Workshop Report

FOR MOUNTAINS AND PEOPLE

Regional Validation Workshop on the Establishment of the Renewable Energy and Energy Efficiency Centre for the Hindu Kush Himalaya (REEECH)

1–2 December 2017, Kathmandu, Nepal

About ICIMOD

The International Centre for Integrated Mountain Development, ICIMOD, is a regional knowledge development and learning centre serving the eight regional member countries of the Hindu Kush Himalaya – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – and based in Kathmandu, Nepal. Globalisation and climate change have an increasing influence on the stability of fragile mountain ecosystems and the livelihoods of mountain people. ICIMOD aims to assist mountain people to understand these changes, adapt to them, and make the most of new opportunities, while addressing upstream-downstream issues. We support regional transboundary programmes through partnership with regional partner institutions, facilitate the exchange of experience, and serve as a regional knowledge hub. We strengthen networking among regional and global centres of excellence. Overall, we are working to develop an economically and environmentally sound mountain ecosystem to improve the living standards of mountain populations and to sustain vital ecosystem services for the billions of people living downstream – now, and for the future.

The Regional Validation Workshop on the Establishment of the Renewable Energy and Energy Efficiency Centre for the Hindu Kush Himalaya (REEECH) was held from 1–2 December 2017 at the International Centre for Integrated Mountain Development (ICIMOD) headquarters in Kathmandu, Nepal.

The objective of the workshop was to get stakeholder feedback on (a) needs, value, and scope, (b) technical priority activities, and (c) institutional aspects and sustainability of REEECH.

This report summarizes the discussions and key themes that emerged in response to the proposed vision for REEECH.

ICIMOD gratefully acknowledges the support of its core donors: the Governments of Afghanistan, Australia, Austria, Bangladesh, Bhutan, China, India, Myanmar, Nepal, Norway, Pakistan, Sweden, and Switzerland.

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Compiled by
Bikash Sharma, Martin Lugmayr, Bishal Thapa, and Ayush Dhungel

Photos: Jitendra Raj Bajracharya

Production team
Rachan Chettri (Editor)
Christopher Butler (Senior editor)
Dharma R Maharjan (Graphic designer)

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Background

The sub-regional workshop was an instrumental part of the preparatory process for the establishment of REEECH, initially named the Hindu Kush Himalaya Centre for Renewable Energy and Energy Efficiency (HCREEE).

In late 2016, ICIMOD and the United Nations Industrial Development Organization (UNIDO), with financial support from the Austrian Development Agency (ADA), launched a preparatory process for the creation of this centre. The process included broad stakeholder consultations, the development of a baseline and needs assessment, a feasibility study on the technical and institutional design, as well as the development of a project document on the first operational phase of the centre.

The workshop generated strong participation from delegates and was effective in gathering stakeholder feedback on the proposal for REEECH

This process was supported by INTEGRATION environment and energy, a Germany-based consulting company, which was mandated by UNIDO and ICIMOD to undertake a needs analysis and feasibility study to consider the potential, scope, and mandate for the potential formation of REEECH. These reports were distributed to participants in advance to the workshop. The detailed programme agenda, the list of participants, and the group discussion questions are attached in the annexes.

Day one included the introductory plenary sessions followed by presentations and discussions on the draft baseline/needs assessment and feasibility study. On the second day, the participants discussed in more detail in three working groups. The discussions were organized around three key themes:

- Added value of REEECH: The context and need for REEECH, and the potential contribution of the centre to scale up sustainable energy markets, industries, and innovation in the Hindu Kush Himalayan (HKH) region were assessed.
- Technical mandate and design options for REEECH: The scope and mandate of the centre, as well as potential priority projects and activities during its first operational phase, together with a potential sub-regional UNIDO Global Environment Facility (GEF)-7 nexus project with a focus on climate resilient sustainable energy-water-food solutions were discussed.
- Institutional design options for REEECH: The institutional set-up and legal status of the centre, alignment with the existing regional framework, the role and competencies of governance bodies, and indicative budgets were discussed.

Following the overview presentations, the delegates were divided into working groups where the proposals and recommendations for REEECH were discussed. These working discussions were held on the second day and were structured around the following thematic areas: (a) Needs, added value, and scope of mandate of the centre, (b) Technical priority activities of the centre, and (c) Institutional aspects and sustainability strategy for the centre.

The workshop was intended to be very interactive. The format and structure of the proceedings enabled the delegates to engage actively in lively discussions. Overall, the workshop was gauged to be highly successful. The following key results can be summarized:

- Participants unanimously agreed on the need, demand, and added value that REEECH would bring; there was also agreement on the added value of being part of the Global Network of Regional Sustainable Energy Centres (GN-SEC).
- Discussions highlighted the strong need for sub-regional tools and methodologies in the areas of policy, capacity building, knowledge and data management, promotion of investment, and entrepreneurship.

- Participants broadly endorsed the technical scope and mandate of REEECH as articulated in the draft Baseline Needs Assessment (BNA) and Feasibility Study (FS) documents. They provided further constructive remarks and recommendations to enrich current and future considerations, noting that some of the areas (e.g., business and investment promotion) would go beyond the traditional working areas of ICIMOD (e.g., data and knowledge exchange, capacity building, and research) and would require external partnerships (e.g., UNIDO).
- Participants aspired towards the need for pragmatic solutions for the establishment of REEECH. They decided that the most appropriate way forward would be for ICIMOD to host REEECH, rather than for a new, stand-alone legal entity to be established.
- The discussions concluded that the structure of REEECH should be simple and fully embedded in the structure of ICIMOD in the beginning. It was decided that the centre should start with a small institutional structure which might grow and receive more independence depending on demand from ICIMOD regional member countries (RMCs)—Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan—and the centre's own ability to acquire funding.
- In addition to the traditional ICIMOD network, REEECH will require a network of energy experts in its RMCs as well as a technical committee comprising key stakeholders with a rural energy mandate. However, initially, there is no need to create new decision-making bodies; the centre should work under existing bodies of ICIMOD.
- Two institutional design scenarios for the centre are to be developed. One scenario allows the centre to focus on areas where ICIMOD already has key competences (e.g., data and knowledge sharing, capacity building). The other scenario includes aspects where ICIMOD has not worked substantially in the past years—namely, sustainable energy business development, and entrepreneurship, innovation and investment promotion.
- The participants encouraged the donors, particularly the Austrian Government, to provide sufficient seed funding to kick-start the operations of the centre.
- The participants encouraged UNIDO to provide continued technical support to ICIMOD for the establishment of the centre, particularly regarding the aspects of private sector cooperation, entrepreneurship, and business development. Moreover, the importance of the GN-SEC for the promotion of international awareness on sustainable energy mountain issues were highlighted.
- If the minimum funding can be secured, it is envisaged that REEECH will be launched towards the end of 2018 and/or the beginning of 2019, pending a meeting of the ICIMOD Governance Body scheduled for May 2018.

Introductory Session

Welcome Remarks

David Molden, Director General of ICIMOD, welcomed all the participants to the workshop. He introduced ICIMOD to participants as a regional intergovernmental organization working in eight countries of the Hindu Kush Himalaya (HKH)—Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal and Pakistan. He stated that ICIMOD works for mountains and people, focusing on key issues of mountain livelihoods, resiliency through ecosystem resources management, river basins, glaciers and ice, atmosphere, and energy resources. He highlighted other parallel events (the atmosphere science-policy-practice dialogue, Himalayan University Consortium events, and youth engagement for resilience building in the HKH) which exhibited the scope and breath of ICIMOD's vision.

