CARICOM Energy Knowledge Hub: Report on Stakeholder Workshop 27th Sept 2018, Miami

1 INTRODUCTION

Monkey Mosaic Ltd and REEEP are working with CARICOM Energy to develop plans for the CARICOM Energy Knowledge Hub (the Hub/CEKH), which will operate under the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE). Following a detailed stakeholder engagement and consultation process (report available), we held a stakeholder workshop to prioritise the knowledge requirements that the Hub should aim to meet and to discuss proposed services and knowledge products.

The workshop was held in conjunction with the C-SERMS Platform Technical Working Group on Information and Knowledge Management (supported by the Organisation of American States) and the European Union's Technical Assistance Programme for Sustainable Energy in the Caribbean (TAPSEC), and the German government (BMZ) funded Renewable Energy and Energy Efficiency Technical Assistance Programme (REETA), both delivered by GIZ. It was co-located with the CARILEC Smart Grids and Renewable Energy Conference, which took place in Miami from 23rd to 27th September 2018. This enabled a number of representatives of one of the main stakeholder types (who have sometimes been under-represented in internationally-funded sustainable energy projects) to be present, ensuring the utility perspective is included in planning for the Hub.

2 PARTICIPANTS

The workshop included representatives of all types of stakeholders:

- Project core team
- National Regulators (+OOCUR)
- Private sector RE developers (+ associations)
- Civil society/NGOs
- National governments
- National Utilities (+CARILEC)
- Development Partners
- Universities

There was a particularly high attendance at the workshop, with participants of the CARILEC conference who had not specifically been invited turning up and requesting to take part. Their interest had possibly been piqued by a plenary session on knowledge management as part of the CARILEC conference. We believe it demonstrates high interest and demand amongst stakeholders for improved information and knowledge management on energy in the Caribbean.

A full list of participants is given at Annex A.

3 AGENDA & OUTCOMES

The objective of the workshop was to be sufficiently sure of user priorities to be in a position to finalise development plans for the Hub. The stakeholder consultation revealed eight categories of knowledge and information needs, as well as seven potential functions for the Hub to carry out to meet those needs. The agenda (full agenda at Annex B) was planned as a series of interactive sessions to:

- prioritise the knowledge needs
- match stakeholders' preference for functions to the top priority needs
- note down how that could work in practice

Additionally, we aimed to promote mutual understanding between the various stakeholder groups. The workshop therefore incorporated a 'Knowledge Sharing Clinic' with four 'patients' representing different stakeholder groups (government, utility, regulator, private sector developer) simultaneously presenting specific issues relating to their knowledge needs and the impact on their work. The remaining participants were split into four groups of 'doctors' to consult with patients, each group seeing two patients. The issues presented for consultation were:

Stakeholder type	**Issue**	**Category of knowledge need**
Government	Knowledge on how to balance three competing priorities in the energy system: price, sustainability, security	Knowledge to support specific decisions
Utility	Promoting understanding of the knock-on impact of non-technical losses (electricity theft)	Spreading understanding of specific developments
Regulator	Information asymmetry	Energy planning & development (energy statistics & info)
Private sector developer	Timely access to information on business opportunities such as tenders and requests for proposals	Market information

3.1 PRIORITISATION OF KNOWLEDGE NEEDS

Participants worked in four facilitated groups to consider the eight categories of information and knowledge need and plot them against two dimensions of (i) impact on people's work; and (ii) ease or difficulty of accessing information and knowledge in that category.

The eight categories of knowledge and information needs to be considered were:

1. Energy planning & development (Energy statistics & info)

2. Knowledge to support specific decisions
3. Spreading understanding of specific developments in sustainable energy
4. Information on available financing & knowledge on how to access it
5. Market information
6. Info on capacity building opportunities
7. Understanding and communicating impact (MRV & evaluation)
8. Understanding the energy eco-system

Through the exercise four categories were selected as the priority areas for CEKH to focus on. All of the eight categories were regarded in the upper quadrants in terms of impact on people's work; these four were judged highest on that measure plus currently most difficult to access information and knowledge.

