LEAP-RE

Research and Innovation Action (RIA)

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http://www.leap-re.eu/

Proceedings of round tables for research uptake

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Summary

The deliverable D5.4 of the LEAP-RE project (EU Horizon 2020) presents outcomes of stakeholder dialogues and round tables to foster renewable energy uptake across Africa and Europe. Bringing together 83 partners from 34 countries, LEAP-RE applies a quadruple helix model linking governments, academia, industry, and civil society. The dialogues, such as the Pretoria Roundtable and Kigali Forum, produced joint policy positions on solar, wind, geothermal, bioenergy, storage, and socio-economic aspects. Beyond dissemination, empowerment actions focused on capacity-building, training, and digital tools to equip policymakers, businesses, and communities. Challenges include distance, cultural differences, and unequal resources. The report recommends scaling digital training, promoting open data, and institutionalizing AU-EU partnerships beyond 2025.

Approval

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LEAP-RE

Long-Term Joint EU-AU Research and Innovation Partnership on Renewable Energy

WP5

Deliverable D5.4 Proceedings of round tables for research uptake:

Dialogue with policymakers and other stakeholders for research uptake

Author:

M. Ben Yelles Hakim

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Disclaimer

Document information

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Appendix: Glossary of Terms and Acronyms

Acronym	Full Form	Source Reference
AU	African Union	D5.4 (1), p. 19, Section II.2
AfCFTA	African Continental Free Trade Area	D5.4 (1), p. 19, Section II.2
CCSE	Climate Change and Sustainable Energy (AU-EU R&I Partnership Roadmap)	D5.4 (1), p. 49, Table 4
EU	European Union	Throughout, e.g. D5.4 (1), p. 19
FLEXX	LEAP-RE Digital Hub (Flexible Knowledge Exchange Platform)	D5.4 (1), p. 31, Section VI.2
HLPD	High-Level Policy Dialogue (on Science, Technology, and Innovation)	D5.4 (1), p. 21, Section II.3
IRENA	International Renewable Energy Agency	D5.4 (1), p. 49, Table 4
KMCF	Knowledge Management and Communication Framework (AU-EU proposal)	D5.4 structure, p. 41, Appendix 9
LEAP-RE	Long-Term Europe-Africa Research and Innovation Partnership on Renewable Energy	D5.4 (1), p. 7, Section I.1
MARs	Multi-Annual Roadmaps (from PRE-LEAP-RE)	D5.4 (1), p. 48, Section XVI.1
R&I	Research and Innovation	D5.4 (1), p. 26, Section V.1

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RECs	Regional Economic Communities	D5.4 (1), p. 49, Table 4
SDGs	Sustainable Development Goals	D5.4 (1), p. 19, Section II.2
TNFD	Taskforce on Nature-related Financial Disclosures	D5.4 (1), p. 33, Section VII.1.2
UNFCCC	United Nations Framework Convention on Climate Change	D5.4 (1), p. 49, Table 4

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Executive Summary

The Long-Term Joint European Union–African Union Research and Innovation Partnership on Renewable Energy (LEAP-RE) is a flagship initiative fostering sustainable energy transitions across Africa and Europe. Co-funded by the EU's Horizon 2020 program, LEAP-RE unites 86 partners from 34 countries under a quadruple helix framework—engaging governments, academia, industry, and civil society. Its overarching goals are to accelerate renewable energy adoption, strengthen scientific and technical capacities, and ensure policy alignment through inclusive stakeholder engagement.

A cornerstone of LEAP-RE's strategy is its structured stakeholder dialogues, which facilitate collaboration across continents and disciplines. Forums such as the Pretoria Roundtable and Kigali Forum have brought together policymakers, researchers, industry actors, and civil society to co-create solutions, identify barriers, and shape shared priorities. These dialogues, supported by online platforms and peer-to-peer exchanges, have generated joint position papers and policy briefs, validated through collaborative review and governance structures. They provide evidence-based recommendations that influence decision-making at national, continental, and international levels, feeding into AU-EU High-Level Policy Dialogue (HLPD) processes.

The initiative has developed thematic joint positions on solar, wind, geothermal, bioenergy, energy storage, and socio-economic dimensions of renewable energy, ensuring scientific advances align with practical applications and market viability

Furthermore, LEAP-RE emphasizes empowerment for research uptake, moving beyond dissemination to equip policymakers, private sector actors, and communities with actionable knowledge. Capacity-building programs, interactive trainings, and tailored recommendations ensure research outputs are integrated into practice

Momentum has been built through a cooperative ecosystem, where continuous engagement fosters trust and innovation. Evidence shows LEAP-RE is reducing fragmentation across bilateral and multilateral frameworks, promoting harmonized policies, and showcasing AU-EU leadership in science diplomacy

Key Findings

LEAP-RE's quadruple helix model ensures inclusivity, bridging policy, research, industry, and societal needs.

Stakeholder dialogues, notably the Pretoria Roundtable, strengthen bi-continental trust and generate actionable recommendations.

Joint positions demonstrate continuity from PRE-LEAP-RE roadmaps, ensuring strategic alignment across program phases.

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Empowerment efforts enhance uptake of research, with strong emphasis on capacity-building and innovative communication tools.

Knowledge management systems effectively centralize and disseminate outputs, reducing duplication and enhancing accessibility.

Strategic Recommendations

Scale up empowerment actions by expanding digital training formats and strengthening local ownership of renewable energy solutions.

Deepen policy integration by ensuring joint positions continuously feed into AU, EU, and global energy strategies.

Strengthen monitoring and adaptive learning to measure long-term impacts on innovation uptake and community empowerment.

Leverage science diplomacy further to consolidate AU-EU leadership in global energy transitions.

Ensure sustainability beyond 2025 by institutionalizing partnerships, securing funding mechanisms, and embedding LEAP-RE practices into AU-EU frameworks.

In conclusion, LEAP-RE stands as a model of bi-regional cooperation, advancing renewable energy transitions while reinforcing the AU-EU partnership. Its success lies in translating research into tangible societal benefits through collaborative governance, shared vision, and strategic empowerment.

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1. Introduction

1.1. Background

The LEAP-RE (Long-Term Europe-Africa Research and Innovation Partnership on Renewable Energy) initiative stands as a cornerstone of pan-African and European collaboration in the crucial domain of renewable energy research and innovation. This partnership recognizes that addressing global energy challenges, particularly in the context of climate change and sustainable development, necessitates a concerted effort spanning continents.

The urgency of transitioning to sustainable energy sources underscores the paramount importance of multi-level dialogue and communication. Such dialogue is not merely about disseminating information; it is about fostering mutual understanding, building trust, and co-creating solutions among diverse actors. Without robust communication channels, the groundbreaking research and innovative solutions developed within initiatives like LEAP-RE risk remaining confined within academic or research silos, unable to translate into tangible societal benefits.

