating the share of knowledge between the Roundtable participants, **the floor was open to several Development Partners to briefly present their capacity building activities in the field of strategic energy planning.** Below is a summary of the activities presented, which will then be included in the "tracker spreadsheet" mentioned in Section 2. The order follows the presenting order during the workshop:

- **IRENA (Asami Miketa)**

  - **Regional model analysis and planning.** IRENA has been working with the "Power Pools" in Africa, in partnership with African Union. Ms. Miketa explained that IRENA is in favour of the basics of the U4RIA goals, and they have been already applying the general approach advocated by them, without calling them by name. They have also been collaborating with the World Bank and the African Development Bank in these endeavours.

  - **National master plan development support programme.** IRENA is currently supporting Cameroon, already assisted Sierra Leone and Eswatini. They have collaborated with the IAEA, as their model is built on the MESSAGE modelling framework.

  - **NDC support.** IRENA has been working with the NDC Partnership and UNDP to provide a light touch modelling support for the submission of the updated NDCs.

  - **Peer-to-peer programme.** This programme is carried out under the Long-Term Energy Scenarios (LTES) network, which is a "spin-off" of the Clean Energy Ministerial (CEM) initiative. The focus now is more on supporting the planning ecosystem, for example through improving the communication of models.

  - **Improve accessibility to the IRENA Renewable Energy data.** Asami explained that IRENA is improving the data format as it was not "model-ready" and will re-publish the data.

  - **Flex-tool**. IRENA is trying to expand their support to link with flexibility analysis and rural electrification planning.

- **UNECA (Mekalia Paulos)**

  - **Energy Modelling Platform for Africa (EMP-A).** This is a multi-donor initiative (e.g. UNECA, UNDP, UNDESA, World Bank Group, UK Aid, KTH, University of Cape Town, OpTIMUS) that brings together the energy modelling community in Africa and provides intensive hands-on training sessions to African energy (main focus), climate, land and water modellers. The 3-week training culminates in a High-Level Strategic Dialogue of government officials, representatives from international organisations and the expert community. It is the African "sister initiative" of the ICTP Summer School. The next one will be hosted by the University of Mauritius (dates have not been confirmed).

- o **Energy planning capacity programme.** This is a joint effort with KTH, IEA, and UNIDEP (part of UNECA). The programme is developed along different types of training, both short- and long-term, including a Post-diploma and a Masters programmes, looking at different aspects of strategic energy planning (e.g. demand, supply, market regulation). The curriculum has been developed and will be rolled out targeting African member states.

- **KTH (Francesco Gardumi and Ulla Mortberg)**

  - o **Summer schools.** KTH has been involved in the global Joint Summer School on Modelling Tools for Sustainable Development hosted by ICTP, as well as in other regional similar initiatives, including the EMP-A presented above, the one for Asia-Pacific. The EMP-Asia-Pacific, because of COVID-19, was turned into a long-term online capacity building effort over 5 months, that took place during the winter 2020-21. In particular, KTH has developed the open source suite of models used in these summer schools, i.e. OSeMOSYS, CLEWs and OnSSET.

  - o **In-country Climate Land Energy and Water (CLEWs) programme.** KTH supported CLEWs modelling in many countries, including Nicaragua, Uganda, Bolivia, Sri Lanka, Costa Rica.

  - o Being a University, KTH has a mandate on fostering research and education, and they have established collaborations with many higher education institutions in developing countries, so that they can become the custodians of local models and modelling skills.

  - o **Bio-energy modelling.** KTH has been carrying out modelling linking energy and sustainability dimensions, for example looking at ecosystem services linked to bio-energy and wind power.

- **World Bank / ESMAP (Nikolina Lindblad)**

  - o **Summer schools and least-cost electrification modelling.** The World Bank Group, through ESMAP has been one of the key donors and partner of the modelling Summer Schools, particularly focussing on geospatial least-cost electrification modelling. This was also applied in specific national training programmes.

  - o **Capacity building lessons from the World Bank Group.** Ms. Lindblad pointed out how there is room for improvement in the capacity building efforts. For example, rather than copy-pasting training curricula designed for in-person training to virtual training, they realised that the approach needed to be different. For example, rather than expecting e-learners to follow a 2-week intensive training from home, while juggling other work or study commitments, it worked better to **spread the sessions** over 9 weeks, **to allow for more flexibility**. The result was that the participation increased and fatigue decreased. Participants could follow the courses when their ministerial work allowed and met once a week to discuss progress and challenges. Another lesson coming from the Summer School is that the **use of a virtual reality platform** with avatars and chat rooms (gather.town) allowed for personal interactions among trainees and trainers to happen, despite the online setting. In conclusion, Ms. Lindblad underscored the importance of maintaining some of the lessons learnt during the pandemic, even when the public health situation will allow to go back to in-person training, in order to **"build back better" our capacity**

building approaches. For example, there could be to **use hybrid models composed by both remote and in-person learning**, allowing to provide learning opportunity to a broader mass while using less financial means, without sacrificing the training effectiveness. She then suggested to **add "New Learning" as an agenda point for future discussions**.