Molden said that ICIMOD was extremely attentive to the importance of clean energy for climate change mitigation and adaptation. He stressed the importance of an integrated approach to energy management and welcomed the idea of hosting REEECH at an integrated centre like ICIMOD. He emphasized the added value that ICIMOD could bring to the centre and requested all participants to work together to strengthen and enhance the recommendations for the proposed REEECH.

Rene Van Berkel, UNIDO Representative, Regional Office in India, welcomed participants to the workshop and thanked the ICIMOD team for their leadership and meaningful partnership on the issue. He also thanked the Austrian Development Agency (ADA) for their financial support and the consultancy company INTEGRATION for their technical support in undertaking the baseline and needs assessment reports for the validation workshop.

Berkel introduced UNIDO and said that the organization supports developing countries in industrial development for poverty alleviation, globalization of trade, and environmental sustainability. He stated that UNIDO supports the implementation of the sustainable development goals, mainly SDG 9, related to industry, infrastructure, and innovation.

Berkel stated that the validation workshop was linked to SDG 7—affordable, reliable, and sustainable energy for all—and to SDG 13 on climate action. He discussed the industrial transformation that is aimed at advancing economic competitiveness, sharing prosperity, and ensuring environmental sustainability. Berkel then highlighted the work of UNIDO in the HKH region, in partnership with RMCs in the development of value chains, entrepreneurship, trade capacity building, and quality infrastructure.

> REEECH could become an important platform for the promotion of sustainable energy knowledge and technology transfer or exchange

Berkel described the proposed REEECH as part of a broader goal: that of a GN-SEC coordinated by UNIDO in partnership with sub-regional organizations in developing countries. He also stated that REEECH would integrate strong expertise on sustainable energy solutions and best practices applicable to mountain areas, citing it as a benefit of participating in the centre.

UNIDO and ICIMOD, Berkel said, had launched a consultative preparatory process to determine the added value, feasibility, and technical and institutional design of the proposed centre. He added that the initiative would present an excellent opportunity to build upon the existing knowledge and expertise of ICIMOD and that it might become an important platform for the promotion of sustainable energy knowledge and technology transfer.

Background and Workshop Introduction

Bikash Sharma, Senior Environmental Economist at ICIMOD, presented the overall rationale and objectives of the validation workshop. He stated that energy poverty is the predominant challenge in HKH countries as over 80% of the rural population in the HKH countries rely on traditional solid fuel for cooking and heating. He highlighted that sustainable energy service solutions in the HKH region need to address the three board criteria of sustainability—availability, acceptability, and affordability—and deal with both demand and supply issues using a holistic approach.

Sharma stated that regional cooperation could play an important role in responding to energy challenges in HKH region. He then explained the need for REEECH, stating that the regional energy centre could play a crucial role in tackling the 'last mile' mountain energy access challenge. The centre could benefit from global networks for regional sustainable energy centres, serving as a 'hub' for knowledge and expertise, with unique mountain focus and strong multilateral assets.

Sharma described the process that went into the preparation of the final report on the draft technical and institutional design for the first operational phase. He said that the key objective of the workshop was to solicit further feedback and comments on the draft proposal for REEECH.

Opening Remarks

Lasse Jarn Johnnessen, Ambassador, Norwegian Embassy, Kathmandu, Nepal, thanked all the delegates and speakers for joining the workshop led by ICIMOD and UNIDO. He highlighted the importance of sustainable approaches to addressing the challenges to energy and discouraged the continued use of subsidies that undermine sustainability. He also argued that hybrid approaches to energy systems with proper policy and regulatory mechanisms could be an effective solution.

> Regional cooperation could play an important role in responding to energy challenges in the Hindu Kush Himalayan region

Private sector investment on energy is equally important for its sustainability, he said, adding that the Norwegian government is helping to improve energy access to 2.5 million people in Nepal with an emphasis on social inclusion, women in particular. Having recognized the challenges related to energy, he encouraged participants to identify the types of expertise needed and the leadership required to deliver the intended outcomes and impacts of the programme.

Cornelia Schenk, Advisor, Sustainable Energy, Austrian Development Agency (ADA) congratulated ICIMOD and UNIDO for leading the process and preparing the concept on the establishment of REEECH. She stated that energy was vital for achieving sustainable development as the issue was at the heart of the green economy. She also mentioned that there are many barriers to improving energy access to all and that regional cooperation could be an approach to mitigating the existing barriers.

Schenk highlighted the important role of the private sector to sustainable energy access. She emphasized capacity development of relevant stakeholders in climate resilient technologies and the need to encourage synergy between energy-food-water in the changing context of climate change. She hopes the regional energy centre will enable ICIMOD and other relevant stakeholders to expand regionally linked national and international initiatives. She also stated that ADA supports five regional energy centres as part of a global network that enables an exchange of knowledge and experiences between the centres.

Schenk observed that there are immense challenges, but also that many opportunities already exist. She encouraged the identification of priority action areas for the centre and said that this was important to building an enabling business investment environment and promoting sustainable energy access to all.

Jiwan Acharya, Senior Energy Specialist, Asian Development Bank (ADB), thanked the organizers for inviting him to participate in the workshop. He then said that the establishment of REEECH could help address the energy needs of the region.

Acharya suggested that the centre aligns its activities with the programmes of HKH countries. He also argued that despite the clear identification of needs and several programme efforts, many people are still deprived of access to modern energy. In view of this persistent challenge, he suggested that we seek to correct the approach and that the regional centre may help to improve the situation. He suggested exploring three key issues: productive end-use, financing, and capacity building.

Acharya said that rural energy solutions must seek to link directly to productive end-use, for example by linking to the tourism sector. Acharya emphasized that energy is a means to an end and that there is a need to tie rural energy solutions with productive sectors.

Acharya was of the view that while financing is not a problem, accessing funds is a challenge. His final point was on capacity building, which remains a challenge for the adoption of new technologies. Capacity building is necessary at many levels, he said—technical, financial, managerial, and policy. Acharya expressed ADB's willingness to work together in the endeavour to improve energy access in the HKH region.

Keynote Address

Gyan Chandra Acharya, Economic Advisor to the Prime Minister of Nepal, Government of Nepal and Former Under-Secretary General of the United Nations, delivered the keynote address.

> Productive end-use, financing, and capacity building were identified as key issues for energy access in the region

Acharya thanked the organizers for inviting him to the workshop and appreciated receiving the opportunity to share his thoughts and experiences. He stated the importance of having a separate goal for energy and working together collectively to promote sustainable energy solutions. He also reminded participants that many energy centres already exist, so the proposed new centre needed to establish the value it can add very strongly.

He said that the global campaign for sustainable energy had led to policy interventions in all countries for sustainable energy solutions and reaffirmed commitment to achieve SDGs 7, 5, and 4 related to sustainable energy. He stated that sustainable energy solutions were vital to eradicating poverty and bringing transformative change.

These ideas, Acharya said, were very relevant to the mountain context where the demand for renewable energy is different. The proposed establishment of REEECH, he felt, was timely and could contribute to the achievement of SDGs. He added that an integrated multi-stakeholder approach was crucial to speeding up progress and scaling up efforts to bring economic transformative change. The inclusive approach would strengthen policy regulations and institutions.

Acharya highlighted key areas for emphasis—policy regulation, scaling up best practices, mobilization of local communities, cross-border issues, the water-food-energy nexus perspective, gender dimensions, and financial issues—where the regional energy centre can work further to come up with sustainable energy solutions. Acharya stated that the role of the international community was vital and critical to achieving SDG 7, which is in the centre of all other goals.

Chief Guest Address

Vice Chair of the National Planning Commission (NPC), Government of Nepal, Swarnim Wagle was the chief guest of the validation workshop.