In this context, specific Work Packages within LEAP-RE are dedicated to communication, stakeholder engagement, and policy interface. These work packages are designed to bridge the gap between scientific advancements and real-world application, ensuring that the insights gained from research are effectively communicated to policy-makers, industry, local communities, and end-users. The ultimate goal is to facilitate an enabling environment for the widespread adoption of renewable energy technologies and practices, contributing to sustainable energy transitions across both Africa and Europe.[1]

1.2. Objectives of This Report

This report serves as a comprehensive documentation of the strategies, processes, and achievements related to stakeholder dialogue, communication, and knowledge management within the LEAP-RE framework. Its primary objectives are:

- To present outcomes and methodologies of dialogues with policy and stakeholders: This objective entails detailing the various engagement activities undertaken, the participants involved, and the key insights, agreements, or action points that emerged from these dialogues. It also covers the specific communication methods and technologies employed to facilitate these interactions.

- To document process and results of building joint positions: A critical aspect of successful collaboration is the ability to forge common ground and develop shared perspectives among diverse stakeholders. This objective focuses on how LEAP-RE has facilitated the convergence of different interests and priorities into unified positions, particularly concerning policy recommendations and research priorities.

[1] Minutes of the LEAP-RE Hybrid Round Table, Pretoria, 5 October 2022

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- To analyze empowerment initiatives aimed at uptake of research outputs: Beyond mere dissemination, true impact is achieved when research outputs are actively utilized and integrated into practical applications. This report will examine the initiatives designed to empower various stakeholders – including local communities, businesses, and policymakers – to adopt and benefit from the research findings generated by LEAP-RE.

- To describe network growth and momentum generation within the LEAP-RE community: The long-term sustainability of the LEAP-RE vision relies on the continuous expansion and strengthening of its network. This objective will detail the strategies employed to foster community growth, enhance collaboration among members, and generate ongoing momentum for renewable energy research and innovation within the network.[2]

2. Structured Stakeholder Dialogues

2.1. Dialogue Goals and Scope

Establishing Sustained Dialogues Across the Quadruple Helix

The primary objective of LEAP-RE's stakeholder dialogues is to establish sustained and meaningful interactions with key players across the renewable energy landscape. This includes a broad spectrum of entities, from policy institutions and national/regional bodies to multilateral agencies and the crucial quadruple helix stakeholders: government, academia, industry, and civil society.[3]

Government Bodies: Engaging with national and regional governments to ensure policy alignment, regulatory support, and the integration of renewable energy initiatives into national development plans.

Academic Institutions: Collaborating with universities and research centers to drive cutting-edge research, foster innovation, and build scientific capacity.

Industry Players: Partnering with private sector entities to facilitate the deployment of renewable energy technologies, encourage investment, and promote market adoption.

Civil Society Organizations: Working with NGOs and local communities to ensure that renewable energy solutions are socially inclusive, equitable, and address the specific needs of end-users.[4]

[2] Minutes of the LEAP-RE Hybrid Round Table, Pretoria, 5 October 2022
[3] Advancing Renewable Energy in Africa and Europe - LGI Earth
[4] Afrilabs.com (on hubs and innovation networks in Africa); LEAP-RE Policies – IEA (iea.org).

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The scope of these dialogues is designed to be comprehensive, ensuring that all perspectives are considered and integrated into the program's strategic direction.[5]

Aligning with International Frameworks: A Global Impact

A crucial aspect of LEAP-RE's stakeholder dialogue strategy is the deliberate alignment of its outputs with widely recognized international frameworks. This ensures that the program's efforts contribute to broader global agendas and enhance its legitimacy and impact on a worldwide scale. [6]The key frameworks include:

– Sustainable Development Goals (SDGs): LEAP-RE directly contributes to SDG 7, SDG 8, SDG 12, SDG 13, and SDG 17..[7] [8]

Agenda 2063 (African Union): This ambitious blueprint for Africa's development provides a strategic framework for LEAP-RE's activities on the continent.[9]

African Continental Free Trade Area (AfCFTA): By promoting sustainable energy solutions, LEAP-RE can indirectly support economic integration and growth within the AfCFTA framework.

European Green Deal: LEAP-RE's focus on renewable energy aligns perfectly with the Green Deal's objectives, fostering a greener and more sustainable future for both continents.[10]

[5] Advancing Renewable Energy in Africa and Europe – LGI Earth; LEAP-RE | Europe-Africa Partnership for Renewable Energy (leap-re.eu).
[6] *LEAP User Guide* (sdgs.un.org)
[7] *Leap's Sustainable Development Goals – Leap* (leap.eco / leap.columbia.edu)
[8] SDGs (sdgs.un.org); African Union Research and Innovation Partnership (leap.eco); European Green Deal (ec.europa.eu).
[9] *Agenda 2063 (AU) reference via LEAP-RE site* (leap-re.eu)
[10] *European Green Deal* (ec.europa.eu)

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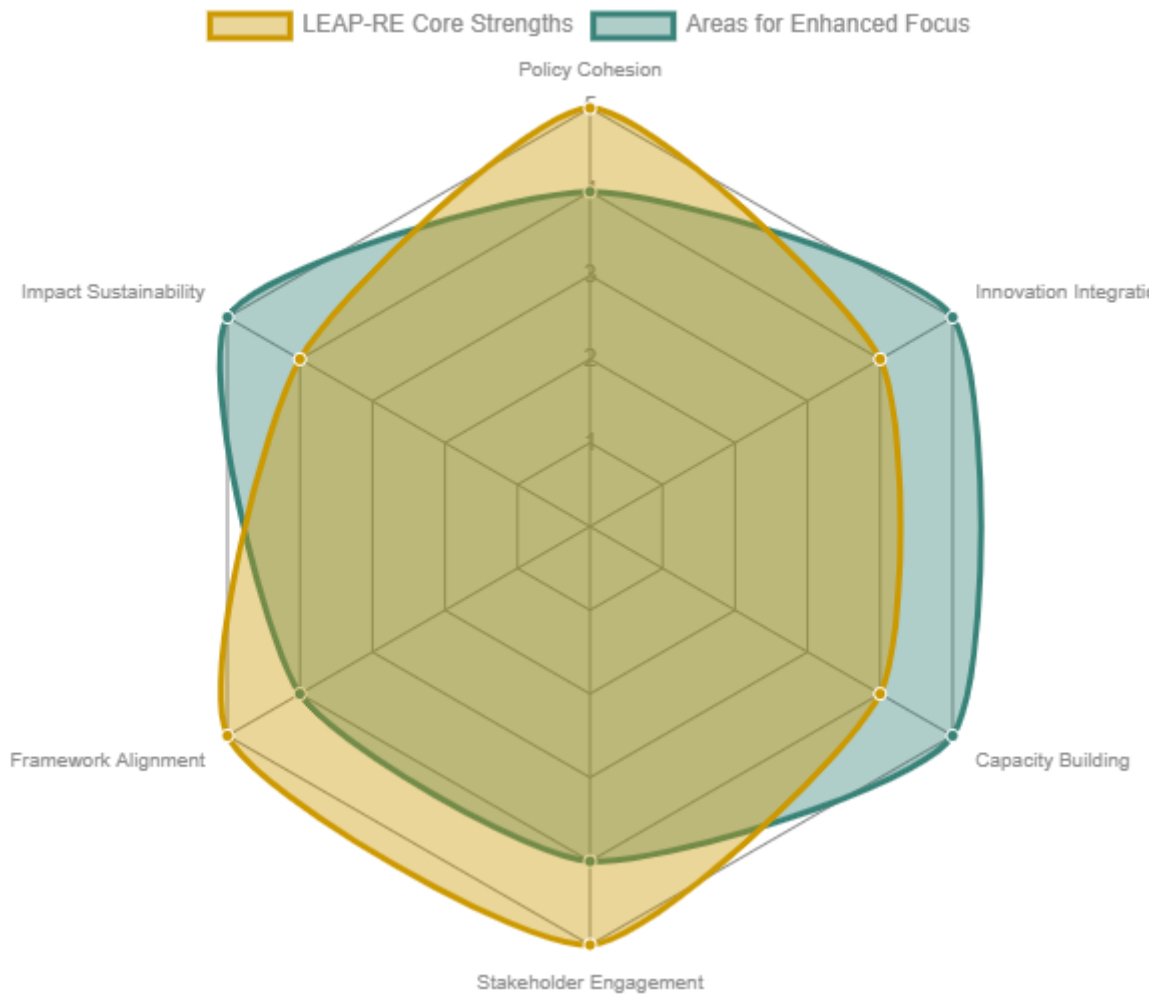