- Energy planning & development (Energy statistics & info)
- Knowledge to support specific decisions
- Spreading understanding of specific developments in sustainable energy
- Understanding and communicating impact (MRV & evaluation)

3.2 MATCHING FUNCTIONS TO PRIORITY NEEDS

Seven potential functions have been identified for the Hub. In the next exercise, the groups of participants considered these functions in relation to the priority needs (one category of need per group) to judge the appropriateness of the function as a solution to the need. The seven potential functions are:

- Repository – hold data (or links to data) and information
- Signposting – point people to existing resources and information
- Community of practice – promote interaction/facilitate a community
- Training – development of specific courses, learning materials (e.g. case studies), organising study tours
- Research – research specific questions on behalf of users
- Analytics – Carry out analysis & modelling on behalf of member states
- Funding – Manage a 'Knowledge Improvement Fund' funding learning opportunities such as study tours, exchanges, etc.

Factors taken into consideration included whether there are potential partners to work on the solution, e.g. providing an existing service with partial coverage of the Caribbean, or a similar service for other areas, and how quickly the solution could be put in place. The group's rating for potential functions was given on a traffic light system (stop, wait, go).

The results were as follows:

Energy planning & development

Function	Notes	Rating
Repository	Top priority	Green/go
Signposting/referral	Third priority	Green/go
Research	Fourth priority	Amber/wait
Analytics	Second priority	Green/go

Knowledge to support specific decisions

Function	Notes	Rating
Repository		Green/go
Signposting/referral		Green/go
Community of Practice		Green/go
Training		Amber/wait
Research	Not at the moment, but to be revisited	Amber/wait
Analytics	Not at the moment, but to be revisited	Amber/wait
Funding	Don't say 'no' to funding!	Green/go

Spreading understanding of specific developments in sustainable energy

Function	Notes	Rating
Repository	Greenlight but lowest priority of the four	Green/go
Signposting/referral	Greenlight combined with community of practice	Green/go
Community of Practice	Greenlight combined with signposting	Green/go
Training		Green/go

Understanding and communicating impact (MRV & evaluation)

Function	Notes	Rating
Repository	Top priority	Green/go
Signposting/referral		Amber/wait
Research		Red/stop
Analytics		Amber/wait

3.3 HOW THESE FUNCTIONS COULD WORK IN PRACTICE

The groups finally discussed the top rated solutions in more detail to cover what would be required to move forwards, including the main activities and practicalities:

- Key Stakeholders
- Key Partners
- Prerequisites
- Possible technologies to support the activities
- Resource needs and major cost factors

Note were taken on a 'Knowledge Needs to Function Canvas' developed for the purpose (example at Annex D). Information noted on the canvases will be used in detailed preparation of the development plan for CEKH.

3.4 OVERALL RANKING

The final exercise, following brief presentations from the groups on their canvases, was a plenary vote on the top priorities from the groups, to produce an overall ranking of priority functionality for CEKH. The results were:

1 Repository of information and data to support energy planning and development

2= Repository to assist stakeholders in gaining knowledge to support specific decisions

2= Repository of information and data to support understanding and communicating impact - MRV & evaluation (to cover tools and resources, methodologies and performance)

4 A community of practice to assist stakeholders in gaining knowledge to support specific decisions

5 Signposting combined with a community of practice to spread understanding of specific developments in sustainable energy

4 PARTICIPANTS FEEDBACK

Feedback forms were handed out to participants at the end of the workshop. Responses suggest that participants generally found the workshop useful (average rating 8.5 out of 10) and that it fulfilled their objectives in attending. In addition, the Knowledge Sharing Clinic proved popular, with all respondents feeling this peer-to-peer learning activity should remain a feature of the Knowledge Hub's activities. *See Annex C for further details*.

5 NEXT STEPS

The final stage of the current project delivered by REEEP/Monkey Mosaic Ltd is to draft a development plan based on the decisions at the stakeholder workshop, and agree the plan with key stakeholders (project core team of CARICOM Energy, CCREEE and key development partners, plus energy focal points within CARICOM member state governments.) The development plan will outline the overall approach and operations of the CEKH, as well as setting out key functionality, partners and resource requirements, and a timeline for development.

CARICOM Energy and CCREEE will then secure agreement on resources with development partners, with the aim to being implementation/delivery of information & knowledge services early in 2019.