- **Politecnico di Milano (Nicolò Stevanato)**

  o **MSc Energy Engineering - Energy for Sustainable Development.** It is a track developed at the Department of Energy that aims at providing the students with the knowledge and the tools to be able to face today's challenge regarding National Energy Accounting and Energy Planning, and to be able to use Energy Modelling as decision support system. The course is aligned with the U4RIA goals in many ways, e.g. by only using open source models and open data.

  o **Sub-Saharan Africa Energy Data and Modelling Programme.** PoliMI is taking part in this programme led by the IEA, where they teach three modules: Energy and Sustainability, Energy Modelling for Policy Support, and Industrial Ecology Accounting Methods – CO2 case. This is a 1-year capacity building activity in 7 Sub-Saharan African countries: Ghana, Nigeria, Ethiopia, Kenya, Uganda, Zambia, and Rwanda.

- **Robbie Morrison (Independent)**

  o **Open Energy Modelling Initiative.** It is a loose network of modellers that began in Berlin 3 years ago. It has no structure, no membership, no fees, no incorporation of the law. Its ethos strongly derives from open source development. There were 200 modellers in the last meeting, and about 800 people in the mailing list, mainly coming from Europe, USA and Canada, but also from other global regions.

  o **Use of open models in developing countries and regions.** Open source models come with some benefits, with very low entry costs, and they can benefit from support from the open community. However, open models are often not partaking in official reports yet, as they are still looked suspiciously by some because of the open data access or the idea that they do not build on robust data. Mr. Morrison disputes this notion.

  o **Wider data management ecosystem.** The modelling community is experiencing a paradigm shift in this area, by moving from local and disjoint to domain-wide and community curated. Open licensing is a necessary condition for that to happen. Many of the projects created in the open modelling community point in the same direction: more transparency in semantics, meta-data practices and collection protocols. The concept of open-source modelling is now well-established and there are ripe opportunities for implicit technology transfer through open-source projects.

- **GIZ (Christopher Gross & Franziska Boch)**

  o **GET.transform.** It is a global multi-donor platform, offering services to selected high-impact countries and regions in Africa, Latin America and Asia, to assist them in enhancing their energy sector governance, planning and regulation. Mr. Gross emphasised the need to work with the broader energy modelling community. For example, they are working with IRENA in their peer-to-peer exchange and capacity

building initiatives, tying as much as possible with the LTS network. Henceforth, GIZ is committed to the Roundtable Principles.

- o **DIAPOL-CE**. Within the scope of this project, GIZ has funded and still supporting a network of researches, predominantly from Northern Africa and Western Asia but expanding, coming from different disciplines, working with quantitative models at the intersections of climate, energy and economy matters. The network started as a very small group, and it has been expanding. Ms. Boch explained that the network is open and invited anyone from the group who thinks this to be of interest to contact her.

- **IAEA (Mario Tot)**

  - o **IAEA capacity building initiatives.** The IAEA has been involved in capacity building for many years and their approach is to build capacities inside countries, focusing to cooperate with national experts. They also cooperate with many external partners and international organisations. One major partnership they have is with IRENA, for example in supporting African master plans (see above). In the next 2 years, IAEA is starting a new technical cooperation cycle, continuing their **regional project in the Latin America and Caribbean** region. Here they will use a hybrid approach, involving both online and in-person training. They will also continue their **regional project in Europe**. And they will have a **4-year project in Africa**, where they will focus on the sustainability of the energy planning processes, including the training of academia so that they can train others in energy modelling. The IAEA is also planning to establish a **network of capacity building / research centres** to serve as regional source of knowledge in the long-term. This shows how they are trying to apply Roundtable Principles, particularly in regard to fostering ownership and sustainable capacity in the partner countries.

The presentation of the recent capacity building initiatives was followed by a **discussion on the lessons on delivering capacity development activities during and after COVID-19**:

- **Mark Howells** stressed how outstanding the response from the public was to the Summer School. He thinks that the approach they undertook, **using a mix of online resources thanks to the Open University involvement, tutorial sessions, and spaces for virtual social interaction** was a successful one. Referring to what Ms. Lindblad was saying, he also saw the difficulties experienced by some trainees in getting away from their day jobs and having an intensive summer school. He thinks that **using a less intensive pace is a good suggestion**, which will allow trainees to fit the activities in their own time. A questionnaire has been distributed to the Summer School's trainees and lessons will be unpacked.

