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Economic and Social Commission for Western Asia (ESCWA)

Report

Workshop on "Transitions to Renewable Energy and Sustainable Prosperity in Lebanon: The Role of Municipalities, Education and Future Scenarios for 2030"

UN House, Beirut, Lebanon 23 September 2019

Summary

The UN Economic and Social Commission for Western Asia (ESCWA), in partnership with the Institute for Global Prosperity (IGP), University College London, RELIEF Centre, and Chatham House, organized a workshop at the UN House in Beirut, Lebanon on 23 September 2019 titled "Transitions to Renewable Energy and Sustainable Prosperity in Lebanon: The role of municipalities, education and future scenarios for 2030". The main objective of the workshop was to discuss how alternatives and equitable energy supply systems can be built with a focus on the role of municipalities, educational initiatives, and future scenarios for 2030 for Lebanon.

The meeting allowed the sharing of international and local experiences and initiatives from various perspectives: municipalities, government, civil society, academia, and financial institutions which helped shape up the role that all the involved stakeholders can further play to improve Lebanon's transition to renewable energy and sustainable prosperity.

The meeting concluded with a series of recommendations that address awareness raising, capacity building, educational reforms, financial and policy instruments, and improved communication and knowledge sharing.

Contents

I. Introduction

1. The UN Economic and Social Commission for Western Asia (ESCWA), in partnership with the Institute for Global Prosperity (IGP), University College London, RELIEF Centre, and Chatham House, organized a workshop at the UN House in Beirut, Lebanon on 23 September 2019 titled "Transitions to Renewable Energy and Sustainable Prosperity in Lebanon: The Role of Municipalities, Education, and Future Scenarios for 2030 for Lebanon".

2. The main objective of the workshop was to discuss how alternatives and equitable energy supply systems can be built with a focus on the role of municipalities, educational initiatives, and future scenarios for 2030 for Lebanon.

3. The workshop was attended by 33 participants representing strategic planners, scholars, and energy practitioners as well as local and international gender experts, NGOs, government ministries and entities, UN organizations, research institutions, and academia.

4. The workshop consisted of five sessions. Section II of this report summarizes the workshop's findings and recommendations while Section III provides a summary of the presentations and the main topics of discussions held during each session. Section IV reviews the organization of work, including information regarding the workshop agenda, participants, and a summary of the participants' evaluation outcome. The full documentation of the workshop is available at the following address:

https://www.unescwa.org/events/transitions-renewable-energy-and-sustainable-prosperity-lebanon-role-municipalities-education

II. RECOMMENDATIONS

5. This workshop concluded with the following findings and recommendations:

a) Organizing regional workshops on renewable energy (RE) and energy efficiency (EE) directed at municipalities, unions of municipalities, and local NGOs so that they can learn and work together on educating their citizens about the various aspects - including technical ones - and benefits of RE and EE.

b) Improving and enhancing RELIEF's Massive Online Open Courses (MOOCs) by making them more interactive, by incentivizing them via certification and/or institutional partnership, by involving the municipalities, and by establishing centers of excellence at universities and/or schools to promote and facilitate RE research and training.

c) Addressing vocational training weaknesses in Lebanon by adapting the curricula to the job's requirements; ensuring RE is integrated into educational programs in all educational institutions; introducing the concepts of feasibility studies and return on investment to vocational schools' students; and raising awareness through public campaigns on the benefits of MOOCs as effective professional development tools.

d) Developing financial and policy instruments to overcome financial barriers facing RE such as tax discounts, tax exemptions, dedicated energy public funds to partially subsidize RE projects, and financial and regulatory arrangements to facilitate the access of RE electricity to the grid and to empower municipalities as stakeholders in RE projects.

e) Emphasizing the importance of increased government involvement, data transparency, and communication between different ministries, institutions, stakeholders, and civil society in the energy sector to issue new laws, decrees, and regulations that are supportive to the transition to RE and EE.

f) Mainstreaming climate change information to the masses through journalists and the media to promote Lebanon's future in sustainability.

g) Developing research methods and organizing a workshop targeting public engagement on RE issues to properly convey RE knowledge to the public and decision makers.