Figure 1 LEAP-RE's strategic positioning across several key dimensions

The radar chart above illustrates LEAP-RE's strategic positioning across several key dimensions, demonstrating its strong commitment to stakeholder engagement and international framework alignment. While the program exhibits robust capabilities in policy cohesion and framework alignment, there's always room for enhanced focus in areas like innovation integration and capacity building, ensuring sustained progress and broader impact.

Building Synergies and Advice Streams Towards High-Level Policy Dialogue (HLPD)

A fundamental long-term goal of LEAP-RE's stakeholder dialogues is to build strong synergies and establish effective advice streams that feed into the High-Level Policy Dialogue (HLPD) between the African Union and the European Union. This strategic objective is crucial for ensuring the sustainability and continued relevance of the AU-EU partnership in renewable energy.[11]

Knowledge Sharing Platforms: LEAP-RE actively promotes knowledge transfer and exchange through an online community platform, stakeholder forums, and direct engagement channels.

[11] *Long-Term Joint EU-AU Research and Innovation Partnership* (cordis.europa.eu)

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Policy Recommendations: Through collaborative dialogues, LEAP-RE generates evidence-based policy recommendations that can inform and shape the AU-EU HLPD.

Capacity Building: The program invests in training a new generation of researchers and policymakers.

Science Diplomacy: LEAP-RE serves as a prime example of science diplomacy in action, aligning renewable energy initiatives with climate goals and bridging gaps between nations.[12]

By implementing these strategies, LEAP-RE aims to cultivate a vibrant, resilient, and expanding community dedicated to advancing renewable energy solutions for a sustainable future.[13]

Table 1 :Summary of Communication Channels and Objectives

Stakeholder Group	Primary Communication Objectives	Key Communication Channels/Methods
End-users (e.g., agriculture, health, education)	Understand energy needs, disseminate solutions, empower uptake.	Meetings, TV, Social Media, Site Visits & Needs Assessment, Workshops
Developers/Suppliers	Showcase solutions, find funding, secure market access.	Meetings, Conferences, Workshops, Call for grants/tenders, Lobbying
Donors/Investors	Demonstrate impact, attract funding, build partnerships.	Conferences, Workshops, Lobbying, Reports, Joint Statements
Governments/Policymakers	Inform policy, advocate for supportive regulations, build joint positions.	Conferences, Workshops, Lobbying, Publications, Guidebooks, Policy Briefs
Academic Institutions/Researchers	Share research, identify needs, build capacity, collaborate.	Conferences, Workshops, Publications, Guidebooks, Collaborative Platforms
Innovation Hubs/Accelerators	Provide environment for work, connect innovators, foster entrepreneurship.	Online Platforms, Networking Events, Partnerships

[12] LEAP-RE Stakeholder Forum in Kigali (leap-re.eu); Invitation to LEAP-RE Stakeholder Engagement Forum in Pretoria (alliancecom.net); LEAP-RE – Policies (lgi.earth).
[13] Dr. Nina Volles and plenary discussions (Q&A)

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2.2. Identification and Mapping of Stakeholders

Effective stakeholder engagement is the bedrock of any successful long-term partnership. In the context of LEAP-RE, the stakeholder landscape is incredibly diverse, spanning various geographical levels and institutional affiliations. Understanding this complexity is the first step towards crafting a truly impactful engagement strategy.[14]

Stakeholders in the LEAP-RE initiative can be broadly categorized into four levels, each with distinct roles and contributions:

- Local Level: Community-based organizations, local governments, and grassroots initiatives that directly engage with end-users and address context-specific energy needs.
- National Level: Government ministries, national research institutions, and industry associations that shape national energy policies and strategies.
- Multi-Country/Regional Level: Regional economic communities (RECs), cross-border initiatives, and regional organizations that promote cooperation and harmonization of energy policies across multiple countries.
- Continental/Bi-Continental Level: Pan-African institutions, European Union bodies, and joint AU-EU platforms that provide overarching policy frameworks and foster large-scale collaboration.

This categorization, detailed in WP4 stakeholder typology, provides a structured approach to ensure comprehensive and balanced stakeholder engagement. [15]

At the continental and bi-continental levels, LEAP-RE engages with a wide array of influential institutions, including:

- European Commission Directorates-General (DG RTD, DG ENER, DG DEVCO), which play a crucial role in shaping EU research, energy, and development cooperation policies.
    - African Union Commission (Departments of Energy & Infrastructure (E&A) and Human Resources, Science, and Technology (HRST)), which are central to the AU's policy-making and implementation processes.
    - African Energy Commission (AFREC), which provides technical expertise and coordination for energy initiatives across the continent.

[14] ineA.eu – Research Project LEAP-RE, leap-re.eu – Europe-Africa Partnership for Renewable Energy
[15] cineA.europa.eu – H2020 Energy project LEAP-RE meets with the African Union

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- African Regional Economic Communities (RECs), which facilitate regional cooperation and policy harmonization.

- The Sustainable Energy for All (SEI) platform, which serves as a global multi-stakeholder partnership driving universal access to sustainable energy.

By engaging these institutions, LEAP-RE ensures that its dialogues and outputs are aligned with existing policy frameworks and can effectively influence decision-making processes at multiple governance levels. [16]

Recognizing the heterogeneity of stakeholders, LEAP-RE emphasizes the importance of differentiated engagement strategies. For instance, the energy needs and challenges of rural communities differ significantly from those of urban populations, necessitating tailored approaches that reflect these realities. Similarly, vulnerable groups require special attention to ensure that renewable energy solutions are inclusive and equitable. Funders and investors, on the other hand, are primarily concerned with the financial viability and risk profiles of renewable energy projects. End-users, as the ultimate beneficiaries, need to be actively involved in the design and implementation of solutions to ensure relevance, acceptance, and sustainability.

By adopting differentiated engagement strategies, LEAP-RE not only enhances the inclusivity and effectiveness of its stakeholder dialogues but also ensures that the transition to renewable energy is just, equitable, and responsive to the needs of all societal groups [17] .

2.3. Dialogue Methods and Technologies

LEAP-RE employs a diverse array of dialogue methods and technologies to foster effective stakeholder engagement. These methods are designed to be inclusive, adaptive, and capable of addressing the varying needs and contexts of stakeholders across Africa and Europe. By leveraging both traditional and cutting-edge approaches, LEAP-RE ensures that its dialogues are dynamic, impactful, and widely accessible.