- **Francesco Gardumi** remarked the fact that, although **moving the training from in-person to online involved several challenges, it had the strong benefit to enormously expand the possibilities for a wider range and geographical reach of the Summer School.** The cloud platform worked very well for allowing trainees to connect and socially interact. He also mentioned that **having a university to take up the role of creating a network of universities and academic partnership** was really important. Finally, **in terms of challenges**, Mr. Gardumi sees the **retention of capacity** as one of the key ones.

- **Robbie Morrison** raised the point that **energy systems are changing radically** with the advent of digitalisation (e.g. with smart grids), and **modelling methodologies are having**

difficulties to catch up with this phenomenon. **Mark Howells echoed that point**, with the argument that **this is one of the key advantages of moving towards using open-source models**, which are more flexible. For example, using teaching material from the Open University avails both knowledge management and capacity retention, leaving free access to the data and tools used. The discussion forum for U4RIA is another good example. Prof. Howells explained that although methodologies are often behind, there is a strong effort to catch up, and the open-source approach allows built-in flexibilities from the teaching material, to working documents, to data, which are structured to be updated and reviewed.

The Roundtable Discussion was then closed after a quick summary of the key points and decisions taken.

6 Summary of key actions and recommendations

Table 1 below shows a list of all key actions and actionable recommendations that emerged from the Roundtable Discussion. EEG and CCG 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	**Secure resources for the long-term coordination of the Roundtable Initiative**	Luca Petrarulo (EEG) / Mark Howells (CCG)	Action
2	**Develop an online activity tracker (spreadsheet)** to facilitate the tracking of what the organisations active in the Roundtable Initiative are doing in different countries.	Luca Petrarulo (EEG)	Action
3	**Publish the ToR Annex for the alignment of projects to the U4RIA and Roundtable Principles**. It will be published on the EEG website for the moment.	Luca Petrarulo (EEG)	Action
4	Roundtable partners to continue with the internal discussions and process for **endorsing the Principles to widen the group of endorsees.**	Luca Petrarulo (EEG)	Action
5	Mobilise the Roundtable group to **reach a formal call for endorsement of the Principles from the UN High Level Dialogue for Energy** (Sep 2021 in New York)	Luca Petrarulo (EEG) / Mark Howells (CCG)	Action
6	Explore the possibility of having a **formal launch event of the Principles during COP26** (Nov 2021 in Glasgow)	Luca Petrarulo (EEG) / Mark Howells (CCG)	Action
7	**Develop additional templates of ToR Annexes** for aligning to the U4RIA and Principles: 1) Large multi-partner projects; 2) Student theses and / or academic papers.	Mark Howells (CCG)	Action
8	**Contribute to the technical discussion in the online forum about the U4RIA goals** to further improve their scope and contents.	Mark Howells (CCG) / Robbie Morrison	Action
9	Produce some **written guidance to clarify the different ways in which DPs can apply the**	Nishant Narayan (SEforALL)	Recommendation

Item	Description	Lead	Action / Recommendation
	Principles, building on the lessons learnt that will emerge in future Roundtables and other forums.		
10	**Topics to be covered in the future:** Practical lessons for capacity retention; Lessons for "new learning" to "build back better" capacity building approaches post-COVID; Updates on the application of the U4RIA goals in DIAPOL-CE and other initiatives; Ways for measuring the achievements / progress in the application of the Principles and U4RIA.	All	Recommendation
11	Provide interest about the **network of researchers** established by the DIAPOL-CE project (GIZ)	Franziska Boch (GIZ)	Recommendation

Annex A   Sixth Roundtable Discussion Agenda

Sixth Roundtable Discussion on Strategic Energy Planning, Online, 1st July 2021

9:30 – 9:45	**Introduction** Opening remarks Introductions and objectives of the day
9:45 – 10:30	**Status update of the Roundtable Initiative** • Recap of the key achievements of the Roundtable Initiative so far • Discussion about key priorities, governance, and next steps of the Roundtable Initiative
10:30 – 11:00	**Roundtable Principles – Official Launch and implementation** Discussion on the need and options for a launch event and on-the-ground implementation of the Principles
11:00 – 11.15	**Coffee break**
11:15 – 11:45	**U4RIA energy data management standards** • Recap of the U4RIA standards • Approaches for further developing and applying U4RIA
11:45 – 12.45	**Energy planning capacity building initiatives** Round of table to quickly present key initiatives (5 minutes per organisation) and moderated discussion
12.45 – 13:00	**Summing up and closing remarks** Summing up of action points from the day Concluding remarks