III. MAIN TOPICS OF DISCUSSIONS

6. Presentations and discussions are summarized in the following sections which are organized according to the substantive sessions of the workshop.

A. INTEGRATING RENEWABLE ENERGY TECHNOLOGY AT THE MICROSCALE LEVEL IN URBAN AND RURAL SETTINGS, AND MEASURING ITS IMPACT ON COMMUNITIES AFFECTED BY MASS DISPLACEMENT

7. The session opened with an introduction by UCL highlighting the importance of rethinking how we use energy, how we can improve the integration of RE into current systems, and how we can fit the historic legacy of energy supply and demand with future scenarios.

8. An intervention by UNDP then discussed its work done under the Lebanon Crisis Response Plan (LCRP) which is an important document to identify the needs of stakeholders to counter the Syrian crisis and to put down a list of important actions to be implemented. UNDP was successful in introducing and providing decentralized RE systems (solar home systems) to communities and households in the identified 251 most vulnerable areas under the LCRP. These technologies proved very valuable when considering the social safety net in such areas with no access to backup diesel power. Other UNDP activities related to pilot projects, resource mapping, and policy lobbying and support were also mentioned.

9. An intervention by ESCWA recognized the importance of having well-developed small-scale RE application business models that are linked to the available technologies and that target the productive sectors which can be achieved by applying an integrated approach while leaving no one behind. Given the lack of good governance, stakeholder engagement and empowering municipalities were also presented as crucial measures to ensure the sustainability of any renewable intervention in rural areas. Afterwards, the Regional Initiative for Promoting Small-Scale Renewable Energy Applications in Rural Areas of the Arab Region "REGEND" Project, which is funded by the Swedish International Development Agency (Sida) and being implemented by ESCWA in Lebanon, Jordan, and Tunisia, was presented along with its objectives and five pillars.

10. An intervention by the Lebanese Center for Energy Conservation (LCEC) provided a brief introduction about the centre and its work and presented the progressing macro level projects and national commitments for RE uptake and integration. The different financing facilities for RE and energy efficiency (EE) were also mentioned along with the fact that all the sectors in Lebanon are tapping into them. The challenge that remains is how to direct local rural communities to make use of these facilities and funds and the proposed solutions are to establish a continuous capacity-building process and to create synergies with the current legal barriers to see how municipalities can have a leading role in RE and EE uptake.

11. Ensuing discussions revolved around the opportunity for the population to take part in the transition to RE. It was mentioned that a new draft law has been prepared to empower prosumers to generate electricity from RE sources and inject it into the grid. For municipalities, the situation is different and complicated due to regulatory and constitutional barriers, but a suggested solution brought forward calls for a tri-partite agreement between the utility, the municipalities, and the private sector where the latter will install RE systems for municipalities and act as the intermediary between the utility/grid and the municipalities. Feed-in-tariff were also discussed, but the availability of cross-subsidy hinders their application in Lebanon.

B. ENERGY EQUITY, JUSTICE AND THE PROVISION OF MODERN ENERGY SERVICES TO VULNERABLE POPULATIONS: THE PERSPECTIVE OF MUNICIPALITIES

12. A presentation by the Municipality of Akkar El Atika, Akkar, Lebanon provided an overview about the village, its population, and active cooperatives. The village's natural resources were also discussed with a focus on the potential for hydroelectricity, wind energy, solar energy. The partnership with the REGEND project was also mentioned and which will consist of RE pilot projects, supply of equipment for productive activities, and capacity-building initiatives. Finally, the role of municipalities in the transition to RE was highlighted in terms of governance, awareness raising, and resource mobilization.

13. An intervention by the Municipality of Chaqdouf, Akkar, Lebanon, provided an overview about the village, its population, and active organizations along with the various activities conducted to promote handicraft and sewing work in the village; especially among women. The village's "Live Akkar" organization also took part in retrofitting old streetlights with new energy efficient lights and it plans on organizing awareness-raising seminars for its residents on the benefits of RE and EE and how to access financing for such projects. The partnership with the REGEND project was also mentioned and will consist of RE pilot projects, supply of equipment for productive activities, and capacity-building initiatives.