The Pretoria roundtable explored various methods and technologies for communication, emphasizing that the choice depends on the specific stakeholders and objectives. The goal is to facilitate a seamless flow of information and feedback across the entire ecosystem.

2.3.1. Traditional and Digital Channels :

Meetings (in-person and virtual): Essential for direct interaction, negotiation, and building rapport.

TV and social media: Effective for broad outreach, especially to end-users, raising awareness, and communicating energy needs.

[16] research-and-innovation.ec.europa.eu – Horizon Europe Work Programme 2023-2025
[17] ndcpartnership.org – Guidance on LEAP approach

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Site Visits and Data Assessment: Crucial for understanding ground realities, identifying specific needs (e.g., in agriculture, health, education), and validating research hypotheses.

Publications, Guidebooks, Workshops, and Lobbying: Formal and informal channels for knowledge transfer, capacity building, and advocating for policy changes.

Multi-level Platforms: The consensus was to create multi-level and multi-channel platforms. An online presence is vital for accessibility and cost-effectiveness.

2.3.2. Advanced Technologies Advanced Technologies:

The discussion highlighted the potential of AI-driven platforms and even the metaverse to enhance engagement, especially for managing large datasets from needs assessments and facilitating virtual conferences. These technologies can overcome geographical barriers and provide immersive experiences for stakeholders.
The integration of diverse communication methods, from traditional media to cutting-edge digital tools, is key to reaching a broad and varied audience effectively.

2.3.3. Communication Channels:

Effective communication is essential to sustaining stakeholder engagement and ensuring the broad dissemination of LEAP-RE's outputs. The program employs a multi-channel communication strategy that includes newsletters, targeted emails, and dedicated websites to provide regular updates and in-depth information. Earned media, such as press coverage and feature articles, further amplifies LEAP-RE's visibility and credibility. Social media campaigns are leveraged to reach diverse audiences, stimulate dialogue, and promote awareness of renewable energy issues and LEAP-RE activities. Together, these channels create a comprehensive communication ecosystem that supports ongoing engagement and knowledge dissemination.

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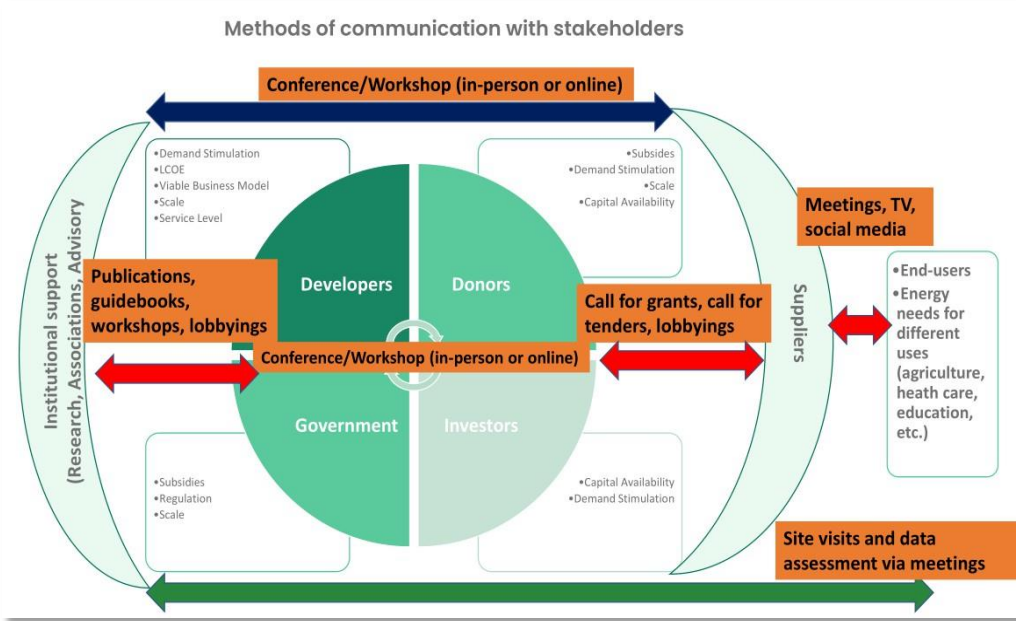

Figure 2. Methods of communication with stakeholders (by: Prof Yao Azoumah | CEO - KYA-Energy Group-from Pretoria round table)

2.3.4. Effectiveness of Knowledge Dissemination Channels

The impact of joint positions hinges on their effective dissemination. Below is a bar chart representing an opinion-based assessment of the effectiveness of various channels for disseminating LEAP-RE's joint positions, on a scale of 0 to 10.

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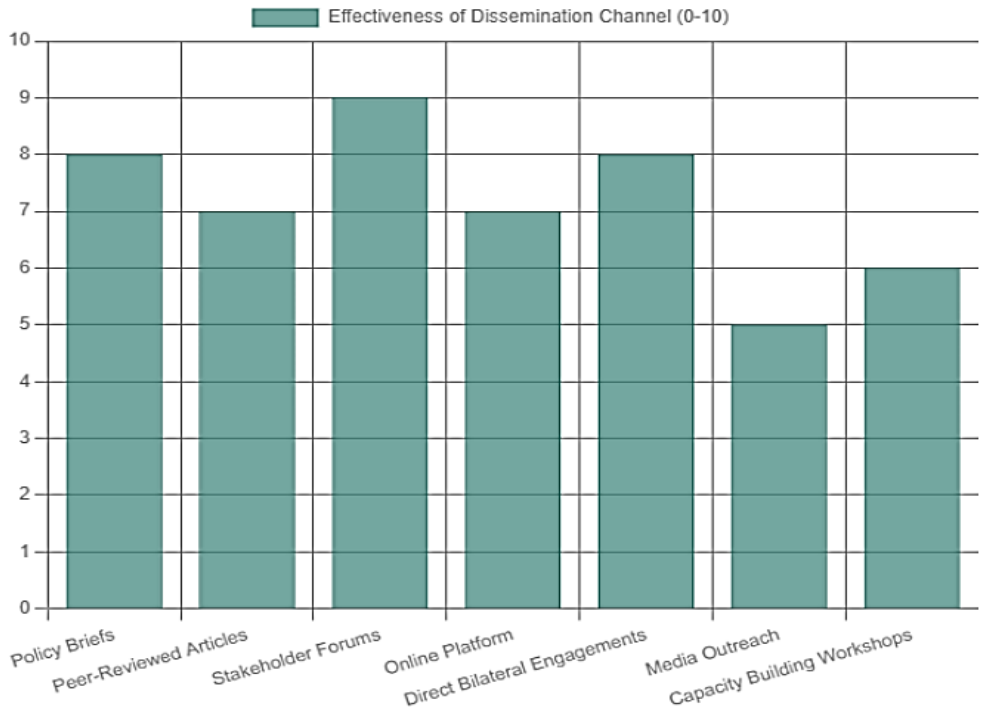

Figure 3.Perceived effectiveness of various channels for disseminating LEAP-RE's joint positions