ANNEX A: PARTICIPANT LIST

	NAME	DESIGNATION	MINISTRY/ ORGANISATION	CATEGORY	COUNTRY
Mr.	Albert Gordon	Chief Executive Officer	Guyana Power and Light Inc.	Utility	Guyana
Dr.	Cletus Bertin	Executive Director	Caribbean Electric Utility Services Corporation (CARILEC)	Utility	Saint Lucia
Mr.	Eddinton M. Powell	President and Chief Executive Officer	Fortis TCI	Utility	Turks and Caicos Islands
Mr.	Jean-Michel Parle	Systems Development Engineer	St Lucia Electricity Services Limited (LUCELEC)	Utility	Saint Lucia
Mr.	Jeffrey Locke	Chief Executive Officer	Belize Electricity Limited	Utility	Belize
Mr.	Ricardo Case	Director, Engineering Services	Jamaica Public Service Co. Ltd. (JPSCo)	Utility	Jamaica
Mr	Ricky Wright	Senior Planning Engineer	St Vincent Electricity Commission	Utility	St Vincent and the Grenadines
Mr	Cedric King		British Virgin Islands Electricity Corporation	Utility	British Virgin Islands
Ms.	Angelika Namdar	Policy Implementation Manager – Faculty of Technological Sciences	Anton de Kom University of Suriname	Universities/ research institutes	Suriname
Dr.	David Farrell	Principal	Caribbean Institute for Meteorology and Hydrology (CIMH)	Universities/ research institutes	Barbados
Dr.	Indra Haraksingh	Lecturer and Coordinator, MSc. Renewable Energy Technology Programme Department of Physics	The University of the West Indies TRINIDAD AND TOBAGO	Universities/ research institutes	Trinidad and Tobago
Mr.	Jon Weers	Data Scientist/ Web Strategist	National Renewable Energy Laboratory (NREL), USA	Universities/ research institutes	USA
Prof.	Nilza Aples	Dean, Faculty of Engineering and Computing	University of Technology, Jamaica	Universities/ research institutes	Jamaica

Dr.	Sanjay Bahadoorsingh	Senior Lecturer – Energy Systems	The University of the West Indies (UWI) TRINIDAD AND TOBAGO	Universities/ research institutes	Trinidad and Tobago
Ms.	Victoria Healey	Project Director, Clean Energy Solutions Center	National Renewable Energy Laboratory (NREL), USA	Universities/ research institutes	USA
Dr.	Marsha Atherley-Ikechi	Director of Utility Regulation	Fair Trading Commission BARBADOS	Regulator	Barbados
Mr.	Peter Johnson	Manager – Utility Monitoring and Enforcement	Office of Utilities Regulation JAMAICA	Regulator	Jamaica
Mr	Malike Cummings		Energy and Utilities Commission, Turks and Caicos	Regulator	Turks and Caicos Islands
Ms.	Kathleen Riviere-Smith	Executive Director	Organisation of Caribbean Utility Regulators (OOCUR)	Professional/ Industry Association	Guyana
Ms.	Meshia Clarke	Executive Director	Barbados Renewable Energy Association	Professional/ Industry Association	Barbados
Mr.	Robert Wright	President, Jamaica Solar Energy Society and Managing Director, New Leaf Power	New Leaf Power	Professional/ Industry Association	Jamaica
Mr	Martyn Forde	CAREC Community Manager	Rocky Mountain Institute (RMI)	Professional/ Industry Association	Canada
Mr	Andrew Thorington		CARILEC	Professional/ Industry Association	Saint Lucia
Ms.	Laurena Primus	Training Manager	CARILEC	Professional/ Industry Association	CARILEC
Mr.	John Matthiesen	Senior Director, Smart Grid & Asset Management	Hatch	Private Sector	Canada
Ms.	Jocelyn Zuliani	Energy Storage	Hatch	Private Sector	Canada
Ms.	Alisa Kreynes	Busness Development	Hatch	Private Sector	Canada
Mr.	Gordon Bispham	Consultant	Caribbean Policy Development Centre (CPDC)	NGO	Barbados
Mr.	Sigmund Kluckner	Senior Project Manager	Renewable Energy and Energy Efficiency Partnership (REEEP)	NGO	Austria
Mr.	Yves Renard	Interim Coordinator	Panos Caribbean	NGO	Jamaica