Annex B   List of attendees

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

Date and time: 1st July 2021, 9:30 – 13:00 Central European Summer Time

Location: Zoom online platform

No.	Name	Organisation
1	XU Helen (Xiangyang)	Center for Resources and Environment, China University of Mining and Technology
2	TARNEY Michael	Cities and Infrastructure for Growth (CIG), Zambia
3	JARRAD Wright	Council of Scientific & Industrial Research (CSIR), India
4	SCHMITZ Thomas	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
5	BOCK Franziska	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
6	PETRARULO Luca	Energy and Economic Growth (EEG)
7	TRACE Simon	Energy and Economic Growth (EEG)
8	SENATLA Mamahloko Hycinth	Energy Research Centre, University of Cape Town
9	BUCKMAN Alex	Energy Systems Catapult
10	BLYTH William	Foreign, Commonwealth & Development Office (FCDO), UK
11	GROSS Christopher	GIZ GET.transform
12	FLAUTE Markus	GWS (Institute of Economic Structures Research)
13	GROSSMAN Anett	GWS (Institute of Economic Structures Research)
14	HOHMANN Frank	GWS (Institute of Economic Structures Research)
15	MORRISON Robbie	Independent
16	GRITSEVSKYI Andrii	International Atomic Energy Agency (IAEA)
17	BERDELLANS ESCOBAR Ilse	International Atomic Energy Agency (IAEA)
18	WELSCH Manuel	International Atomic Energy Agency (IAEA)
19	TOT Mario	International Atomic Energy Agency (IAEA)
20	TOMPKINS Adrian Mark	International Centre for Theoretical Physics (ICTP)
21	MIKETA Asami	International Renewable Energy Agency (IRENA)
22	RUSSO Daniel	International Renewable Energy Agency (IRENA)
23	GARDUMI Francesco	KTH (Royal Institute of Technology)
24	BELTRAMO Agnese	KTH (Royal Institute of Technology)
25	MORTBERG Ulla	KTH (Royal Institute of Technology)
26	PEREIRA RAMOS Eunice	KTH (Royal Institute of Technology)
27	USHER William	KTH (Royal Institute of Technology)
28	CANNONE Carla	Loughborough University
29	HOWELLS Mark	Loughborough University, Imperial College, Climate Compatible Growth (#CCG)
30	VOITA Thibaud	NDC Partnership
31	STEVANATO Nicolò	Politecnico di Milano
32	NARAYAN Nishant	Sustainable Energy for All (SEforALL)
33	PAULOS Mekalia	United Nations Economic Commission for Africa (UNECA)

No.	Name	Organisation
34	ABIDOYE Babatunde	United Nations Development Programme (UNDP)
35	FELIX Joanna	United Nations Development Programme (UNDP)
36	WATSON Jim	University College London (UCL)
37	ANANDARAJAH Gabrial	University College London (UCL)
38	OSUEKE Albert	USAID / Power Africa
39	DAS Anjana	VITO
40	LINDBLAD Nicolina	World Bank / ESMAP
41	MENTIS Dimitrios	World Resources Institute (WRI)

Annex C   Presentation in Session 4: "The U4RIA goals"

UR⁴iA MODELLING FOR POLICY SUPPORT

RESEARCH ARTICLE

Energy system analytics and good governance - U4RIA goals of Energy Modelling for Policy Support

> Mark Howells, Jairo Quiros-Tortos, Robbie Morrison, Holger Rogner, Taco Niet, Luca Petrarulo, Will Usher, William Blyth, Guido Godínez, Luis F. Victor, Jam Angulo, Franziska Bock, Eunice Ramos, Francesco Gardumi, Ludwig Hülk, Patrick Van-Hove, Estathios Peteves, Felipe de Leon, Andrea Meza, Thomas Alfstad, Constantinos Taliotis, George Partasides, Nicolina Lindblad, Benjamin Stewart, Ashish Shrestha, Dana Rysankova, Adrien Vogt-Schilb, Chris Bataille, Henri Waisman, Asami Miketa, Pablo Carvajal, Daniel Russo, Morgan Bazilian, Andrii Gritsevskyi, Mario Tot, Adrian Tompkins

DECLARATIONS: ⚖ View author declarations.