2.4. Key Milestones and Outputs of the Dialogues

2.4.1. Summary of dialogue events and documented outcomes

LEAP-RE has convened numerous stakeholder engagement forums and workshops, fostering a rich environment for collaboration. These events have focused on various aspects of renewable energy, from technological advancements to policy implementation and market development. Documented outcomes include research briefs, policy recommendations, and reports on scientific collaboration and training potential. These outputs are crucial for informing policy decisions and guiding future research and innovation efforts. The Lisbon Future Dialogue 2025 further exemplifies this commitment, bringing together leaders to accelerate energy transition.[18]

[18] sciencedirect.com – Constructive dialogues

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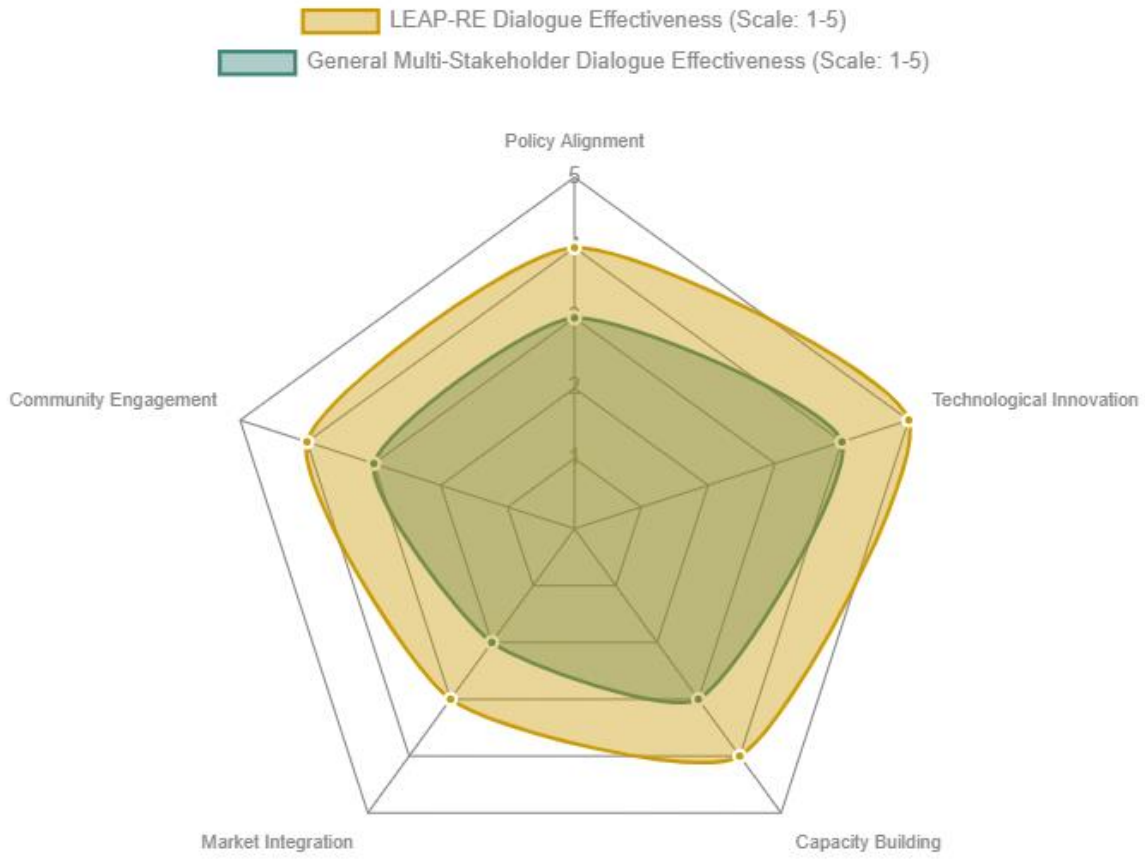

Figure 4. Perceived effectiveness of LEAP-RE dialogues across several key dimensions

This radar chart illustrates the perceived effectiveness of LEAP-RE dialogues across several key dimensions, compared to a general multi-stakeholder dialogue. It highlights LEAP-RE's strengths in fostering technological innovation and capacity building, suggesting a strong focus on practical implementation and knowledge transfer.

Examples of harmonized policy recommendations feeding into AU-EU collaboration frameworks

One of the primary goals of these dialogues is to translate discussions into concrete, harmonized policy recommendations. For instance, the collaboration has led to joint funding calls for research projects focused on renewable energy, directly aligning with the AU-EU Research and Innovation Partnership on Climate Change and Sustainable Energy (CCSE) roadmap. These recommendations aim to streamline regulatory frameworks, promote cross-border energy trade, and encourage investments in renewable energy infrastructure, fostering a unified approach to energy transition across both continents. Efforts also focus on standardizing data handling and ensuring non-discriminatory access to consumer data to facilitate market development.

Case study: Botswana energy resilience challenges demonstrating dialogue efficacy

Botswana, a landlocked Southern African nation, presents a compelling case study for the efficacy of multi-stakeholder dialogues in addressing energy resilience challenges. Historically reliant on coal-generated electricity, Botswana faces significant hurdles in transitioning to renewable energy sources, including technical, economic, and social barriers. The country has experienced severe electricity shortages, underscoring the urgent need for a diversified and resilient energy mix.[19]

Understanding Botswana's energy crisis highlights the critical need for effective energy transition strategies.

Through dialogues involving government bodies, energy providers, researchers, and international partners, Botswana is actively exploring solutions. Examples include the development of a $78 million solar plant, the adoption of off-grid solar-powered water pump systems for agriculture, and initiatives to increase renewable energy capacity through independent power producers. These efforts demonstrate how collaborative discussions can lead to tangible projects and policy adjustments that build energy resilience. The focus is on leveraging Botswana's vast solar potential, as highlighted in various studies, to reduce dependence on fossil fuels and achieve greater energy self-reliance.[20]

Botswana's renewable energy capacity has seen growth, indicating progress in its energy transition.

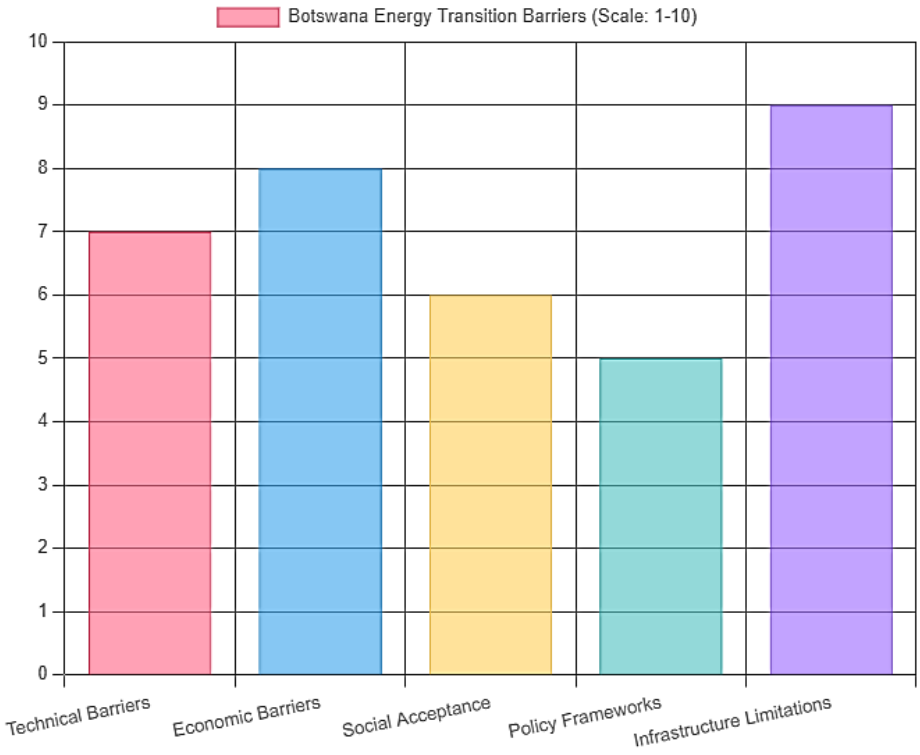

Figure 5.Botswana's energy transition challenges

[19] researchgate.net – Barriers to energy transition: Botswana
[20] energycentral.com – Botswana $78M solar plant