Ms.	Anita Hankey	Senior Planning Officer Energy Research and Planning Division (ERPD)	Ministry of Energy and Energy Industries (MEEI) TRINIDAD AND TOBAGO	National government	Trinidad and Tobago
Mr.	Barrymore Felicien	Deputy Permanent Secretary, Department of Infrastructure, Ports and Energy	Ministry of the Public Service, Sustainable Development, Energy, Science and Technology SAINT LUCIA	National government	Saint Lucia
Mr.	Bertill Browne	Director, Energy Unit	Ministry of Public Infrastructure, Post, Urban Development and Transport. ST. KITTS AND NEVIS	National government	St. Kitts and Nevis
Mrs.	Beverley Mendes	Permanent Secretary	Ministry of Communications, Works and Labour MONTSERRAT	National government	Montserrat
Mr.	Edson Joseph	Permanent Secretary	Ministry of Public Utilities, Civil Aviation, Transportation and Energy ANTIGUA AND BARBUDA	National government	Antigua and Barbuda
Mr.	Ellsworth Dacon	Director, Energy Unit	Ministry of National Security, Air and Sea Port Development ST. VINCENT AND THE GRENADINES	National government	St. Vincent and the Grenadines
Ms.	Gayle Primo-Best	Deputy Chief Executive Officer	Guyana Energy Agency	National government	Guyana
Mr.	Gilles Deal	Energy Analyst	Ministry of the Environment and Housing THE BAHAMAS	National government	The Bahamas
Mr.	Mark Millar	Economist I	Ministry of Energy and Water Resources BARBADOS	National government	Barbados
Mr.	Michael Fadelle	Coordinator, Renewable Energy Programme	Ministry of Trade, Energy and Employment DOMINICA	National government	Dominica
Mr.	Nicolas Allien	Project Coordinator, Energy Cell	Ministry of Public Works, Transportation and Communications HAITI	National government	Haiti
Mr.	Ryan Cobb	Energy Director	Ministry of Public Service, Energy and Public Utilities, BELIZE	National government	Belize

Ms.	Sifra Thijm-Fraser	Policy Officer	Ministry of Natural Resources SURINAME	National government	Suriname
H.E. Dr.	Vince Henderson	Ambassador, Extraordinary and Plenipotentiary and Chairman of the Executive Board, Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE)	Embassy of the Commonwealth of Dominica to the United States of America	National government	Dominica
Mr	Owen Lewis	Governement Montserrat	MLWLE	National government	MLWLE
Mr.	Alfonso Blanco	Executive Secretary	Latin American Energy Organization (OLADE)	International organisation	Ecuador
Ms.	Charlene Solozano	Planning and Financial Oficer, Department of Sustainable Development	Organization of American States	International organisation	USA
Dr.	Devon Gardner	Programme Manager, Energy	CARICOM Secretariat Turkeyen Greater Georgetown GUYANA	International organisation	Guyana
Dr.	Gary Jackson	Executive Director	Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE)	International organisation	Barbados
Ms.	Judith Ephraim-Schmidt	Programme Coordinator , Sustainable Energy Unit	Organisation of Eastern Caribbean States Commission	International organisation	Saint Lucia
Ms.	Latoya Burnham	Technical Officer, Communication and Information	CARICOM Regional Organisation for Standards & Quality (CROSQ)	International organisation	Barbados
Mr.	Manuel Coxe	Programme Officer – Grid Integration	IRENA's Innovation and Technology Center (IITC)	International organisation	Germany
Mr.	Martin Rufenach	Programme Officer, Sustainable Energy Unit	Organisation of Eastern Caribbean States (OECS) Commission	International organisation	Saint Lucia
Ms.	Nadia Mohammed	Project Officer, Energy	CARICOM Secretariat	International organisation	Guyana
Mr.	Koffi Ekouevi	Caribbean Coordinator for Energy	The World Bank	Development Bank	USA

Mr.	Glynn Morris	GIZ Programme Leader - Renewable Energy and Energy Efficiency Technical Assistance (REETA)	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) German Agency for International Cooperation	Development Agency	Guyana
Dr.	Jamal Browne	Communications Officer - Technical Assistance Programme for Sustainable Energy in the Caribbean (TAPSEC)	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) German Agency for International Cooperation	Development Agency	Guyana
Mr.	Simon Zellner	Energy Advisor, Technical Assistance Programme for Sustainable Energy in the Caribbean (TAPSEC)	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) German Agency for International Cooperation	Development Agency	Barbados
Ms.	Christina Becker-Birck	Vice President	The Cadmus Group	Consultant	USA
Mr.	James Smith	Social and Environmental Leadership Consultant	Monkey Mosaic Ltd	Consultant	UK