BADGES

✔ Prescreen

HISTORY

CURRENT STATUS: **POSTED**

⌄ Version 1

Posted 10 Mar, 2021
|
💬 Community comments: 1

METRICS

Comments: 1

PDF Downloads: 77

HTML Views: 850

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12

Principles for Good Modelling

1. Coherence of strategic decisions.

2. National and regional ownership.

3. Capacity building.

4. Robustness of planning

5. Data transparency and accessibility.

Standards are needed for
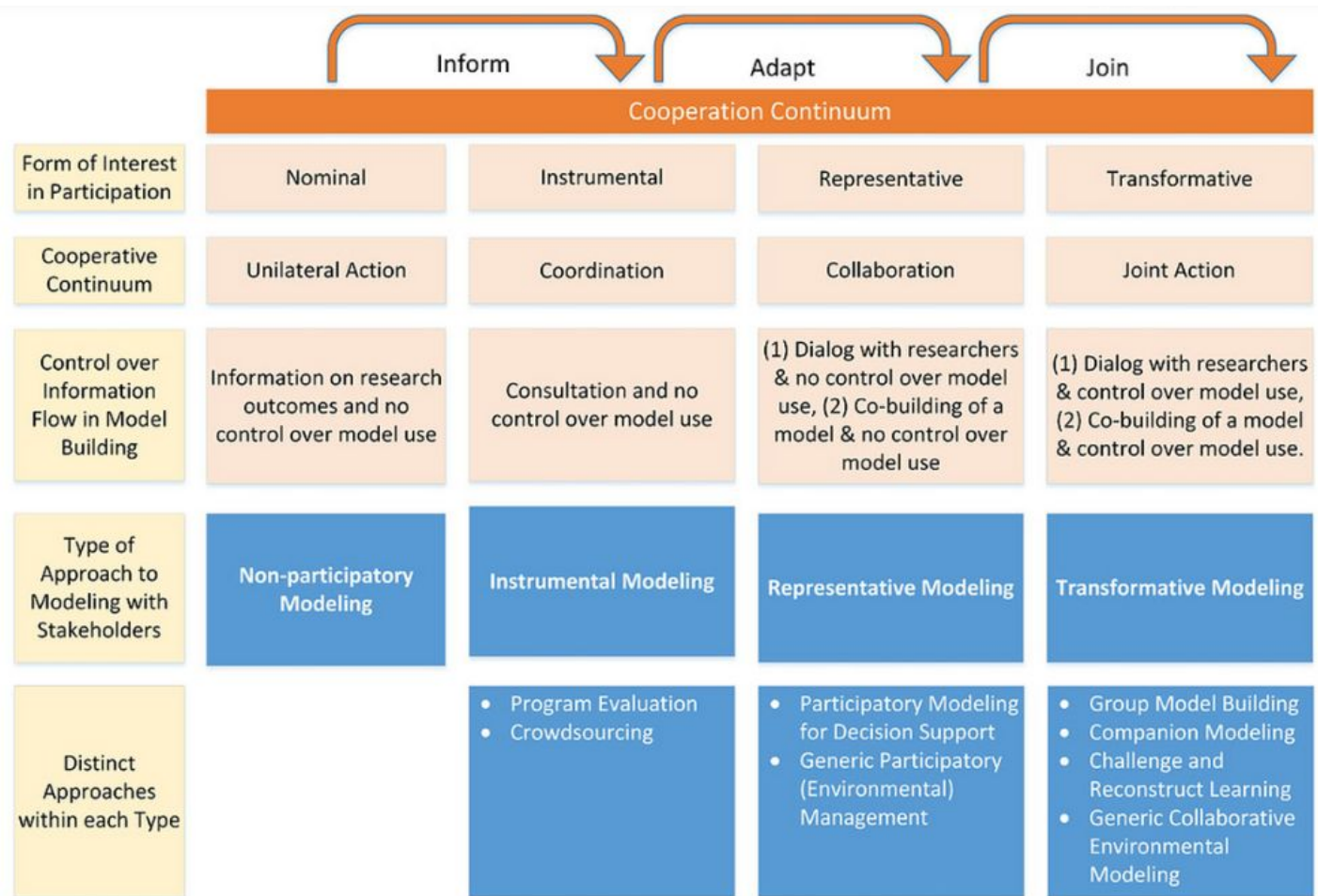
5. transparency and accessibility

- Ubuntu (Community)
- Retrievability
- Repeatability
- Reusability
- Reconstructability
- Interoperability
- Auditability