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This bar chart provides an assessment of the various barriers Botswana faces in its energy transition, rated on a scale of 1 to 10. It highlights that infrastructure limitations and economic barriers are significant challenges, aligning with the country's past reliance on traditional energy sources and the need for substantial investment in renewable infrastructure.

3. 3. Collaborative Development of Joint Positions

3.1. Rationale for Joint Positions

Joint positions provide a powerful framework to coordinate diverse stakeholder perspectives and ensure that renewable energy policy and funding priorities are shaped by unified, evidence-based advocacy. Fragmented efforts and conflicting agendas risk slowing progress, while a collective approach strengthens the influence of African and European stakeholders in policy dialogues. By synthesizing scientific research, socio-economic analyses, and practical experience, joint advocacy ensures that recommendations resonate with policymakers, investors, and communities alike[21].

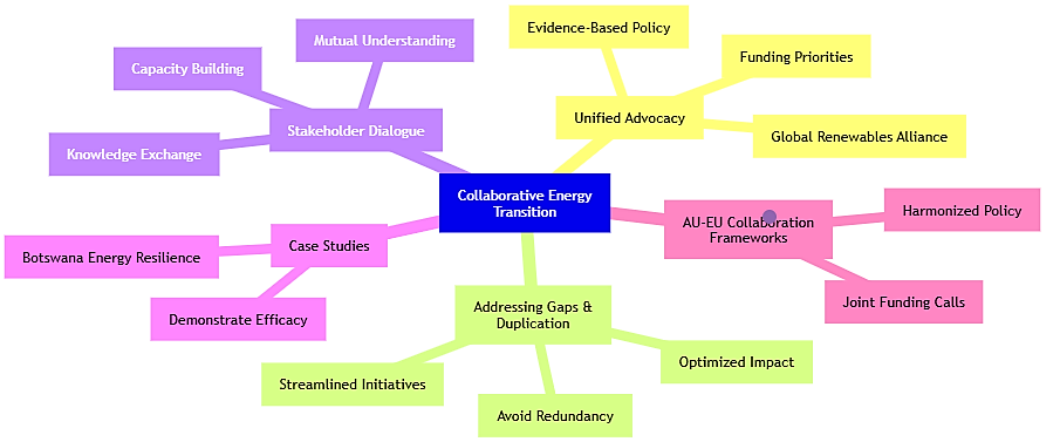

Figure 6.Interconnected elements of collaborative energy transition

This mindmap visually represents the interconnected elements of collaborative energy transition. It emphasizes that unified advocacy, achieved through stakeholder dialogues and learning from case studies like Botswana, feeds into frameworks such as the AU-EU collaboration, all while addressing gaps and duplications for optimized impact.

Equally important, joint positions help address gaps and reduce duplication across existing initiatives. Without coordination, resources can be wasted and inconsistencies in policy may emerge. Through shared consultation, joint drafting, and systematic knowledge management, stakeholders can identify complementarities, leverage best practices, and optimize the collective impact of renewable energy investments. This collaborative method ensures that funding and actions yield the greatest possible societal, economic, and environmental benefits[22].

[21] seia.org – Renewable and Clean Energy Industries
[22] eur-lex.europa.eu – Internal energy market regulation

This project has received funding from the European Union's Horizon 2020 Research and Innovation Program under Grant Agreement 963530.

Table 2. Comparison of Collaborative Approaches in Renewable Energy

Aspect	Traditional Siloed Approach	Collaborative Joint Approach
Policy Development	Fragmented, potentially conflicting national policies.	Harmonized, mutually reinforcing policies at regional/international levels.
Resource Allocation	Duplication of efforts, inefficient use of funding.	Optimized resource deployment, targeted investments.
Knowledge Sharing	Limited exchange, missed opportunities for learning.	Systematic sharing of best practices, rapid innovation dissemination.
Advocacy Impact	Weak, inconsistent lobbying for renewable energy.	Strong, unified voice influencing global energy agenda.
Problem Solving	Isolated solutions for complex, interconnected problems.	Integrated, holistic solutions addressing root causes.

This table illustrates the stark contrast between traditional, siloed approaches to renewable energy development and the more effective collaborative joint approach. It highlights how collaboration leads to harmonized policies, optimized resource allocation, and a stronger advocacy voice, ultimately accelerating the energy transition.

3.2. Process of Building Joint Positions

The process of developing joint positions within LEAP-RE is designed to be inclusive, transparent, and collaborative, ensuring that the diverse perspectives of African and European stakeholders are effectively integrated.

First, inclusive stakeholder consultations are conducted through structured dialogue platforms. Forums, roundtables, and workshops bring together representatives from quadriple helix, creating opportunities to exchange perspectives, identify shared priorities, and address potential divergences. These consultations provide the foundation for consensus-building and ensure that outcomes reflect a broad base of legitimacy.

Second, the process advances through collaborative drafting and validation of position papers and policy briefs. Drafts are prepared jointly by stakeholders and experts, circulated for feedback, and refined through iterative review. Validation mechanisms — including peer review, stakeholder endorsement, and alignment with governance structures — guarantee that the final outputs are robust, credible, and reflective of shared commitments.

Finally, knowledge management systems are leveraged to store, update, and disseminate these joint outputs. Centralized platforms ensure that documents remain accessible, current, and widely shared across the LEAP-RE community and beyond. This approach not only reduces duplication but also supports continuous improvement by integrating new evidence and stakeholder feedback into evolving joint positions.

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Figure 7. Interconnected components of LEAP-RE's knowledge ecosystem.

3.3. Highlight key thematic joint positions developed within LEAP-RE scope

Within its broad scope, LEAP-RE has developed several key thematic joint positions, driven by the shared research and innovation priorities identified through its collaborative framework. While specific project deliverables will detail these comprehensively, general areas of focus include:

Solar Energy Technologies: Joint positions on advancing photovoltaic and concentrated solar power technologies, focusing on their application, affordability, and integration into existing grids in diverse African contexts.

Wind Energy Solutions: Collaborative stances on optimizing wind energy generation, including offshore and onshore developments, and addressing grid stability and storage challenges.