14. A presentation by Akkar Network for Development introduced the Governorate of Akkar and the various problems it is facing ranging from poverty, low economic development, to high refugee density. However, with three wind farms in the pipeline for Akkar, the governorate is poised to benefit from much-needed job creation and economic development as a result. The real impact of these developments was shown to be crucial to the population of Akkar; particularly for the employable youth and women.

15. The participants discussed and agreed that for large-scale RE projects, both the government and the developers share the responsibility of ensuring adequate communication is maintained with the citizens to keep them informed about the projects and the impact they will have on their lives. The intermediary role that municipalities and NGOs can play in the communication plan was also brought up where they can team up to provide the people with the knowledge required. The discussion then addressed public participation and consultation when it comes to large-scale RE projects where it was highlighted that the translation of technical and complex information into a simple form that the citizens can understand is crucial. Emphasis was also made on having guarantees put in place to ensure transparency throughout the projects' various phases.

16. Further deliberations lead to the recommendation that municipalities require capacity building to improve their technical knowledge. Another recommendation called for the organization of regional workshops on RE directed at municipalities, unions of municipalities, and NGOs so that they can learn and work together on educating their citizens about the various aspects and benefits of RE.

C. RAISING ENERGY LITERACY

17. A presentation by RELIEF Centre addressed the role of "education for all" in the context of energy literacy and especially on understanding the ways digital technology can help identify the impacts human actions have on the environment and the ecosystem. For this purpose, RELIEF developed massive online open courses (MOOCs) which include collaborative learning and blended learning support sustained by the community and embedded in current practice. The MOOCs on RE aim to change demand preferences, advise on technologies, help with analysing cost-benefits, raise awareness, imagine a different future, and make the bridge to citizens.

18. An intervention by the Natural Resource Governance Institute presented the institute and its objective of helping people to realize the benefits of their countries' endowments of oil, gas, and minerals through technical advice, advocacy, applied research, policy analysis, and capacity development. In Lebanon, the institute is active in raising awareness and building capacities of civil societies, municipalities and government. It was stated that the institute's most efficient tools in Lebanon were found to be the workshops which enable knowledge sharing and the exchange of information and expertise which lead to the creation of knowledge hubs by the people from the region.

19. The ensuing discussions identified the barriers faced by MOOCs in Lebanon and the means to enhance them. The main barriers identified were technological ones caused by bad or intermittent internet connections, language ones since MOOCs are developed in English only and not in Arabic, and the fact that some MOOCs require advanced educational background. The means of enhancement put forward included making the MOOCs more interactive and optimizing their lengths to maintain the user's attention and interest, involving the municipalities in distributing MOOCs to children for them to understand RE's benefits, and establishing centers of excellence at universities and/or schools to promote and facilitate RE research and training.

20. Discussions also addressed the weak points of vocational training in Lebanon where technicians are not being equipped with the skills needed to perform certain job duties such as participating in the design and feasibility studies of RE projects. Furthermore, vocational schools' students are not accustomed to studying using online courses and a mindset shift is thus needed accordingly. Therefore, after lengthy deliberations, the participants agreed on the following recommendations to mitigate vocational training weaknesses in Lebanon: adapting the curricula of vocational schools to the jobs' requirements; ensuring RE is integrated into educational programs in schools, vocational schools, and universities to ensure continuity; introducing the concepts of feasibility studies and return on investment to vocational schools' students; and raising awareness through public campaigns on the benefits of MOOCs as effective professional development tools.

D. FINANCING THE RENEWABLE ENERGY TRANSITION: FINDING THE COMMUNITY AND BUSINESS ALTERNATIVES TO ACCELERATE A GREEN ENERGY TRANSITION AND EQUITABLE ENERGY SUPPLY

21. An intervention by EBRD emphasized that the RE transition in Lebanon relies on both large-scale initiatives and community-led initiatives where the support of the government is key to create an enabling regulatory framework. On the other hand, the role of financial institutions in the transition consists of providing technical support for RE tendering, providing direct financing, mobilizing additional sources of funding, and mobilizing work via local banks through new financing lines to spread out the funding over various entities.