> The National Planning Commission is evaluating the best distributed renewable energy options for all rural communities in Nepal

Wagle welcomed the initiative being taken to establish a regional energy centre in Kathmandu. He stated that Kathmandu is a regional hub for different centres like SAARC and ICIMOD, and that he was keen to host the regional energy centre in Nepal. In the context of the SDGs, he said that the NPC is reviewing baselines and establishing national targets for SDGs for Nepal. The NPC, he said, is in the process of reviewing and taking stock of how targets might be established to ensure access to clean energy for all Nepalis by 2025.

Wagle mentioned that the NPC, in collaboration with newly elected local governments, is undertaking feasibility studies for all rural settlements in Nepal to identify the best distributed renewable energy (RE) options. This, he felt, would help plan and create opportunities for distributed renewable energy. He stated that Nepal's Vision 2030 aligns with the SDGs.

He said that the Government of Nepal is on the right track to promoting clean energy and improving energy access for all Nepalis. As a closing thought, he recommended learning from past experiences to design and develop concrete projects and outcomes.

Session 1: Added value of REEECH

Eklabya Sharma, Deputy Director General of ICIMOD, chaired the session. Sharma welcomed all the participants and the speakers and said that the session was going to be integral to driving the other sessions.

Martin Lugmayr, Sustainable Energy Expert, UNIDO, presented a short video on UNIDO facilitated GN-SEC. The video illustrated how regional centres work together to address energy access through cross border activities, information exchange, south-south cooperation, sustainable energy future, and energy for development.

Presentation 1

Following the video, Lugmayr from UNIDO made a presentation highlighting the progress on GN-SEC, drawing examples from various regions in the world. He said that in the next ten years, he expected to see a strong global network of regional sustainable energy networks, working together to address various energy issues.

Among the biggest challenges least developed countries face are energy poverty, security, and affordability. Energy demand is growing, but the supply has not been able to catch up to growing demand due to financial barriers. Addressing this challenge requires an estimated USD 1.7 trillion of investment annually to achieve universal access to energy by 2030. Financing for energy cannot come from the public sector alone but also require private investments.

Lugmayr said that countries with similar energy situations could work on barriers together as a regional grouping to address common barriers, opportunities, solutions, and knowledge exchange. In this way, the proposed REEECH could provide solutions to challenges on energy from a mountain perspective. Such a network will benefit, among other things, from the exchange of best practices in the region. There is a need to understand and develop the link between national and regional level goals. UNIDO, he said, was very glad that ICIMOD would help build capacity on a regional level, as there is a need to transfer best practices and technologies regionally.

> Regional cooperation opens up opportunities for accelerating energy and climate solutions

Lugmayr also highlighted the issue of energy security and its relationship to other barriers: lack of entrepreneurship, sustainable business models, and local value chain creation. His presentation discussed issues of knowledge management and polices with regard to rural populations, energy data covering entrepreneurs and markets, capacity development, gender and social inclusion, and awareness raising programmes. He suggested that opportunities to work together in ways that help create sub-regional accelerators for energy and climate transformation could help to address energy challenges.

The Chair offered remarks on Lugmayr's presentation. Lessons and best practices from other regional centres are important added value for the proposed REEECH, he said, adding that the centre would create regional ownership and help to ensure its own sustainability.

Presentation 2

Ram Prasad Dhital, Executive Director, Alternative Energy Promotion Centre (AEPC), Ministry of Population and Environment, Government of Nepal, made a presentation titled "Thinking Regionally and Acting Nationally". In the presentation, he took the example of Nepal and discussed how synergies and cooperation between AEPC and the proposed REEECH would offer an innovate approach for addressing existing challenges related to energy.

Dhital summarized the current energy access scenario in HKH countries where 80% of rural areas are deprived of clean cooking. Access to electricity in Nepal is progressing well as more than 80% of the rural areas have access

to electricity. He also outlined the progressive trend of policy guidelines for energy access in Nepal. He discussed the diverse energy sector programmes implemented in Nepal from 1999–2017 and the shift from project-led to community-based and private sector-led development approaches.

Dhital highlighted the key sustainable approaches that are contributing to achieving sustainable energy solutions in Nepal, including the AEPC approach that focuses on energy security, development, and sustainability. For sustainability, key actors like energy users, service providers, financial institutions, and government departments all need to work together, he said.

Dhital outlined several areas for regional coordination: carbon trading, cross-border disaster management, energy trading, disaster risk management, micro-hydro standards, and exchange of skills and knowledge. He said that AEPC and the proposed REEECH could work together in increasing awareness for distributed RE solutions, exploring new business model and increasing available finance for distributed RE solutions. He urged all stakeholders to foster a stronger partnership structure that engages the public, the private sector, and the local community to form a strong HKH community, and achieve national and global targets for providing clean, reliable, and affordable access.

Presentation on REEECH Needs Assessment Study Report and Stakeholder Consultations

Oliver J Hass, Senior Project Manager and Priya Behrens-Shah, Policy and Governance Advisor, INTEGRATION, presented the findings. They said that the approach would examine need in the context of relevance.

The presenters highlighted that the needs assessment is being conducted in the context of growing populations and energy needs. Climate change in the mountains is four times more severe relative to other areas. The limited reach of government services in the mountain communities is also depriving these communities of basic and essential services.

> Assessment of needs for REEECH were conducted in the context of relevance for the region

Countries in the HKH region share common problems in terms of addressing challenges related to energy: high cost for private sector to reach users, no large public investment, and high dependence on biomass, which make populations even more vulnerable to climate change.

The presenters described five core areas of needs:

- Strengthening knowledge, information, and data management;
- Strengthening policy, regulatory frameworks, and standards;
- Strengthening regional coordination and harmonization;
- Promoting sustainable energy (SE) innovation, entrepreneurship, and industrial development; and
- Capacity development—awareness, learning, and technical support.

Based on these needs, the presenters identified several priority work areas for REEECH: knowledge development, dissemination and information management of energy resource and resilience, energy policy and market support, sustainable fuels and energy efficiency in mountain buildings, and sustainable power systems (such as improvements in quality of hydropower systems). The presenters explained that REEECH could add value by promoting international and regional knowledge learning and sharing best practices, replicability and policy influencing. Bringing innovation and promotion of business incubator models are other key areas where REEECH could add value and bring lasting change.

Responses from Member Countries

Afghanistan—The national solidarity programme of Afghanistan has failed due to lack of community participation and meaningful contributions.

Response: Limited investment and quality of technology such as sub-standard turbines could have been key reasons for failure. Support systems can be in place to make the programme successful. In Nepal, similar small-scale hydropower plants are working because community capacity needs were embedded in the programme.

Pakistan—Cook stoves are being distributed in rural areas of Pakistan but due to lack of local technical capabilities, continuity, proper repair and maintenance are always problematic.

Response: Local entrepreneurs who are trained to repair and maintain the cook stove are crucial for long-term continuity of the programme. Standardize the design and quality of the cook stove.

Summary and Conclusions from the Chair

The Chair said that the session had been interactive and enriching. The HKH is an energy poor region where 400 million people lack basic access to electricity. Impacts of climate change are much more severe in the region and as a result, its vulnerable inhabitants are the most at risk. In this context, the concept of a regional energy centre for sustainable energy solutions is well suited and highly relevant.

Five key areas of needs were identified: knowledge, policy, coordination, markets, and capacity development

Having such a centre could be important, the Chair said. He added that a regional centre like ICIMOD could bring synergy for data collection and focus on ground interventions. The establishment of the proposed REEECH will surely help to build upstream and downstream relations, which are important to designing the energy programme, he noted. In this context, he agreed that REEECH could be a good mechanism to bring synergy and regional cooperation.