Stakeholder roles and **u**4RIA
Ubuntu community

1. Developers

2. Researchers

3. Government Analysts

4. Analyst 'managers'

5. Decision makers

6. NGOs

7. Industry

8. Development partners (and their funders)

	Inform →	Adapt →	Join →

	Cooperation Continuum			
Form of Interest in Participation	Nominal	Instrumental	Representative	Transformative
Cooperative Continuum	Unilateral Action	Coordination	Collaboration	Joint Action
Control over Information Flow in Model Building	Information on research outcomes and no control over model use	Consultation and no control over model use	(1) Dialog with researchers & no control over model use, (2) Co-building of a model & no control over model use	(1) Dialog with researchers & control over model use, (2) Co-building of a model & control over model use.
Type of Approach to Modeling with Stakeholders	**Non-participatory Modeling**	**Instrumental Modeling**	**Representative Modeling**	**Transformative Modeling**
Distinct Approaches within each Type		• Program Evaluation • Crowdsourcing	• Participatory Modeling for Decision Support • Generic Participatory (Environmental) Management	• Group Model Building • Companion Modeling • Challenge and Reconstruct Learning • Generic Collaborative Environmental Modeling

Retrievability

Can we find and access the data, models, processes followed?

Potential problems:

- Can't find it (!)

- Can find it, but it is in the 'wrong' form …

Data, models and process description needs to be discoverable

- Indexed appropriately

- Filed appropriately

- Metadata included

- Available to search processes

Reuseable

The old work can be picked up and used ...

Potential problems:

- Millions of USD, GBP, EUR ... wasted

- Work might need to be reconstructed when the need arises

Reusability means:

- New efforts can build on old

- Updates can be made to an existing work (i.e. add a new scenario, new data etc)

- Metadata on scenario assumptions

- There is information on 'how-to'

Repeatability

Can the data + model + process be repeated?

Potential problems:

- No trust in the output

- Software versions change

- Data change

With input data files, exe of the models, and the process followed

- Builds trust in aspects of the work

- Provides clear evidence of work done

Reconstructible

The input data, analysis and processes can be 're-made'

Potential problems:

- No-one knows where the data / model / process comes from?

- Suspicion that public money is wasted or manipulated

Reconstructability means:

- You can find the data used from the source (including the assumptions)

- The analysis methods can be re-applied with clear descriptions

- ~~The~~ principles of the process can be re-applied

Interoperable

Can the data, methods, processes 'play well' with others

Potential problems:

- Cannot translate data into the form that is needed

- Locked into only one piece of software

Interoperability means:

- There are standards for the describing meta information

- The data, analysis and process are clearly categorized and defined

Auditable

Development is big-business, a public good, requires public funds including the cost-benefit analysis (C3Po)

Potential problems:

- Can be accused of bias:

  - The high-level policy maker

  - The funder / development agency
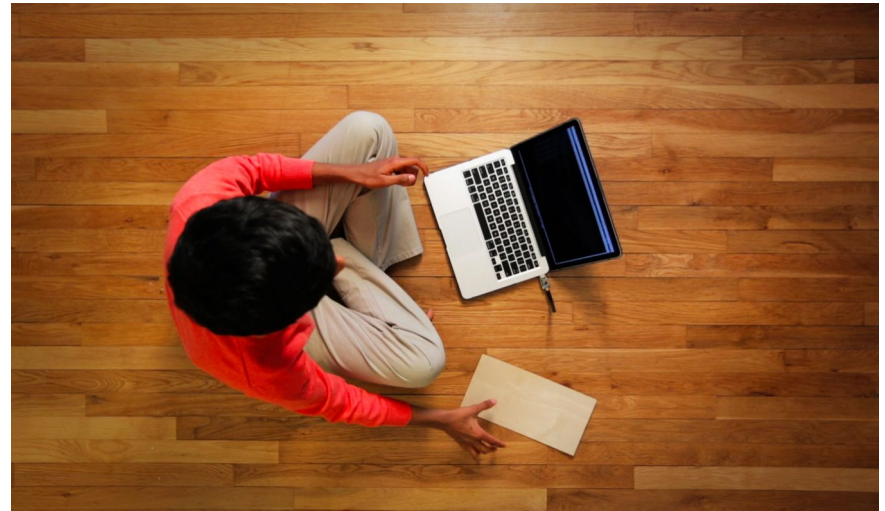
  - The analyst …

Auditability means:

- Best practice (given constraints) were followed

- u4RIA will be an important part of this

U4RIA
Access rights

1. Can be for a small team

2. Can be sub-organisational

3. Can be organisational

4. Can be open access

u4RIA is needed at least for knowledge management …

Towards a planning ecosystem ...