Total = 62

ANNEX B: AGENDA

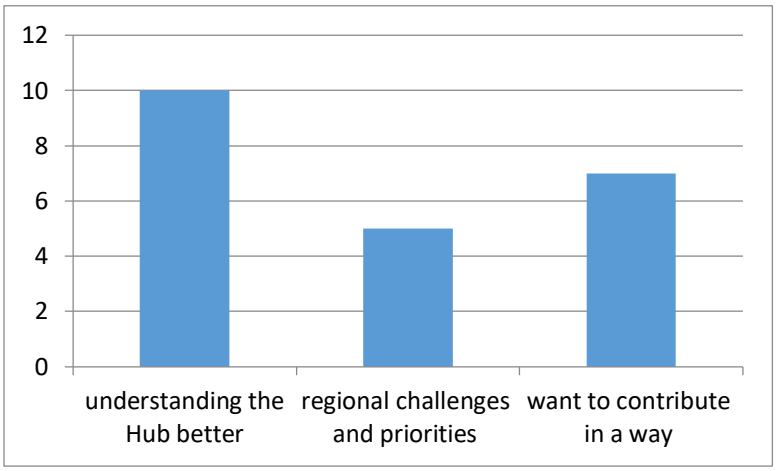
8.30am	**Registration**	
9.00am	**Introduction and opening presentations** – covering the purpose of the Knowledge Hub, results of stakeholder consultation on information and knowledge needs and the situation analysis, as well as presentations from potential partners on existing information and knowledge services	Stakeholders' information and knowledge needs – James Smith Situation Analysis – Gary Jackson National Energy Information Systems – Alfonso Blanco Bonilla, OLADE Knowledge Hub: partnerships and operations – Devon Gardner
10.00am	**Understanding others' information and knowledge needs - knowledge sharing clinic** • *Marsha Atherley-Ikechi, Barbados Fair Trading Commission* • *Meshia Clarke, Barbados Renewable Energy Association* • *Rick Case, Jamaica Public Service Company* • *Ryan Cobb, Ministry of Public Service, Energy and Public Utilities, Belize*	Interactive format so participants fully engage with needs of other stakeholder groups Four 'patients' from different stakeholder groups (government, utility, regulator, private sector developer) simultaneously present specific issues relating to their knowledge needs; other participants split into four groups of 'doctors' to consult with patients (facilitated). Each group of doctors sees two patients. Session ends with brief feedback in plenary from patients.
11:30	**Task explanation and formation of groups for afternoon sessions**	
12.00 noon	LUNCH	
1.30pm	**Prioritisation of information and knowledge needs**	Interactive, small group format Each group considers and compares a number of specific knowledge and information needs to prioritise them in

		terms of likely impact on sustainable energy transition
2.45pm	**Discussion of draft proposals to meet priority stakeholder needs**	Interactive, small group format – same groups as previous session Each group is allocated one of the priority knowledge needs and considers and compares a number of specific elements designed to meet that particular need Notes taken on a 'Knowledge Needs to Function Canvas'.
4.00pm	**BREAK**	
4.20pm	**Prioritisation of functionality**	Exercise in plenary to produce overall ranking of desired functionality
5:20pm	**Conclusion and next steps**	To cover arrangements for operation of the Hub
5.30pm	END OF WORKSHOP	