Session II: Technical Mandate and Design Options for REEECH

Cornelia Schenk, Advisor, Sustainable Energy, Austrian Development Agency (ADA) served as the Chair for the session. Oliver J Hass, Senior Project Manager and Priya Behrens-Shah, Policy and Governance Advisor, INTEGRATION presented the findings.

The presenters stated that the proposed REEECH could serve as a network to help accelerate the implementation of sustainable energy and climate commitments, particularly in cross-cutting areas related to SDGs 7, 9, and 13. Such a regional hub has the potential to create spillover effects between countries in the region across all of the five areas of needs identified earlier, they suggested.

The presenters reiterated the importance of technical value addition by REEECH and linked it to the development goal of improved access to appropriate, modern affordable, and reliable energy services through market development for renewable and energy efficiency in the HKH. This was essential for social and economic development and for safeguarding essential mountain ecosystem services.

Lugmayr, UNIDO, also discussed the possibility of developing the first flagship project to be executed by REEECH on issues related to the energy-water-food nexus in the context of climate change adaptation. The proposal could be jointly developed under the upcoming GEF-7 cycle. ICIMOD will send a separate note to countries to determine potential interest to participate in the proposal.

The overall proposed technical mandate for REEECH was summarized as follows:

- Outcome areas: Activity clusters covering soft, enabling, and hard activities with a strong focus on the needs of the private sector and industry mainstreamed throughout all activities.
- Geographic scope: Mountain and hilly areas, and remote, rural or peri-urban areas in the HKH region with support activities relevant to more than one HKH country with a view towards enabling regional scaling up and replication. A focus outside of this scope may be considered if activities have high relevance to meeting the energy security needs of target groups residing in areas that are more rural.
- Technical scope: Addressing data challenges (such as knowledge about access rates and energy efficiency) on the energy, climate, and environment nexus developing in RE and energy efficiency (EE) markets, improvements in policy and regularity environments, poor coordination and harmonization of RE and EE related activities in the HKH.

All member countries welcomed the proposed technical mandate and encouraged stronger linkages with national policies

Views from member countries:

Afghanistan—Need to develop a mechanism to select activities. Supporting activities for rural areas is also important. The Afghanistan Rural Development Ministry, which is responsible for this, should be considered. Opportunities must be sought in disputed areas as well.

A steering committee or governing board for REEECH may not be required as country level issues will be ensured by the respective national focal institution. This means that the national focal institute will ensure the right activities while planning.

Bangladesh—Consider cross-country projects. Mini grid and cookstoves are effective solutions for Bangladesh.

Bhutan—There is 100% energy access in Bhutan. Off-grid energy systems provide energy to only 2% of households. However, at present, only 40% of the total energy requirements of Bhutanese households are fulfilled. REEECH could help to address the issue.

India—Good initiative and extensive discussion. Suggest supporting incubation for products and business models. There are many successful pilots but the challenge lies in scaling up. Using energy for productive use is not easy. How to bring forward and backward linkages.

Myanmar—The idea of establishing a regional centre for RE and EE is highly appropriate for Myanmar because there are many challenges and barriers to rural energy access in Myanmar. We see great opportunities and potential in Myanmar.

Nepal—Welcome REEECH for many reasons, including for building energy efficiency in Nepal. Clear about the mandate of the centre. Documentation and knowledge sharing is poor in Nepal as there is no institutionalization of knowledge documentation in governance systems. The role of REEECH will be crucial to addressing this issue.

Pakistan—Energy needs for rural communities are enormous and challenging. Community awareness along with capacity building on the use of technologies are vital for the sustainability of energy projects in Pakistan. The potential role REEECH can play in ensuring the sustainability of energy technologies is big. There is urgent need to help energy equipment manufacturers.

Donors must synergize support. Several donors are actively working on mountain-based projects. Donor meetings are therefore important to developing synergy and avoid duplication of efforts in the energy sector.

Session III: Institutional Design Options for REEECH

Basanta Shrestha, Director Strategic Cooperation, ICIMOD served as the Chair for the session.

Priya Behrens-Shah, Policy and Governance Advisor, INTEGRATION presented the findings.

The presenter highlighted the fact that the relevance of the proposed centre has been clearly established given the fact that there is currently no regional body for the coordination of energy-related matters which are specific to the HKH region as a whole.

The baseline need assessment revealed a variety of energy-related opportunities—participation and integration of a plethora of different actors and stakeholders across the HKH region is required. To deliver the key functions and services of REEECH effectively, local ownership and their participation in the decision-making process is crucial.

The presenters highlighted the added value of hosting REEECH at ICIMOD as the organization has a unique niche. As a regional organization promoting regional knowledge and coverage, ICIMOD brings together essential elements: the nexus approach with a focus on mountain and regional partnerships with a mutual learning and collaborative approach.

Past experiences have made it clear that mountain challenges have to be addressed holistically and in an integrated way. For these reasons, energy has to be integrated into the Medium Term Action Plan (MTAP) IV (2018–2022), as an important cross-cutting component across ICIMOD's six regional programmes.

The institutional integration of REEECH at ICIMOD could be achieved with a separate secretariat within ICIMOD. Hosting REEECH within ICIMOD has the potential to facilitate synergies in meeting the basic needs of mountain communities. Since REEECH will have a strong focus on the promotion of sustainable energy markets, industries, and innovation, it will be critical to establishing essential linkages with actors that possess strong expertise in these areas.

The presenters also outlined a proposed governance structure for REEECH along with the roles and functions of its Steering Committee (SC). The functions of the SC broadly include:

- Strategic direction and guidance
- Monitoring the performance of REEECH
- Establishing partnerships
- Member nomination and appraisal
- Ensuring interim governance

The presenters also described the composition of the SC and the financial scenarios. These are described in the detail in the report previously circulated to participants and for brevity are not repeated here.

A key institutional design consideration was whether ICIMOD would be hosting or integrating the centre within its activities

Following the presentation, the Chair said that the proposed steering committee could receive strategic support from the board governance at ICIMOD. Martin Lugmayr commented that these proposals should not be seen as the final blueprint. He said that they need to be constructed to fulfil the needs of all member countries.

A representative from Afghanistan said that the structure of REEECH should be simple, suggesting that it does not need a separate SC. Instead, a Technical Committee comprising energy experts was suggested. The Secretariat would be open to operationalizing the planned activities of REEECH in the HKH region. REEECH can actually work with country-specific partner organizations in the selected member countries except in a few cases where it may also work with strategic partner organizations.

A key point submitted for consideration in the institutional design was whether ICIMOD would be hosting the centre or integrating the centre within its activities.

Session IV: Summary of Discussions and Working Groups

The following chapter provides a summary of key discussions held during the workshop and throughout the working groups. On the second day, the participants were divided into two working groups and each working group was asked to discuss issues around three thematic areas:

Theme 1: Needs, added value, and scope of mandate of the centre

Theme 2: Technical priority activities of the centre

Theme 3: Institutional aspects and sustainability strategy for the centre

The section below summarizes the consolidated comments from the working groups on each of the themes.