Partnerships	Teaching Kits	Models	Targeted journals	Procurement Rules
Attracting investment	Engagement Opportunities	Ownership Opportunities	Publishing Opportunities	Funding Opportunities
Market Outlooks	Technical Cooperation	Planning Processess	University Teaching	University Research
International civil servants / investors	External Experts	In country Analysts	Graduates	Professors

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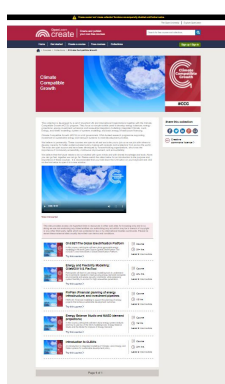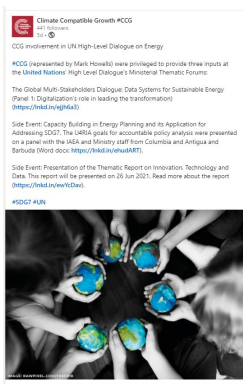
Technical Working Group 4: Innovation, Technology and Data

Appropriate open data management is critical and forms a foundation for further innovation. For example, goals have been developed to enable good governance with respect to data, analysis, and stakeholder engagement. The so-called U4RIA goals allow the process of policy analysis, as well as public engagement (which builds on that data), to become increasingly accountable.[57]

Joint Summer School on Modelling Tools for Sustainable Development

ICTP The Abdus Salam International Centre for Theoretical Physics

Virtual Meeting, Trieste, Italy
14 June - 2 July 2021

1.3 U4RIA Goals 🔊

Key messages

- The energy system has many interlinkages and is **important for people's well-being.**
- Energy modelling for policy support can be an opaque process and lack community involvement.
- Energy policy has a great impact downstream on other sectors and therefore requires accountability.
- **Governing principles: U4RIA** (Ubuntu, Retrievability, Reusability, Repeatability, Reconstructability, Interoperability and Auditability)

(Lyncconf Games, image)

Climate Compatible Growth | 19

Next steps …

- Development of a discussion forum
- Development of indicative / example ToRs
  - Educators and thesis work
  - Consultancy procurement
  - Large collaborative development projects
- Inclusion in global summer schools

09:51 (1 minute ago)

I am grateful for your leadership and guidance. Summer school was one of the best experiences in my life(in my call it sabbatical year, away from work). Modelling was always a black box, thanks to summer to summer I am now able to contextualise the IEA's world energy outlook report. Thank you again.

Regards,

Annex D   Presentation in Session 4: "How to comply with U4RIA?"

VIRTUAL SIXTH ROUNDTABLE DISCUSSION ON STRATEGIC ENERGY PLANNING

CLIMATE-ECONOMY MODELLING IN RWANDA and UGANDA as part of the GIZ project
"Policy Dialogue and Knowledge Management on Low Emission Development Strategies" (DIAPOL-CE)
How to comply with U4RIA?