ANNEX C: PARTICIPANT FEEDBACK

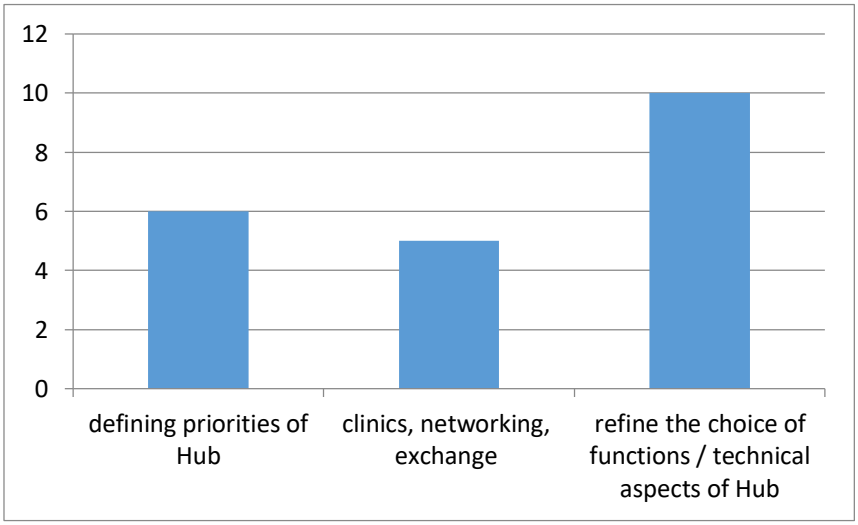
After the final session of the workshop, feedback forms were handed out to participants. The forms have been collected and analysed.

For the first question *What were your expected outcomes from attending this Workshop?* reoccurring answers included *understanding the Hub* [1](10 participants*),* 5 participants specified an interest in *learning about regional challenges and priorities*[2] and 7 replied that they wanted to *contribute to the Hub*[3] in some way.



What were your expected outcomes from attending this Workshop?

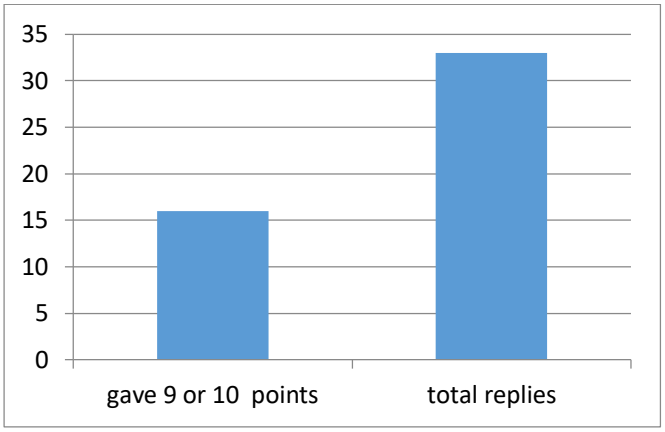
For the next question, *What were the most useful parts of this Workshop?* several respondents *mentioned defining priorities* (5 participants) and *the clinic (doctor/patient) session/ networking/professional exchange* (6 participants). 10 replies included a positive comment on the session to *refine the choice of functions / technical aspects of Hub.*



What were the most useful parts of this Workshop?

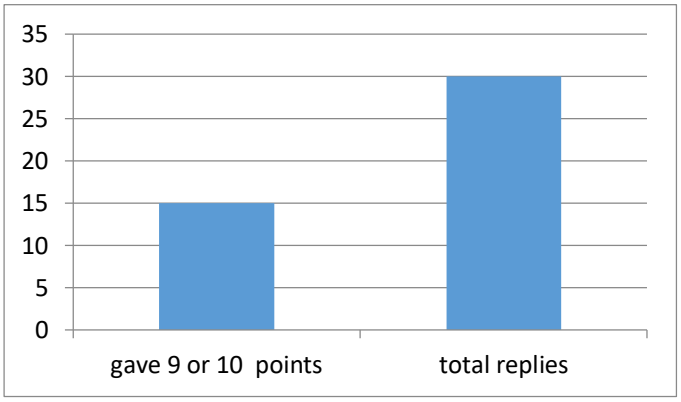
[1] In terms of objectives, functions and functionality, milestones, and more generally
[2] E.g. regional challenges, needs, resources
[3] E.g. conceptualize, plan, set up the Hub

When asked to rate the workshop overall on a scale from 0 (weak) to 10 (excellent), 16 out of 33 participants gave a top score of 9 or 10. Average score for this question was 8.5.