22. An intervention by Bank Audi discussed the involvement of the Lebanese banking sector in funding the RE transition in Lebanon with the help of the Central Bank and LCEC for the past 10 years through the National Energy Efficiency and Renewable Energy Action Plan (NEEREA), the Lebanese Environmental Action Plan (LEA), and the Lebanon Environmental Pollution Abetment Project (LEPAP). Combined, these initiatives injected US$ 550 million into the Lebanese green economy.

23. An intervention by ESCWA presented major initiatives to promote RE such as clear and well-defined RE targets, guarantee of RE access to the grid, attractive tariffs for electricity generated from RE, promotion of direct and decentralized uses of RE applications for providing energy services, and financial incentives and schemes for RE projects. Policy instruments to overcome financial barriers facing RE were also suggested such as the allocation of fiscal privileges or tax credits to RE projects, the creation of dedicated energy public funds to partially subsidize RE projects, and financial and regulatory arrangements for the access of RE electricity to the grid. Finally, the role that municipalities can play in implementing innovative local fiscal policies geared towards promoting RE sources in the public-private sector and in homes was highlighted and which revolves around providing tax reductions for homes and companies generating electricity from RE.

24. The participants' discussions highlighted how important it is to have a robust legal framework when it comes to utility-scale RE projects and power purchase agreements (PPA) which will result in lower risks, lower prices, and shorter delays from the moment the call for proposals is launched until the PPAs are signed. It was mentioned that the due diligence processes the banks are going through to ensure projects are bankable based on financial, social, and environmental assessments are an immensely enriching learning experience. The NEEREA financing mechanism by the Central Bank was also discussed at length with its strengths and weaknesses and it was agreed that partnerships with international financial institutions (IFIs), who are providing local banks with credit lines, are paramount to ensure that the local banks continue participating in green funding and contributing to the RE transition. Other mechanisms to promote and incentivize investment in RE were underscored such as tax discounts and tax exemptions for RE and environmentally-friendly equipment and hybrid and electric vehicles.

25. The participants also recognized that legal barriers still represent the biggest hurdle for municipalities to partake in RE investment and promotion due to the fact that they are not constitutionally mandated to generate electricity nor able to access funding from local banks. As a result, the role that the private sector can play here by being an intermediary with the banks and the utility/grid was recognized given the attractive financial feasibility of combining solar photovoltaic systems with grid electricity and diesel generators. It was also stressed that payback from RE projects should not only be measured financially but also in terms of clean air and healthier environment.

E. A PEOPLE-CENTRED PROSPEROUS FUTURE: WHAT FUTURE SCENARIOS FOR 2030 CAN WE IMAGINE FOR LEBANON'S ENERGY SUPPLY IN THE CONTEXT OF THE CLIMATE EMERGENCY?

26. A presentation by the Ministry of Environment/UNDP introduced the main factors contributing to the need for action against climate change and its impact on various situations in present and future day. The presentation highlighted Lebanon's stand in the Paris Agreement with statistics that puts the country's carbon footprint into perspective, suggesting an urgent need for a shift to RE implementation with the necessary actions that enable such ventures. Major concerns resulting from global warming in Lebanon were also presented along with their negative economic, environmental, and social effects on the country. Solutions to solve these dilemmas were presented alongside financial and technical recommendations to facilitate the execution of RE projects in Lebanon. The challenges faced by the ministries regarding Lebanon's NDCs such as technicalities, finances, institutionalizing reporting, transparency, and mainstreaming were finally analyzed and discussed for potential solutions.