Theme 1: Needs, added Value, and Scope of Mandate of the Centre

In response to the presentations and during the ensuing discussions, participants reaffirmed the need for a regional centre focused on mountain-specific energy dynamics and the added value it can offer. The centre can add value by translating the government's agenda on sustainable energy for all into mountain-centric approaches and projects. In particular, they broadly acknowledged that REEECH could add value by focusing on the following themes and services:

- Given the uniqueness of mountain ecosystems, the socio-economic realities of mountain populations and widespread energy poverty, an integrated approach to energy management is essential for natural resources management, livelihoods, and resilience-building. Renewable energy and improved energy efficiency (e.g., the energy efficiency of buildings) play an important role in the mitigation of climate change and in the reduction of air pollution. REEECH may have a unique role to play in providing more insight into nexus solutions. This matches very well with the ICIMOD approach to address mountain challenges holistically and through a nexus-approach.
- The creation of REEECH would play an essential role in the attainment of the Sustainable Development Goals (SDGs), particularly SDG 7—affordable, reliable, and sustainable energy for all and SDG 13—related to climate action. In this respect, the linking of REEECH to GN-SEC or national programmes and policies would represent a relevant value contribution to achieving both national and global policy aspirations.
- REEECH could add value to existing national efforts by promoting regional cooperation and enabling synergy with complementary or like-minded actors across national boundaries. Such efforts are likely to be conducive to partnership development and strategic cooperation on policy matters, regulatory considerations, trade, and investment.
- Cooperation with the other regional sustainable energy centres of the GN-SEC can open up opportunities for knowledge and technology transfer, as well as joint advocacy.
- REEECH should not focus on direct implementation of energy hardware projects—local agencies and companies should be approached for this to build on synergies wherever possible. However, REEECH should work closely with ADB and other commercial banks on the established of tailored financing schemes for mountain relevant solutions and innovations.

A number of suggestions also emerged from the discussions:

- REEECH has the potential to become an important platform for information and data management, knowledge and technology transfer on sustainable energy solutions, and best practices applicable to the mountain context.
- The centre could play a significant role in spurring entrepreneurship and private sector investments through improved mountain-specific energy data, targeted capacity development interventions, innovation and businesses incubation, as well as knowledge transfer initiatives.

- REEECH can play crucial roles in developing regional capacity building mechanisms, providing training, and launching initiatives to promote local private sector and industry to take advantage of sustainable energy investment and potential new job opportunities.
- The centre can support efforts to promote and monitor improvements in energy efficiency—developing standards for mountain homes/buildings and appliances, efficient lighting, cooking energy, space heating, industrial efficiency, as well as reduction of losses in commercial grid operation.
- Since renewable energy technology value chains are important, participants suggested that REEECH's focus on value chain considerations on the supply side (not just the demand side) be strengthened. Similarly, they suggested that applied research for innovation be linked up to entrepreneurship interventions since the application of new technologies is also critical.
- Emphasis on local transport and mitigation of vehicle emissions (improving efficiency) may be a relevant focus area for REEECH. However, due to limited opportunities for the same in mountain areas, these should be areas observed by REEECH for their impact on mountain ecosystems (e.g., issues such as black carbon), rather than technical activities in their own right.
- A technical focus area for REEECH could be issues related to water-food-energy nexus with productive use of energy for tourism, and upstream and downstream linkages.
- Sustainable energy access for both consumptive (lighting, cooking, and heating) and productive uses of energy—focusing foremost on economic centres for productive purposes.
- Development of mechanisms to address household energy needs (energy efficiency in buildings, sustainable fuels and power supply) in the HKH region to help accomplish the Sustainable Energy for All (SE4ALL) initiative.
- Technical assistance to support decentralized, off-grid renewable energy systems (mini-grids, stand-alone systems, solar lighting services) through the promotion of best practices.
- Provision of operation and management training to local communities involved in decentralized, off-grid systems.
- Raising awareness of nexus energy issues and solutions in the HKH region.
- Promotion and facilitation of technology transfer and technology sharing across the HKH region

Though many policies and instruments have been developed, there is still the need to translate those policies into tangible action on the ground specifically suited for mountain communities. Specific project ideas were highlighted. They are:

- Empowering incubation centres to drive policy into action.
- Creating a network of resources that enable stakeholders to translate knowledge into action and adopt best practices.
- Regional co-operation between mountain communities is very important. It can help overcome remoteness and create energy security.

Theme 2: Technical Priority Activities of the Centre

Several technical priority activities were identified.

Knowledge management and awareness raising

- Act as a repository for intelligence by developing a data management framework, generating baseline data on renewable energy and energy efficiency, and establishing a knowledge sharing mechanism across the HKH region.
- Publish journals related to RE and EE in the HKH region.
- Organize expos to highlight best practices from different regions.
- Undertake action-oriented research aimed at enhancing knowledge.

Policy implementation assistance to HKH countries

- Perform energy policy research that is specific to mountain areas in all HKH countries.
- Aid the development of RE and EE standards and targets for mountain areas.
- Facilitate integration and alignment of mountain specific policies into the overall national energy policy of each member country.

Strengthening regional coordination and harmonization

- Work closely with governments, private sector entities, and non-governmental organizations (NGOs) in all HKH countries.
- Leverage existing partnerships—e.g., the South Asian Association for Regional Cooperation (SAARC) and the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC).
- Collaborate with all member countries through knowledge sharing and by performing regional dialogues across HKH countries.

Capacity development and applied research

- Create and maintain database of technologies while sharing these across all the member countries.
- Perform country specific needs assessment (both energy providers and consumers) and engage in problem identification in the HKH countries.
- Develop a roadmap for capacity development (training, workshops, action learning) and research while providing research inputs.

Promotion of investments into sustainable energy for climate-resilient mountain solutions

- Develop viable business models and bankable RE and EE project proposals.
- Develop business-to-business partnerships as well government partnerships and risk mitigation mechanisms for the private sector.
- Mobilize funds for sustainable energy through the harmonization of donor agencies and private sector companies.

Promotion of domestic sustainable energy entrepreneurship, industrial development and innovation

- Develop mechanisms to empower local entrepreneurs in the energy supply chain and to foster domestic manufacturing capacity.
- Collaborate on technology transfer among all HKH countries to develop state-of-the-art technologies.
- Facilitate the vertical integration of different small firms and the identification of local entry points for new local start-up companies.

On the whole, the two working groups had similar comments and feedback; key points of departure were on the proposed institutional arrangements

How gender issues could be best mainstreamed in the technical programme of the centre

- Gender is a critical issue when working in a regional programme and context. There is the need to respect each country's specific needs in the context of gender issues. Gender should be addressed from the very beginning of the design and planning process of a regional project through a participatory approach.
- Women are key actors in bringing about change and developing solutions that secure our transition into resilient mountain communities. Local women should be empowered to lead this transition.
- Projects should be designed to meet the needs of local women through inclusive and participatory approaches.

Theme 3: Institutional Aspects and Sustainability Strategy for the Centre

The discussion emphasised on how "form" follows "function". The institutional set-up of the centre should reflect the scope of its mandate and functionalities. In response to the presentation and during the ensuing discussions, participants demonstrated divergent viewpoints in relation to the institutional design, and the governance and setup considerations of the centre. The discussions can be summarized as follows:

- ICIMOD, with its unique expertise, network, and capacities regarding HKH mountain issues, is the right institute to host the centre. However, there is a need to increase its expertise on sustainable energy issues.
- There is no blueprint for the institutional design of REEECH—its structure and design should fulfil the needs of key national institutions and countries.
- A group of participants proposed a centre integrated within ICIMOD's programmes and governance that uses the existing expertise and capacity of ICIMOD. Another group proposed an independent centre with no influence of ICIMOD's governance—in this model, ICIMOD would only host the centre.