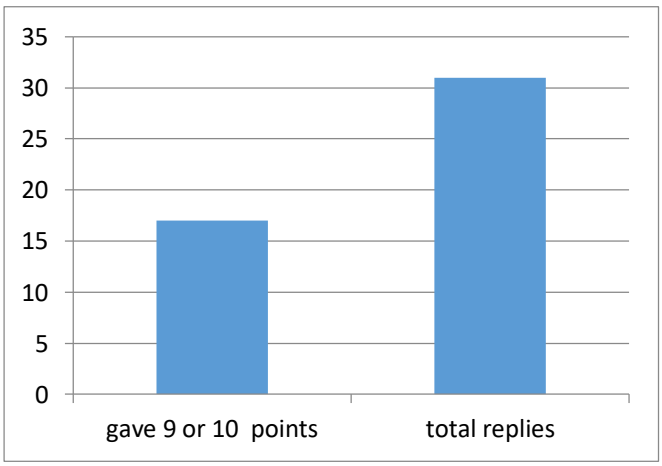
How did you find the Workshop overall? (Please indicate one box below with an "x") (0: weak, 10: excellent)

When asked to indicate to what extent participant's objectives for attending the workshop had been fulfilled, 15 out of 30 replied with top scores (9 or 10). Average score for this question was 8.5.



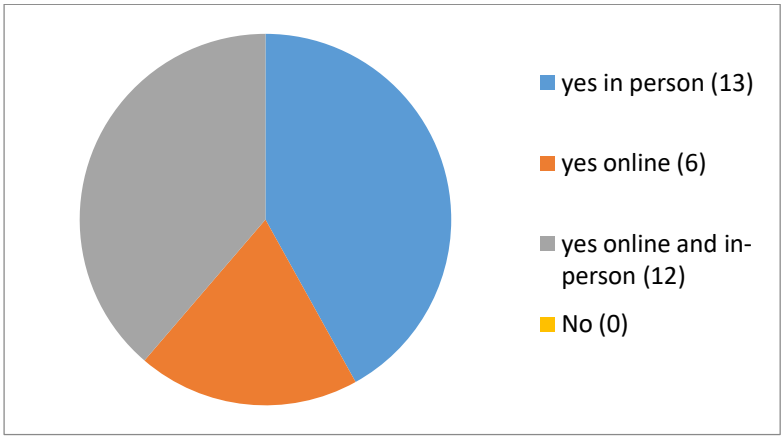
To what extent were your objectives for attending the workshop fulfilled? (0: not at all, 10: completely)

The afternoon Knowledge Sharing Clinics sessions were very successful with workshop participants; when asked to rate them, 17 of 31 respondents indicated the sessions were very useful (9 or 10 score). Average score for this question was 8.2.



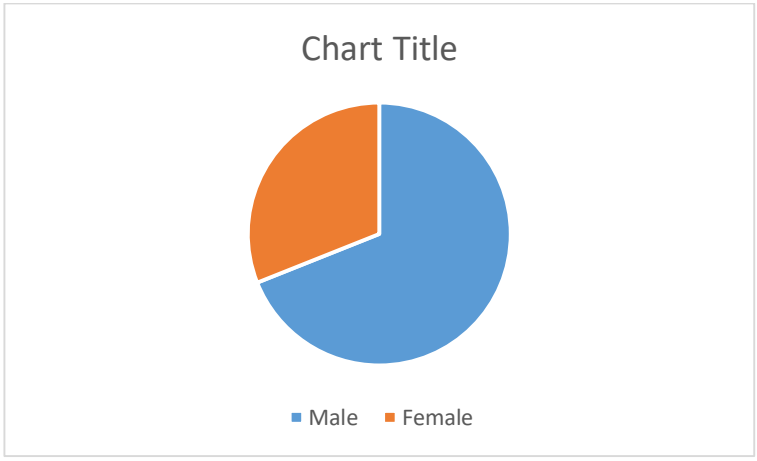
How useful did you find the Knowledge Sharing Clinics? (0: Not at all, 10: Very useful)

In fact, all participants think such Knowledge Sharing Clinics should be a regular offering of the Hub, be it in person, online, or both.



Do you think the Hub should offer Knowledge Sharing Clinics and similar peer-to-peer learning sessions in the future (No, Online, In-person)?

The gender ratio of participants at the workshop was roughly two-thirds male to one third female (40 male / 18 female).



Gender ratio of participants

ANNEX D: EXAMPLE KNOWLEDGE NEEDS TO FUNCTION CANVAS