27. A presentation by the American University of Beirut called on governmental leaders and policy makers to reach Lebanon's promised goal in the Paris Agreement by implementing RE projects supported by modelled data and risk assessments to reduce the country's carbon emissions. The presentation then shifted into the technicalities of the necessary actions needed by studying three scenarios and comparing them to a 'Do Nothing' scenario. The study's results and findings were presented in detail highlighting their impacts and contributions to the country's economic and environmental well-being. Finally, the study's challenges and recommendations were discussed alongside the required governmental and municipal actions.

28. The resulting discussion focused on the effectiveness and feasibility of the presenters' approaches and solutions to the climate change scene in Lebanon where it was recommended that available land need to be utilized for utility-scale RE projects along with implementing grid extensions to achieve better interconnection with the country's grid. All participants shared a common ground and agreed that to transition to RE, efforts and progress are needed from the government's side; data transparency and communication between different ministries, institutions, stakeholders, and civil society in the energy sector is essential; and mainstreaming climate change information to the masses through journalists and the media is key for Lebanon's future in sustainability.

F. CLOSING SESSION

29. The workshop sessions were closed by Ms. Radia Sedaoui, Chief of the Energy Section, Sustainable Development Policies Division at ESCWA and Dr. Ala'a Shehabi, Deputy Director, Institute for Global Prosperity, UCL. The closing statement emphasized the fruitful discussions during the meeting and the intention to continue the coordination and collaboration between ESCWA and the Institute for Global Prosperity (IGP), University College London, RELIEF Centre, and Chatham House.

IV. ORGANIZATION OF WORK

A. DATE AND VENUE

30. The workshop was held at the UN-House, Beirut, Lebanon on 23 September 2019.

B. OPENING

31. The workshop was formally opened by Ms. Roula Majdalani, Director, Sustainable Development Policies Division, ESCWA and Dr. Ala'a Shehabi, Deputy Director, Institute for Global Prosperity, UCL.

C. PARTICIPANTS

32. The workshop was attended by 33 participants representing strategic planners, scholars, and energy practitioners as well as local and international gender experts, NGOs, government ministries and entities, UN organizations, research institutions, and academia. The list of participants is shown in Annex II.

D. AGENDA

33. Presentations and discussions were made over five sessions. The agenda of the workshop is summarized below:

a) Introductory Addresses
b) Integrating Renewable Energy Technology at the Microscale Level in Urban and Rural Settings, and Measuring its Impact on Communities Affected by Mass Displacement
c) Energy Equity, Justice and the Provision of Modern Energy Services to Vulnerable Populations: The Perspective of Municipalities
d) Raising Energy Literacy
e) Financing the Renewable Energy Transition: Finding the Community and Business Alternatives to Accelerate a Green Energy Transition and Equitable Energy Supply
f) A People-Centred Prosperous Future: What future scenarios for 2030 can we imagine for Lebanon's energy supply in the context of the climate emergency?

E. EVALUATION

34. An evaluation questionnaire was distributed to the participants to assess the relevance, effectiveness, and impact of the workshop. The feedback received from 25 respondents was positive with 100% of the respondents confirming that the overall quality of the workshop met their expectations and 92% confirming that the workshop achieved its objectives. The quality of the presentations provided, and the facilitation of the discussions were rated as good or excellent by 95% of the respondents and 76% thought that the time allocated for the workshop and each session was appropriate. A suggestion was made to involve more representatives from the central bank, the state-owned electrical utility EDL, civil society and environmental activists. Finally, 100% of the participants agreed that a community co-thinking/co-creating approach will contribute and enable the development of alternatives and equitable energy supply in the context of the REGEND project activities.