Dr. Anett Großmann, Frank Hohmann
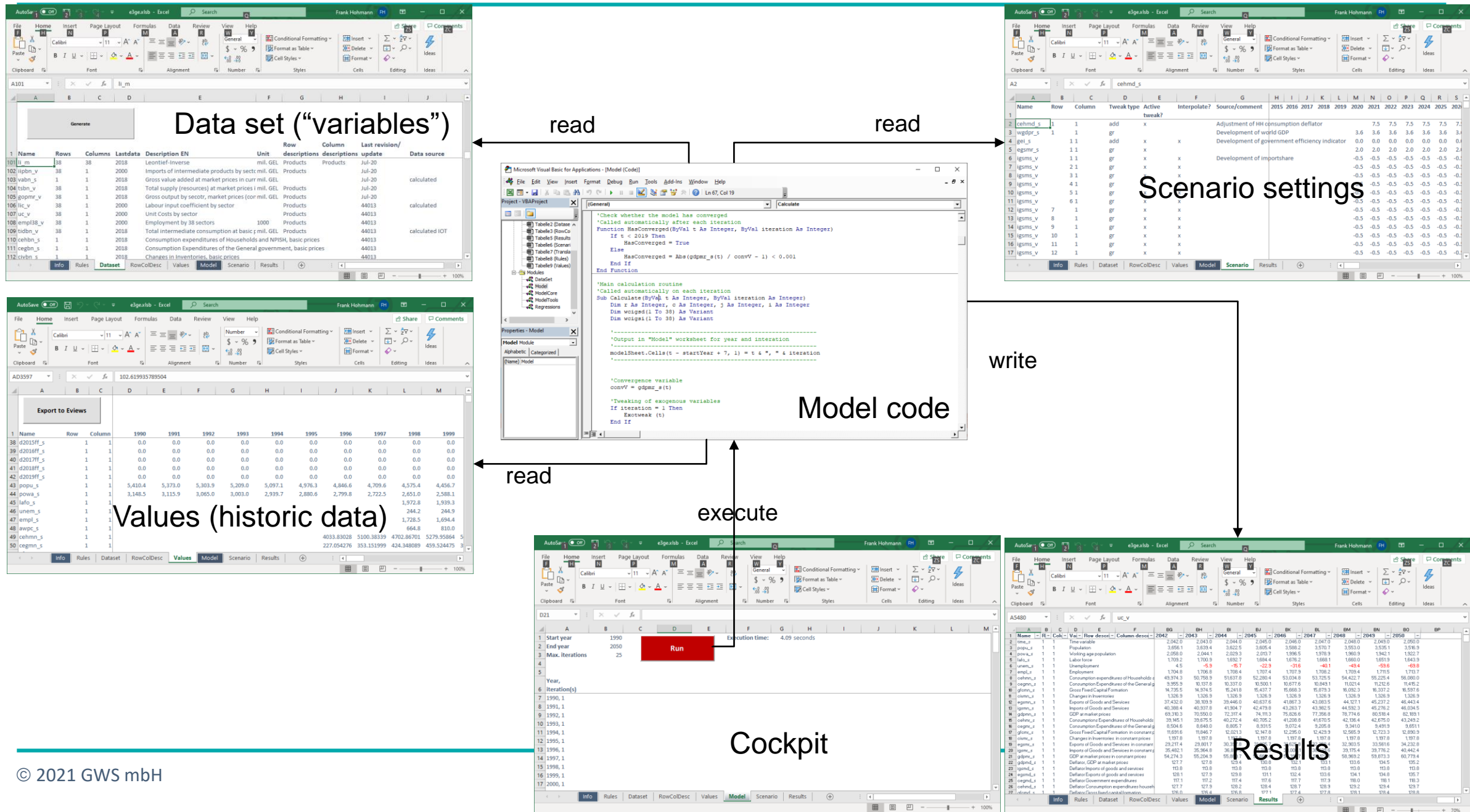
July 1st, 2021

GWS experiences in capacity building

- ► E3 (economy, energy, environment) models are proven to be suitable tools to support policymakers in evidence-based decision making

- ► All models have their applications and limits, both need to be communicated

- ► Proper usage of such models requires full access to all modelling details

- ► Transparency, capacity building and transfer of ownership are critical factors of successful evidence-based policy analysis

- ► U4RIA principles align with these success factors

- ► Within the GIZ project, the modeling approach and DIOM-X model building framework will be validated against the U4RIA principles

DIOM-X: Dynamic Input-Output Modelling Framework in Excel

▶ DIOM-X based models are self-contained: all data, meta data, model, framework code and results are stored in one Excel workbook

▶ Simple setup and distribution

▶ Tailored, comprehensive equation system iteratively solved year-by-year ("Dynamic solution")

▶ Scenario analysis is possible even for non-model builders – one simulation takes less than one minute

▶ Model framework code (DIOM-X) is distributed with royalty-free, non-exclusive rights (pre-existing work of GWS)

DIOM-X: Operation scheme

Data set ("variables")

read

read

Scenario settings

Values (historic data)

read

Model code

write

execute

Cockpit

Results

Expected benefits and barriers in implementing U4RIA

► Benefits

⇨ U4RIA principles enforce "white box" approach

⇨ Transparency increases confidence

⇨ DIOM-X modeling approach simplifies the application of U4RIA principles and allows for easier stakeholder engagement at all levels (data set, model assumptions, scenario design)

► Barriers

⇨ Use of classified data limits transparency and model distribution

⇨ Additional workload for more detailed documentation and intensive capacity building

⇨ Limited capacities of involved parties (policymakers, research institutes) hinder application of U4RIA principles

Who we are: GWS - Institute of Economic Structures Research

► Privately funded research institute / consultancy

► Founded in 1996 – university spin-off

► Private and public customers

⇨ International, national and regional governments, ministries

⇨ EC DG-TREN, RTD, Env, Climate, Energy, GIZ

⇨ Energy companies, banks

► Main areas of interest

⇨ Environmental questions, climate change, energy policy, focus on renewable energy, resource efficiency

⇨ Analysis of transformation processes and labor market issues

⇨ Development and application of empirical economic models (for individual countries, regions, world) and enhancement to E3 (economy, energy, environment) models

⇨ Capacity building

Thank you for your attention!

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