- The first group proposed that REEECH be initiated under ICIMOD's Regional Programme on Adaptation and Resilience Building (ARB) while the other group proposed the centre be established as an independent regional programme.
- The first group proposed that the centre work under ICIMOD's governing structure in the short run and form its own board or governing body in the long run. The second group proposed that REEECH have its independent board from the very start as ICIMOD does not currently have any member in its board with expertise in renewable energy
- The discussions concluded that the structure of REEECH should be kept simple and fully embedded in the structure of ICIMOD in the beginning. The centre should start with a small institutional structure but may grow and become more independent depending demand from member countries and its ability to raise funds.
- It was proposed that two institutional design scenarios for the centre be developed. In one scenario, the centre focuses on areas where ICIMOD already has key competences (e.g., data and knowledge sharing, as well as capacity building). The second scenario includes aspects where ICIMOD has not worked substantially in the past years, namely sustainable energy business development, entrepreneurship, innovation, and investment promotion.
- In addition to the traditional ICIMOD network, REEECH will require a network of energy experts in the member countries, as well as a technical (steering) committee comprising key stakeholders with a rural energy mandate. However, initially, there is no need to create new decision-making bodies; the centre should work under existing bodies.
- The sustainability of REEECH should be the key focus. One way to achieve this would be to integrate it into ICIMOD's ongoing programmes.
- Use the existing expertise and knowledge of ICIMOD and its partners in RMCs to create impact on the ground.
- Operationalizing the centre as soon as possible would enable REEECH to have quick impact on the ground by creating success stories.
- A Secretariat was considered sufficient to operationalize the REEECH Work Plan.
- REEECH should build on existing capacities in member countries and execute activities in partnership with country-specific strategic partner organizations/institutions and private sector entities.
- Strong support from key energy-related organizations in ICIMOD Regional Member Countries is required for REEECH to succeed.

> One recommendation was to change the name of the proposed centre from HCREEE to REEECH

Changing the Name from HCREEE to REEECH

The groups discussed changing the proposed name. As an acronym, HCREEE was difficult to pronounce and did not evoke any meaning. One recommendation was to change the name to an abbreviation: REEECH (Renewable Energy and Energy Efficiency Centre for the Hindu Kush Himalaya).

Session V: Closing Sessions and Way Forward

Rene Van Berkel, UNIDO Representative, Regional Office, India thanked ICIMOD for hosting the important event and investing time, resources, and valuable input in this validation process. He also thanked the UNIDO team and the consultants for preparing the agenda for the workshop.

Berkel said that inadequate attention is being given to mountain energy solutions at present and that REEECH might provide a way to address these issues for the HKH region. He suggested that we 'think big and start smart' with flexibility in programme design and implementation. He said that thinking big is important because we are not only taking about access to energy but are aiming to improve the livelihoods and wellbeing of mountain people.

Cornelia Schenk, Advisor, Sustainable Energy, ADA expressed great pleasure at having had the opportunity to participate in the validation workshop. She thanked ICIMOD for hosting the workshop and providing valuable contributions to the validation process. She also thanked UNIDO for their active participation and for providing valuable input to the process. She also thanked all participants for their active and valuable contributions.

Schenk mentioned that ADA is supporting the Global Network of Sustainable Regional Energy Networks, which is relevant and important to individual countries as well. She said that the best possible solutions would take time to take shape. Thus, she recommends that it would be good to 'start smart' using existing capacities and resources.

Eklabya Sharma, Deputy Director General of ICIMOD, stated that ICIMOD is starting a new MTAP cycle, the MTAP IV from 2018. In this regard, he said that the validation workshop on REEECH was also very timely and relevant. He said that it was clear from the conference that the nexus approach was important to achieving water-food-energy security in the region.

Sharma said that ICIMOD could begin discussing the institutional integration of REEECH at ICIMOD. He was of the view that since ICIMOD is already an institution, significant adjustment would not be required for the establishment of the new centre. He also encouraged everyone to 'be smart and think big' in terms of investment and commitments. He said that we need to be smart in programme design and implementation and in focusing on important aspects of energy solutions in the region.

'Be smart and think big' when it comes to addressing challenges related to energy access in the HKH region

Sharma said that after validating the concept, ICIMOD will have to present the programme details to the ICIMOD Board on May 2018 for consolidation and approval. He assured full interest and commitment from ICIMOD and thanked all the participants, including UNIDO, ADA and consultants, for their valuable contributions to the REEECH validation process.

Annex I: Programme Agenda

Day One: 1 December 2017 Facilitator: Mr. Bishal Thapa		
08:30		**Registration**
Time	**No.**	
		Introductory Session
9:05	1	**Welcome** Dr. David Molden, Director General, ICIMOD Dr. Rene Van Berkel, UNIDO Representative, Regional Office, India
9:25		**Introduction** Background and workshop objectives – Mr. Bikash Sharma, Sr. Environmental Economist, ICIMOD and Mr. Martin Lugmayr, Sustainable Energy Expert, UNIDO
9:40		**Remarks** H. E. Mr. Lasse Bjørn Johannessen, Norwegian Ambassador to Nepal, Royal Norwegian Embassy, Nepal Ms. Cornelia Schenk, Advisor, Sustainable Energy, Austrian Development Agency (ADA) Mr. Jiwan Acharya, Senior Energy Specialist, Asian Development Bank (ADB)
10:10		**Keynote Address** Mr. Gyan Chandra Acharya, Economic Advisor of Prime Minister of Nepal, Government of Nepal, & Former Under-Secretary, General of the United Nations **Chief Guest Address** Honourable Dr. Swarnim Wagle, Vice Chair, National Planning Commission, Government of Nepal
10:35		***Group Photo and Coffee break***

		Session I: Added value of REEECH Chair: Dr. Eklabya Sharma, Deputy Director General, ICIMOD
11.00		Self-introduction of Participants
11:20	2	Update on the Global Network of Regional Sustainable Energy Centres – Mr. Martin Lugmayr, Sustainable Energy Expert, UNIDO (15 min)
11:35		Thinking Regionally and Acting Nationally: Exploring synergy and cooperation between AEPC and the new REEECH – Mr. Ram Prasad Dhital, Executive Director, Alternative Energy Promotion Centre (AEPC), Ministry of Population and Environment (MoPE), Nepal (10 min)
11.45		Presentation on the REEECH Needs Assessment Study Report & Stakeholder Consultations – Mr. Oliver, J. Hass, Senior Project Manager and Mrs. Priya Behrens-Shah, Policy and Governance Advisor, INTEGRATION environment & energy (Consultant) (25 min)
12:10		Discussion (30 min) Remarks by Chair
12:50		***Lunch***

Time	No.	
		Session II: Technical Mandate and Design Options for REEECH Chair: Ms. Cornelia Schenk, Advisor, Sustainable Energy, Austrian Development Agency (ADA)
14.00	5	Presentation on the Technical Mandate and Programme Options for REEECH – Mr. Oliver, J. Hass, and Mrs. Priya Behrens-Shah, Policy and Governance Advisor, INTEGRATION with inputs from ICIMOD and UNIDO (30 min) • Scope of mandate • Result areas and technical program of the centre • Potential priority activities for the first operational phase • A sub-regional UNIDO GEF-7 nexus project proposal to promote climate resilient sustainable energy-water-food solutions
14.30		Discussion with remarks by regional member country (RMC) representatives (40min)
15.10		***Coffee break***

		Session III: Institutional Design Options for REEECH Chair: Mr. Basanta Shrestha, Director Strategic Cooperation, ICIMOD
15:30	6	Presentation on Institutional Options for REEECH – Priya Behrens-Shah, INTEGRATION with inputs of ICIMOD and UNIDO (20 min) • Institutional set-up and legal status of the Centre • Alignment with existing regional framework • Role and competencies of the governance bodies • Indicative budget
15:50		Discussion with remarks by RMC representatives (30 min) Remarks by Chair
16:30	7	Formation of Working Groups (3 groups), Nomination of Group Leaders and key questions for each theme – Facilitators: Bishal Thapa, Martin Lugmayr, UNIDO, Bikash Sharma, ICIMOD, Ms. Cornelia Schenk, ADA (35 min) • Working Group Theme 1: Needs, added value and scope of mandate of the centre • Working Group Theme 2: Technical priority activities of the centre • Working Group Theme 3: Institutional aspects and sustainability strategy for the centre
18.00		***Dinner Reception (Dhokaima Café, Patan Dhoka)***