Geothermal Energy Exploration and Development: Agreed-upon strategies for exploring and harnessing geothermal potential, particularly in East Africa, and developing sustainable exploitation methods.

Biomass and Bioenergy Solutions: Joint approaches to sustainable biomass production and conversion technologies, considering local resources and socio-economic impacts.

Energy Storage and Grid Integration: Shared perspectives on developing advanced energy storage solutions (e.g., batteries, hydrogen) and smart grid technologies to enhance the reliability and resilience of renewable energy systems.

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Socio-Economic Aspects of Renewable Energy: Joint research priorities on the societal and economic benefits of renewable energy deployment, including job creation, local content development, and energy access for underserved communities.

Policy and Regulatory Frameworks: Common understanding and recommendations for harmonizing policies and regulations that incentivize renewable energy investments and foster cross-border energy trade.

These thematic positions are shaped by the Multi-Annual Roadmaps (MARs) developed in PRE-LEAP-RE, demonstrating continuity and strategic alignment across different phases of the partnership. The large-scale consortium, comprising 96 partners from 34 countries, ensures that these thematic areas cover a broad range of geographical and technical expertise.[23]

To illustrate the perceived emphasis and collaborative strength across different thematic areas within LEAP-RE's joint positions, we can consider a radar chart. This chart represents an opinion-based assessment of the current maturity and collaborative focus within the initiative, with a scale from 1 (developing) to 5 (highly mature and collaborative).[24]

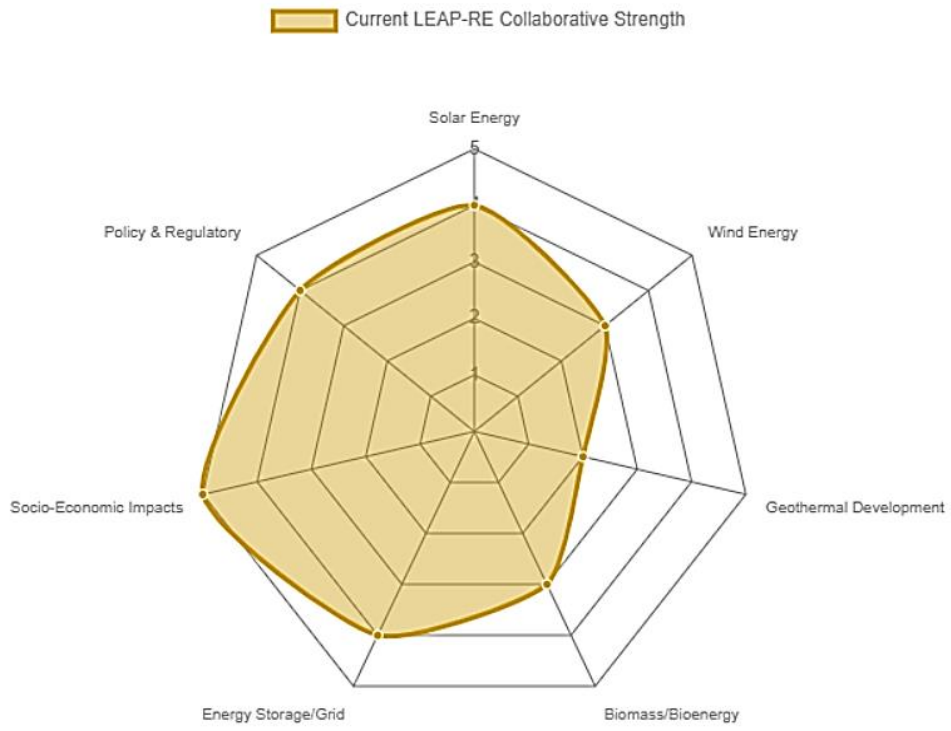

Figure 8. Perceived collaborative strength across different thematic areas within LEAP-RE

4. Empowerment for Research Uptake

LEAP-RE places empowerment at the core of its strategy to ensure that research outputs translate into tangible societal benefits. Empowerment goes beyond dissemination: it builds

[23] ieabioenergy.com – LEAP-RE
[24] roux.northeastern.edu – Analytical LEAP Framework

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capacities, fosters innovation ecosystems, and equips stakeholders across Africa and Europe with actionable knowledge to accelerate the renewable energy transition

4.1. Strategy and Objectives for Empowerment

The overarching strategy for empowerment is to cultivate an environment where LEAP-RE research outputs are readily accessible, understandable, and actionable for all relevant stakeholders within the quadruple helix. The key objectives include:

Targeted Capacity Building of Decision-Makers: This objective focuses on equipping policymakers, industry leaders, and community representatives with the necessary knowledge and tools to integrate LEAP-RE research into their decision-making processes. It moves beyond simple dissemination to active engagement and skill transfer.[25]

Leveraging Existing Networks in European and African Universities, R&I Labs, and Knowledge Hubs: This objective emphasizes the strategic utilization of established academic, research, and innovation networks. By tapping into these existing infrastructures, LEAP-RE can enhance the reach and credibility of its research findings, fostering broader collaboration and knowledge exchange.

Figure 9. Representatives from Makerere University and CIVIS alliance emphasizing the strong European-African collaboration [26]

4.2. Implementation of Empowerment Actions

Implementation is anchored in innovative and inclusive actions that foster adoption and scale-up of renewable energy solutions. Key mechanisms include:

Tailored recommendations for diverse stakeholder groups within the quadruple helix, ensuring relevance and applicability.

[25] https://www.ieabioenergy.com/wp-content/uploads/2023/05/WS29_01-05_LEVEQUE.pdf?utm_source=chatgpt.com
[26] https://civis.eu/ - CIVIS completes visiting tour to strategic partner universities in Africa

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New engagement formats, such as digital training modules, webinats, interactive policy dialogues, and workshops that promote accessibility and inclusivity.

Supportive ecosystems, including hubs and accelerators, which provide technical assistance, entrepreneurial support, and enabling environments for innovation.

These measures ensure that knowledge moves seamlessly from research outputs to practical applications, empowering stakeholders to act effectively and sustainably.

LEAP-RE integrates robust monitoring and evaluation (M&E) frameworks to measure the real-world impact of its empowerment initiatives.

Performance indicators track uptake, capacity improvements, and tangible outcomes at local, national, and continental levels.

Feedback mechanisms from stakeholders provide continuous insights into evolving needs, ensuring that strategies remain relevant and effective.

Adaptive learning cycles embed flexibility, allowing approaches to be refined based on lessons learned, best practices, and emerging opportunities.

This iterative process guarantees continuous improvement and maximizes the long-term sustainability of empowerment actions.

Table 3. Contribution of different data types to project performance analysis

Aspect of Evaluation	Quantitative Data Examples	Qualitative Data Examples	Contribution to LEAP-RE
Performance Indicators	Number of participants trained, energy generated (kWh), reduction in CO2 emissions, number of joint publications.	Feedback on training quality, testimonials from empowered communities, case studies of successful technology adoption, observations of behavioral change.	Measures direct outcomes and impacts, providing concrete evidence of progress and areas for improvement in empowerment activities.
Feedback Mechanisms	Survey scores (e.g., satisfaction ratings), number of feedback submissions, response rates.	Detailed suggestions from stakeholders, narratives of challenges faced, insights into perceived value of the program, ideas for new initiatives.	Ensures that the program is adaptive and responsive to stakeholder needs, fostering trust and co-creation of solutions.
Knowledge Management	Website traffic, number of document downloads, frequency of platform usage, number of peer-to-peer exchanges.	User experience feedback on the online platform, effectiveness of knowledge transfer, identified gaps in knowledge, quality of collaborative outputs.	Facilitates efficient knowledge flow, promotes learning, and strengthens the overall research and innovation ecosystem within LEAP-RE.