ANNEX I: AGENDA

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Economic and Social Commission for Western Asia (ESCWA)

Workshop on "Transitions to Renewable Energy and Sustainable Prosperity in Lebanon: The Role of Municipalities, Education and Future Scenarios for 2030"

ESCWA, Beirut – Lebanon, 23 September 2019

Agenda

Monday, 23 September 2019	
08:30 – 09:00	**Registration** *Sponsored participants are kindly asked to bring their passport, visa stamp and airline ticket stub to the meeting.*
09:00 – 09:30	**Introductory Addresses**
	Speakers: - Ms. Roula Majdalani, Director, Sustainable Development Policies Division, ESCWA - Dr. Ala'a Shehabi, Deputy Director, Institute for Global Prosperity, UCL
Session I	**Session 1: Integrating Renewable Energy Technology at the Microscale Level in Urban and Rural Settings, and Measuring its Impact on Communities Affected by Mass Displacement**
09:30 – 10:30	**Chair:** Professor Nick Tyler, the RELIEF Centre, Director of the UCL Centre for Transport Studies and Chadwick Professor of Civil Engineering **Speakers:** - Mr. Pierre Khoury: General Director and President of the Board, LCEC - Ms. Radia Sedaoui, Chief Energy Section, Sustainable Development Policies Division, ESCWA - Dr. Hassan Harajli, Project Manager, CEDRO Project, UNDP National energy provision systems planning assumes energy access improvement through extension of the electricity grid. However, alternative microscale technology at the household, community and municipality level mean that the transition can take place at different scales. Whilst microscale technologies are often examined in the context of rural off-grid energy systems, we would like to explore the possibilities for decentralised forms of energy in both urban and rural settings. Particular focus will be given to the impact of integrating renewable energy technology at the microscale level upon those affected by mass displacement, including those who live in informal settlements. There are many creative and informal ways that local communities and municipalities have been able to compensate for the lack of a comprehensive, consistent and reliable

	provision and storage of energy in Lebanon. They could contribute to, and make more likely, a transition to renewable energy that does not solely rely on government-level political structures, or one that adds to the resilience of centralised power. This could have significant impact on access to energy for households living in informal settlements in Lebanon in particular, which are further restricted as the Lebanese government is not responsible for their energy services (this has tended to fall to individual families and the humanitarian and development agencies working in the area). They also open up opportunities for small business job creation, social inclusion and opportunities for women's empowerment. This session will focus on micro-scale, community-led energy initiatives in Lebanon within the context of informal settlements. It asks: ➢ What is the current state of renewable energy supply in Lebanon and what options, proposed programme of work and evaluation exists within the Lebanon Crisis Response Plan 2017-2020 (LCRP) to integrate regulatory reforms and incentives for individual, community, municipal microscale tech deployment? ➢ What are the opportunities for alternative micro-scale energy technologies in Lebanon to complement the government's existing approach? How are communities innovating in different informal contexts? ➢ Where is the intersection with infrastructure (housing, health, water, sanitation for example) and energy services at the community level? Are there opportunities to provide better energy services through upgrading local infrastructure and might this be integrated with other planned or ongoing local work programmes? ➢ How can small-scale renewable energy applications support social inclusion, entrepreneur development and women empowerment? ➢ Where do technological innovations in renewable energy take place? How can we maximise their value and potential across different sectors? **Moderated discussion**
10:30 – 10:45	**Refreshments**
Session II	**Energy Equity, Justice and the Provision of Modern Energy Services to Vulnerable Populations: the Perspective of Municipalities**
10:45 – 11:45	**Chair:** Mr. Jil Amine, Sustainable Development Officer, Energy Section, Sustainable Development Policies Division, ESCWA **Speakers:** - Mr. Mohamad Khalil, Mayor of Akkar El Atika Municipality, Lebanon - Mr. Paul Saoud, Mayor Chaqdouf Municipality, Lebanon - Ms. Nadine Saba, Board President and Project Director, Akkar Network for Development (AND) Access to electricity in Lebanon through decentralised generation renewable energy systems, could have transformative impacts both in terms of directly improving the everyday lives of people at the household level and enabling them to be recognised as urban citizens through the provision of services. This applies particularly to vulnerable communities living in urban settings. This session will explore: ➢ The experience and interest of municipalities in facilitating renewable energy transitions in these areas. ➢ The key challenges faced in providing affordable, reliable and sustainable energy access to refugees and displaced people.