Day Two: 2 December 2017 Facilitator: Mr. Bishal Thapa		
Time	**No.**	
9:00	8	Welcome Remarks and Summary of First Day – Facilitator with input from ICIMOD/UNIDO Feedbacks
		Working Group Discussion I: Needs, Added Value & Scope of Mandate of the Centre (3 groups)
9:20	9	Moderated by facilitators (50 min)
10:10		***Coffee break*** (20 min)
		Working Group Discussion II: Technical Priority Activities of the Centre
10.30	10	Moderated by facilitators (50 min)
		Working Group Discussion III: Institutional Aspects & Sustainability Strategy for the Centre
11:20	11	Moderated by the facilitators (50 min)
12:10		***Lunch break***
		Consolidation across working groups in each theme
13:10	12	Discussions between working group leaders and preparation of consolidated presentation for each theme (45min)

		Session IV: Recommendations of the Working Groups Chair : Dr. Golam Rasul, Theme Leader, Livelihoods
13.55	13	Presentation of the Consolidated Results of Working Group Theme – Nominated team facilitators of each group (10 min each) • Working Group Theme 1: Needs, added value and scope of mandate of the centre • Working Group Theme 2: Technical priority activities of the centre • Working Group Theme 3: Institutional aspects and sustainability strategy for the centre Discussions (35min) Remarks by Chair
15:15		***Coffee break***

		Session V: Closing Session and the Way Forward
15.30	14	Presentation of the Workshop Minutes including suggestions and changes in the project document – Facilitators – word document on screen • Finalisation and adoption of minutes by the participants (20 min) • Remarks by RMCs (20) • Remarks by development partners (resource mobilisation strategies) (10 min)
16:20	15	Concluding Remarks – Roadmap and the way forward • Dr. Rene Van Berkel, UNIDO Representative, Regional Office, India • Ms. Cornelia Schenk, Advisor, ADA (5 min) • Dr. Eklabya Sharma, Deputy Director General, ICIMOD Vote of Thanks – ICIMOD
17:00		**End of Meeting**

Annex II: List of Participants

Regional Member Countries (23)

Afghanistan (3)

Mr. Ahmad Shakoor Jawad
Economic Development Specialist, Afghanistan Sustainable Energy for Rural Development (ASERD), Ministry of Rural Rehabilitation and Development
Kabul, Afghanistan
shakoor.jawad@mrrd.gov.af

Mr. Mohammad Sulaiman Nasiri
President
Fast Growth Consulting
Kabul, Afghanistan
fgc.business@gmail.com

Mr. Mohammad Humyoon Kohistani
Director of energy programs
Ministry of Energy and water (MEW)
Darul Aman Road, Kabul, Afghanistan
kohistani.dabm@gmail.com

Bangladesh (2)

Ms. Kamrunnahar Nitol
Senior Relationship Officer, Renewable Energy (Biogas & Bio-fertlizer program)
Infrastructure Development Company Limited (IDCOL)
Dhaka-1215, Bangladesh
nitol@idcol.org

Dr. Md. Golam Faruque
Director (Administration)
Sustainable and Renewable Energy Development Authority (SREDA),
Ministry of Energy, Power and Mineral Resources
Dhaka, Bangladesh
dir.admin@sreda.gov.bd, gfaruque2000@gmail.com

Bhutan (2)

Ms. Ugyen Choden
Communications Officer
Royal Society for Protection of Nature
Lhado Lam, Thimphu 11001, Bhutan
uchoden@rspnbhutan.org

Mr. Satchi
Chief Engineer
Department of Renewable Energy
P.O. Box 106, Thimphu, Bhutan
satchi@moea.gov.bt

China (1)

Prof. Liu Xiaofeng
Professor
Chengdu Institute of Biology
Chinese Academy of Sciences
No. 9 Section 4, Renmin Nan Road
Chengdu, Sichuan, P.R. China
liuxf@cib.ac.cn

India (2)

Mr. Amit Kumar
Senior Fellow & Senior Director
The Energy and Resources Institute (TERI)
Plot No. 10, Institutional Area, Vasant Kunj
New Delhi, India
akumar@teri.res.in

Mr. Suryanarayanan Balasubramanian
Researcher
Ice Stupa International, India
gayashiva91@gmail.com

Myanmar (1)

Mr. U Aung Myint
General Secretary
Renewable Energy Association Myanmar (REAM)
Lower Kyeemyindaing Rd, Yangon, Myanmar
am.ream@gmail.com

Nepal (9)

Dr. Swarnim Wagle
Vice-Chairman
National Planning Commission (NPC)
Singha Durbar, Kathmandu, Nepal
swagle@npc.gov.np

Dr. Gyan Chandra Acharya
Economic Advisor of the Prime Minister of Nepal
Office of the Prime Minister and Council of Ministers,
Government of Nepal
Singha Durbar, Kathmandu, Nepal
gyancacharya@gmail.com

Mr. Ram Prasad Dhital
Executive Director
Alternative Energy Promotion Centre (AEPC)
Khumaltaar, Lalitpur, Nepal
ram.dhital@aepc.gov.np

Prof. Amrit Nakarmi
Professor & Coordinator
Energy Systems Planning and Analysis
Center for Energy Studies (CES)
Institute of Engineering (IOE)
Patan, Lalitpur, Nepal
nakarmiamrit@gmail.com

Ms. Pooja Sharma
Head of Energy
Practical action
Kathmandu, Nepal
pooja.sharma@practicalaction.org.np

Dr. Uttam Kunwar
Environment & Energy Expert,
The Federation of Nepalese Chambers of Commerce and Industry (FNCCI)
Teku, Kathmandu, Nepal
uttam.kunwar@fncci.org

Ms. Amrita Sharma
Consultant
ibasei Nepal
amritasharma012@gmail.com

Mr. Hari Gopal Gorkhali
Senior Director
Centre for Rural Technology, Nepal (CRT/N)
Patan, Lalitpur, Nepal
gorkhalihari@gmail.com

Mr. Santosh Serchan
Conservation officer
National Trust for Nature Conservation (NTNC)
Central office, Khumaltar, Lalitpur, Nepal
santoshserchan@gmail.com

Pakistan (3)

Mr. Mohammad Jahanzeb
Head of Engineering Department
Aga Khan Rural Support Programme (AKRSP)
Babar Road, P.O. Box 506, Gilgit, Pakistan
jehan.zeb@akrsp.org.pk

Engr. Fazli Rabbi
Chief Executive Officer
Hydrolink Engineering Equipment Company Pvt Limited (HEECO)
Plot No 60-B, Small Industrial Estate Near Brahma Bhater Motorway Interchange, Taxila, Pakistan
rabbikan@yahoo.com

Mr. Asad Mahmood
Engineer, Manager Technical-Energy Conservation Fund (MT-ECF),
National Energy Efficiency & Conservation Authority (NEECA), Ministry of water and power (MOWP)
Government of Pakistan
A Block Pak Secretariat, Islamabad, Pakistan
asadm_46@yahoo.com

UNIDO (3)

Mr. Rene Van Berkel
Representative
UNIDO
UN House, New Delhi, 110003 - INDIA
r.vanberkel@unido.org

Mr. Martin Lugmayr
Sustainable Energy Expert
GN-SEC Coordinator, United Nations Industrial Development Organization (UNIDO)
Vienna, Austria
m.lugmayr@unido.org