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Community Growth	Number of new institutional partners, attendance at stakeholder forums, increase in social media engagement.	Reasons for new partner engagement, perceptions of LEAP-RE's value proposition, narratives of successful collaborations, qualitative assessment of network strength.	Informs strategies for outreach and engagement, identifies key influencers, and strengthens the collaborative foundation of the program.

This integrated approach allows LEAP-RE to gain a holistic understanding of its progress, identify areas requiring adjustment, and effectively communicate its value to a diverse range of stakeholders. The combination of objective metrics and rich narrative insights ensures that both the "what" and the "why" of the program's impact are fully understood.

5. Challenges, Lessons Learned, and Recommendations

Barriers to Multi-Level Dialogue and Stakeholder Coordination

Despite the inherent value of multi-stakeholder dialogues, several barriers often impede their effectiveness. In the context of LEAP-RE, these challenges are amplified by the geographical expanse and diverse socio-economic contexts of Africa and Europe. Key barriers include:

Geographic Distance and Time Zones: Coordinating meetings and fostering real-time collaboration across continents can be logistically challenging, leading to reduced participation or fragmented discussions.

Cultural and Linguistic Differences: Variations in communication styles, cultural norms, and language can lead to misunderstandings and hinder the free flow of ideas. While LEAP-RE aims for a unified approach, acknowledging and addressing these differences is vital.

Varying Priorities and Interests: Stakeholders from different sectors (e.g., academia, private sector, government, civil society) often have divergent objectives and interests, making consensus-building a complex process. For instance, the private sector may prioritize profitability, while civil society focuses on social equity.

Power Imbalances: Unequal distribution of power and resources among stakeholders can suppress the voices of marginalized groups, leading to less inclusive and less representative outcomes.

Lack of Standardized Communication Protocols: The absence of clear guidelines for information sharing and feedback mechanisms can lead to communication breakdowns and inefficiency.

Data Accessibility and Transparency: Scientists often face difficulties accessing comprehensive and open data, which is crucial for global research efforts, especially in climate science. This can impede effective international collaboration.

Addressing Geographic, Financial, and Technological Constraints

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Overcoming these barriers requires targeted strategies. The LEAP-RE program has identified several approaches:

Leveraging Digital Tools: Utilizing online platforms for virtual meetings, collaborative document sharing, and knowledge repositories can mitigate geographic distances. However, reliable internet access remains a challenge in some regions.

LEAP-SE Mechanisms: Designing funding models that account for diverse operational capacities and administrative requirements of partners from different regions is crucial. Co-funding mechanisms, as established by LEAP-RE, help in this regard.

Capacity Building: Investing in training and skill development, particularly for researchers in developing regions, ensures that local solutions are informed by global expertise. This also addresses technological disparities.

Promoting Local Governance: Empowering local governments to drive sustainable energy initiatives and integrate renewable energy into climate resilience strategies fosters ownership and ensures solutions are aligned with local realities.

Adopting Hybrid Formats: For major forums, a hybrid format (in-person and online) can maximize participation, allowing stakeholders to engage regardless of their physical location or logistical constraints.

Recommendations for Enhancing Inclusiveness and Effectiveness of Future Dialogues

Building on the lessons learned, the following recommendations are put forth to enhance future LEAP-RE dialogues:

Develop a Comprehensive Communication Strategy: This should include formalized communication channels, clear roles and responsibilities for information dissemination, and a feedback loop mechanism. The strategy should also consider tailoring communication to individual audiences and encouraging funding recipients to share LEAP messaging.

Invest in Language and Cultural Mediation: Providing translation services and cultural sensitivity training for participants can foster a more inclusive environment and prevent misinterpretations.

Implement Participatory Decision-Making Processes: Ensure all stakeholders, especially those from underrepresented groups, have a meaningful voice in shaping outcomes. This could involve co-creation workshops and diverse working groups.

Establish a Centralized Knowledge Management Platform: A robust platform, like the proposed AU-EU Knowledge Management and Communication Framework (KMCF), is essential for effective and efficient exchange of knowledge, research findings, and best practices.

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Prioritize Open Data Policies: Advocate for and implement policies that promote transparent and publicly accessible data, facilitating more effective international collaboration and research.

Regularly Assess and Adapt: Continuously evaluate the effectiveness of engagement strategies and adapt them based on feedback and evolving needs of the stakeholders.

Best Practices Identified for Scaling Impact

Scaling impact within the LEAP-RE context involves not just expanding the reach of renewable energy technologies but also deepening their positive social and economic effects. Several best practices have emerged:

Integrated Technological Solutions: Designing business models that allow for the implementation of integrated technological solutions, particularly in rural areas, based on renewable energy. This includes considering off-grid solutions like solar home systems for isolated households.

Focus on Small-Scale Farmers: Prioritizing boosting small-scale farmers' productivity and incomes in agricultural production, which can be significantly enhanced through renewable energy applications.

Co-Creation and Co-Funding: The bi-continental co-funding mechanism is a prime example of scaling what works by fostering collaboration and shared investment in research and innovation.

Community Engagement: Ensuring participatory approaches where local communities are involved in the design, implementation, and management of renewable energy projects.

Science Diplomacy: Leveraging initiatives like LEAP-RE as platforms for science diplomacy, aligning renewable energy initiatives with climate goals through collaboration between researchers, governments, and innovation agencies.

Transparent Impact Reporting: As exemplified by B Corporations, regularly reporting on impacts beyond profit, demonstrating commitment to all stakeholders and holding organizations accountable for their social and environmental impact.

The LEAP method itself—Listen, Empathize, Agree, Partner—provides a powerful framework for fostering effective communication and collaboration, not only in personal relationships but also within multi-stakeholder dialogues. This approach emphasizes building trust and finding common ground, which are crucial for scaling impact.

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6. Conclusion

The LEAP-RE initiative serves as a powerful illustration of the complexities and immense potential of multi-stakeholder partnerships in addressing global challenges. While inherent barriers related to geography, culture, and diverse interests pose significant hurdles to effective dialogue and coordination, the program has demonstrated resilience and adaptability. By strategically leveraging digital tools, embracing flexible funding mechanisms, and prioritizing capacity building, LEAP-RE is actively working to overcome these constraints.

The lessons learned from LEAP-RE emphasize the critical need for a well-defined communication strategy, robust knowledge management infrastructure, and a commitment to inclusive, participatory processes. The "quadruple helix" model, integrating academia, industry, government, and civil society, is foundational to its success, ensuring solutions are holistic and sustainable. Furthermore, the focus on "scaling what works" through co-creation and transparent impact reporting provides a blueprint for future initiatives. As LEAP-RE moves forward, continuous assessment and adaptation of its engagement strategies will be paramount to its long-term success in fostering renewable energy solutions across Africa and Europe.

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