	➢ How community-led innovations in energy in different informal contexts are being led and supported.
Session III	**Raising Energy Literacy**
11:45 – 12:45	**Chair:** Dr. Christian Khalil, Assistant Professor, Environmental Toxicology, Lebanese American University **Speakers:** - Dr. Mazen Tabbara, Associate Professor, Civil Engineering Department, Lebanese American University - Dr. Carole Nakhle, Energy Economist, Surrey Energy Economics Centre in the UK - Ms. Rosemary Romanos, Co-Founder/CEO of SunRay Energy Energy literacy among all energy consumers is required for a better understanding of the need for sustainable energy supply, the different technologies available, and cost management. It is difficult for individual consumers to navigate the market for most of this imported technology. It is also difficult for municipalities to build cost-benefit analysis and long-term planning to implement renewable energy projects whilst navigating a difficult political and legal terrain. This session asks: ➢ What educational initiatives are required to push a shift in demand preferences at different scales? ➢ What programmes exist in schools and how might education and awareness at this level be enhanced? ➢ Are vocational training courses targeting the right skills set for future markets for energy services? What more could be done in this area? ➢ How could a course or a MOOC (Massive Open Online Course) be designed for municipalities and others to begin to build institutional capacities to manage an energy transition?
12:45 – 14:30	**Lunch**
Session IV	**Financing the Renewable Energy Transition: Finding the Community and Business Alternatives to Accelerate a Green Energy Transition and Equitable Energy Supply**
14:30 – 16:15	**Chair:** Ms. Jessica Obeid, Academy Associate, Energy, Environment and Resources Department, Chatham House **Speakers:** - Ms. Ariane Brunel, Principal Banker in Energy EMEA Team, EBRD - Mrs. Carole Ayat, Head of Energy, Audi Bank - Mr. Talal Salman, Advisor, Ministry of Finance, Lebanon - Mr. Mongi Bida, First Economic Affairs Officer, ESCWA Globally, increasing interest in the investment and development of renewable energy is bringing benefits to communities as well as private investors. There are already examples of co-owned, small-scale, locally-led renewable energy initiatives in Lebanon that engage the community in their business models. With this in mind, this session asks:

	➢ Which financial models are available to increase the uptake of new renewable energy services and technology in Lebanon? ➢ What can be done to scale up solutions and improve financing for renewable energy projects in displacement settings? ➢ Which ownership models are plausible for community renewable energy schemes in selected municipalities across Lebanon? (Hybrid models of ownership, such as partnerships between commercial developments, community organisations and local authorities will be discussed). **Moderated discussion.**
16:15 – 16:30	**Break**
Session V	**A People-Centred Prosperous Future: What future scenarios for 2030 can we imagine for Lebanon's energy supply in the context of the climate emergency?**
16:30– 17:30	**Chair:** Ms. Zeina Al Hajj, Executive Director of Greenpeace, MENA **Speakers:** - Dr. Joseph Al Assad, Advisor to the Minister of Energy and Water, Lebanon - Ms Lea Kai Aboujaoudeh, Project Manager, Climate Change Projects, Ministry of Environment, Lebanon - Mr. Marc Ayoub, Research Assistant and Policy Analyst, Issam Fares Institute for Public Policy and International Affairs, American University of Beirut The influences of climate change on general social instability are intimately and inextricably linked. These instabilities can play a part in leading to mass exodus, the consequences and management of which is complex for the populations and countries involved. Separating these influences and trying to quantify them is difficult. This is made all the more challenging by the chronic lack of data about energy use and demand in Lebanon, particularly for those in rural areas, but also for the urban poor living in rapidly urbanising areas and in informal settlements. What are the dimensions of the 2030 scenarios that look at the future relationship between climate change, energy and mass displacement? Imagining future possibilities based on the known knowns and known unknowns and working backwards can lead to effective management methods. This session asks what action we need to take, or conversations do we need to have, or data we need to collect to encourage the best possible scenario and avoid the worst scenarios imagined.
17:30 – 17:35	**Closing Remarks:** Ms. Roula Majdalani, Director, Sustainable Development Policies Division, ESCWA
17:35	**Drinks Reception**

ANNEX II: LIST OF PARTICIPANTS

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