Mr. Gentjan Sema
Project Assistant
Climate Policy & Network Division,
Department of Energy
United Nations Industrial Development Organization (UNIDO)
g.sema@unido.org

ADA (2)

Ms. Cornelia Schenk
Advisor/Sustainable Energy Expert
Austrian Development Agency (ADA)
Zelinkagasse 2, 1010 Wien, Austria
cornelia.schenk@ada.gv.at

Mr. Ramesh Chhetri
Programme Manager
Austrian Development Agency (ADA), Bhutan
Field Office Thimphu P.O.Box 307, Thimphu, Bhutan
ramesh.chhetri@ada.gv.at

INTEGRATION environment & energy (2)

Mr. Oliver, J. Hass
Senior Project Manager
INTEGRATION environment & energy
Schöneberger Ufer, 71
10785 Berlin, Germany
ohaas@integration.org

Ms. Priya Behrens-Shah
Policy and Governance Advisor
INTEGRATION environment & energy
Schöneberger Ufer, 71
10785 Berlin, Germany
pbehrens-shah@integration.org

Other Development partners (8)

H. E. Mr. Lasse Bjørn Johannessen
Norwegian Ambassador to Nepal
Royal Norwegian Embassy
Patan, Nepal
lasse.bjorn.johannessen@mfa.no

Mrs. Solveig Andresen
Counsellor
Environment, Energy and Economic Development,
Royal Norwegian Embassy
Kathmandu, Nepal
solveig.andresen@mfa.no

Mr. Christian Liedtke
Chief Technical Advisor
Renewable Energy for Rural Areas (RERA) Programme
German Development Cooperation, GIZ
Laltitpur, Nepal
christian.liedtke@giz.de

Mr. Jiwan Acharya
Senior Energy Specialist
Asian Development Bank (ADB), India Resident
Mission, 4 San Martin Marg, Chanakyapuri, New
Delhi, 110021, INDIA
jacharya@adb.org

Mr. Trinh Thang Long
Coordinator
Global Assessment for Bamboo and Rattan (GABAR)
International Network for Bamboo and Rattan (INBAR)
Beijing, China
ttlong@inbar.int

Ms. Shanti Karanjit
Climate Change Programme Analyst
Energy, Environment, Climate and Disaster Risk
Management Unit
United Nations Development Programme (UNDP)
UN House, Pulchowk, Lalitpur
shanti.karanjit@undp.org

Mr. Satish Gautam
Senior Advisor
Renewable Energy for Rural Livelihood (RERL)
United Nations Development Programme (UNDP)
UN House, Pulchowk, Lalitpur
satish.gautam@aepc.gov.np

Mrs. Natsuko Furukawa
Program Formulation Advisor on Infrastructure
(Road & Air)/ Private Sector Collaboration &
Development/NGO
Japan International Cooperation Agency (JICA)
Nepal Office
Lazimpat, Kathmandu, Nepal
furukawa.natsuko.2@jica.go.jp

ICIMOD (11)

Dr. David Molden
Director General
ICIMOD
david.molden@icimod.org

Dr. Eklabya Sharma
Deputy Director General
ICIMOD
eklabya.sharma@icimod.org

Mr. Basanta Shrestha
Director, Strategic Cooperation
ICIMOD
basanta.shrestha@icimod.org

Dr. Golam Rasul
Theme Leader, Livelihoods
ICIMOD
golam.rasul@icimod.org

Mr. Bikash Sharma
Senior Environmental Economist
Livelihoods
ICIMOD
bikash.sharma@icimod.org

Dr. Aditi Mukherjee
Theme Leader, Water and Air
ICIMOD
aditi.mukherji@icimod.org

Dr. Ramesh Ananda Vaidya
Senior Advisor, Water and Air
ICIMOD
Ramesh.Vaidya@icimod.org

Mr. Farid Ahmad
Head, Strategic Planning, Monitoring and Evaluation,
ICIMOD
farid.ahmad@icimod.org

Dr. Dhrupad Choudhury
Programme Manager, Adaptation to Change
ICIMOD
dhrupad.choudhury@icimod.org

Mr. Ayush Dhungel
SSA - Research Associate, Livelihoods
ICIMOD
ayush.dhungel@icimod.org

Ms. Mamata Shrestha,
Programme Associate, Livelihoods
ICIMOD
mamata.shrestha@icimod.org

Rapporteurs (3)

Ms. Samikchhya Kafle
Intern
Strategic Planning, Monitoring and Evaluation
ICIMOD
samikchhya.kafle@icimod.org

Mr. Min Bahadur Gurung
Institution Development Analyst
Livelihood Theme
ICIMOD
min.gurung@icimod.org

Ms. Karuna Bajracharya
Project Coordinator, Nepal
Global Alliance for Clean Cookstoves | United Nations Foundation
kbajracharya@cleancookstoves.org

Moderator (1)

Mr. Bishal Thapa
Independent Consultant
Saral Urja Nepal
Kathmandu, Nepal
bishal.thapa@icf.com

Annex III: Questions for Group Discussions

Working Session, Theme 1: Needs, added value, and scope of mandate of the centre

Two parallel groups

1. What is the particular added value of the proposed regional RE&EE centre?

2. What practical services and benefits can we expect from REEECH and how can synergies be created in ongoing RE&EE projects/programmes in the HKH region?

3. Which needs and gaps should REEECH address in the following areas (those that are currently not sufficiently covered by other national/regional programmes and initiatives)

   - Sustainable energy access for both consumptive (i.e., lighting, cooking, heating) and productive use of energy.
   - Decentralized and off-grid Renewable energy systems (e.g., mini-grids, stand-alone systems, solar lighting services).
   - Energy efficiency areas (e.g., standards for buildings and appliances, efficient lighting, cooking and space heating, technical and commercial grid losses, demand and supply side management, industrial efficiency).
   - Empowerment of the local private sector and industry to take advantage of sustainable energy investment and job opportunities.
   - Which activities should the centre should not focus on? What do other regional/national institutions, programmes and/or projects in general already sufficiently cover?

Working Session Theme 2: Technical programme/priority activities of the centre

Two parallel groups

1. Please suggest at least three priority activities underlying the following focus areas of the centre if they are relevant. These are to be based on the gaps identified in the previous working session.
   - Knowledge management and awareness raising.
   - Policy implementation assistance to the HKH counties.
   - Strengthening regional coordination and harmonization.
   - Capacity development and applied research.
   - Promotion of investments into sustainable energy climate-resilient mountain solutions.
   - Promotion of domestic sustainable energy entrepreneurship, industrial development and innovation a focus area of the centre? If yes, what should be done?
   - Off-grid energy services (stand-alone systems, sustainable transport, and waste to energy, mini-grids, and efficient cooking stoves).

2. How can gender issues be best mainstreamed in the technical programme of the centre? Give some concrete suggestions.

Working Session Theme 3: Institutional set-up of the centre

Two parallel groups

1. What is the most efficient institutional set-up for the centre in your view?
2. How can we ensure that the institutional set-up of the centre addresses effectively the needs of all HKH countries? Which mechanisms could be incorporated in the existing institutional set-up of ICIMOD to address that needs of energy stakeholders (government, private sector) of HKH countries. Please provide also suggestions for the composition of REEECH steering committee if desired.
3. Please suggest a sustainability strategy for the centre (including start-up staff requirement, financial sustainability). Also, suggest how long-term sustainability might be achieved.
4. What results should the centre have achieved by the end of its first operational phase (four years) and how would a successful centre look like after the first operational phase in your view?

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International Centre for Integrated Mountain Development
GPO Box 3226, Kathmandu, Khumaltar, Lalitpur, Nepal
Tel +977 1 5275222 **Fax** +977 1 5275238
Email info@icimod.org **Web** www.icimod.org