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Hard Talks and opportunities to support renewable energy investments

Hard Talks in ECE countries on how to increase renewable energy uptake

Note by the secretariat

Summary

The Group of Experts on Renewable Energy (GERE) of the United Nations Economic Commission for Europe (ECE) is mandated to focus on activities directed toward the achievement of the energy related Sustainable Development Goal - SDG7, including substantially increasing the share of renewable energy in the global energy mix.

The ECE region has great potential for renewable energy deployment. It comprises countries with well-established renewable energy markets and infrastructure as well as those that have recently started to substantially increase the uptake of renewable energy.

ECE organizes ad hoc Renewable Energy Hard Talks in countries of the region which aim to promote a demand-driven debate on what the host country needs to change for the private sector to invest in sustainable energy. Hard Talks have been prepared in cooperation with host countries, local counterparts and other partners, e.g. European Union, USAID, the Renewable Energy Policy Network for the 21st Century (REN21) and dena (the German Energy Agency).

Hard Talks facilitate an open exchange dialogue between major players in the energy field, namely political decision makers, project developers, investors and technology providers and thus between the public and private sector. Participants can discuss key issues, identify priorities and propose concrete recommendations for policy changes needed to overcome political, legal, regulatory, technical barriers and take advantage of untapped renewable energy potential.

The Hard Talks are two-day events. During the first day, barriers that hinder the full unfolding of renewable energy potential are discussed in an expert-level workshop between energy professionals and practitioners from public and private institutions of the host country and the international donor community. During the second day, the discussion leads to practical and concrete recommendations for overcoming barriers, integrated in the Discussion Paper and directed to policy-makers. The multi-stakeholder dialogue points out priority areas to improve the investment climate in the renewable energy sector and cooperation opportunities.

I. Introduction

1. This document aims to present a succinct overview of a series of Hard Talks that have taken place as part of the ECE activities. Hard Talks promote demand-driven debates held in the focus country on what is needed to change for the private sector to invest in sustainable energy and substantially increase the uptake of renewable energy. Major players in the energy field discuss key issues, identify priorities and propose concrete recommendations for policy changes needed to overcome political, financial, legal, regulatory, technical barriers and take advantage of untapped renewable energy potential.
2. Information and data included in this report are extracted from the documentation relevant to the two-day activities, which aim to investigate barriers that hinder the full unfolding of renewable energy potential; facilitate an open exchange between political decision makers, governmental officials, project developers, investors and technology providers; and, thus, promote dialogue between the public and private sector and identify solutions to improve the investment climate in the renewable energy sector and cooperation opportunities.
3. Outcomes of Hard Talks presented in this document refer to six countries, namely Azerbaijan, Bosnia and Herzegovina, Georgia, Kazakhstan, Serbia, and Ukraine, where these discussions have taken place, between 2016-2018, while further Hard Talks are foreseen to be organised in other countries.
4. Following this short introduction, the status of renewable energy in the ECE region is presented, followed by tabulated targets which allow for a straight forward comparison. Next, barriers for sustainable energy development are presented followed by a series of future recommendations. Last, conclusions are drawn which can inform both future policy development and the direction of future Hard Talks.

II. Status of renewable energy in the focus ECE countries

5. Some countries have considerable shares of renewable energy in their total energy mix, namely Bosnia and Herzegovina (26%), Georgia (27%) and Serbia (22%), while in Ukraine, Kazakhstan and Azerbaijan, renewable energy shares are below 4%, according to the REN21 ECE Renewable Energy Status Report (see at: https://www.unece.org/fileadmin/DAM/energy/se/pp/renew/Renewable_energy_report_2017_web.pdf).
6. In Serbia, hydro energy covers 10% and firewood 12% of total energy; main component of the energy mix is lignite, covering 68% of the country's energy production, oil (9.1%) and natural gas (10%). Georgia is one of the top countries in the world in terms of water resources per capita.
7. Azerbaijan and Kazakhstan are countries rich in fossil fuel resources with important energy export activity rendering them net energy exporters. Kazakhstan is rich in coal, oil, natural gas and uranium. Coal-fired power plants account for 75% of total power generation. Although Kazakhstan has very large renewable energy potential (wind energy alone could potentially generate 10 times current country's electricity consumption), today renewable energy is just about 1% of total energy mix (3% by 2020) and less than 9% of electricity generation mix. In 2015, investments in renewable energy amounted only to USD 100 million. In Azerbaijan, crude oil and natural gas production and exports are central to the country's economy. Natural gas is responsible for 2/3 of the total domestic energy consumption, while oil supplies less than 1/3 of total energy consumption.
8. Objective of the Hard Talk taking place in Kyiv (hosted at the Ukraine's parliament) was to concretely discuss how Ukraine can reach its target to increase the share of renewables in the total energy consumption to at least 11%. Main components of the country's total primary energy supply (TPES) in 2016 were: coal (34%), followed by natural gas (27%) and nuclear (23%), while renewable energy accounted for approximately 4% (including hydro and biomass). Ukraine has large biomass heating and co-production of heat and power potential as a result of: a) the availability of district networks for heating and b) the

availability of domestic resources of biomass for fuel. The country has relied on imports from Russia and Europe for most of the domestic natural gas consumption.

9. In Bosnia and Herzegovina, TPES was dominated by coal (58.1%), followed by oil (24.4%) and hydro (7%), in 2016. Electricity generation of the country consists of 32% hydro and 68% coal, taking advantage of the coal reserves and large hydro potential, which render the country currently a net exporter of electricity. Bosnia and Herzegovina has significant untapped technical potential for installed renewable energy (namely for biomass, solar PV, wind and small-scale hydro) and is currently working to incorporate production of biomass.

III. Renewable energy targets

10. The countries' renewable energy targets in terms of final energy consumption, electricity and more specific targets allocated per technology (expressed either in percentage share or as installed capacity) as outlined in the National Renewable Energy Action Plans (NREAP) are summarised in Annex II.

IV. Barriers

11. As mentioned above, the first part of the Hard Talks comprises the identification of key barriers against promoting sustainable energy and renewable energy investments in the region. Barriers specific to each country, as raised at the respective Hard Talk, are more explicitly outlined as follows.

12. In Azerbaijan, several key market barriers were reported to impact investments in renewable energy sources. One of the main bottlenecks is the lack of a workable policy framework for renewables in the country and a unified comprehensive legal framework on renewable energy. Although the "Strategic Roadmap for Public Utilities" adopted in 2016 outlines key milestones. The lack of a comprehensive and workable support scheme (e.g. Feed-in Tariff calculation process is unclear) renders investors reluctant to invest even in potentially viable projects. Furthermore, the permitting procedure was not easily accessible to foreign investors. As far as the transmission and distribution grid is concerned, not well-regulated technical standards for connection of renewable energy impede the wider deployment of intermittent renewables. The existing Grid Code needs updating and there is lack of technical capacity from the grid operator to integrate renewable energy in cost-efficient connection terms. Finally, the bankability of renewable energy projects is currently jeopardised by high interest rates and high securities requirement from the part of local banks, but also by the fact that the Power Purchase Agreement (PPA) model currently in effect is not according to International Standards.

13. In Georgia, one of the main issues has been the lack of concrete, quantifiable and tangible targets for the integration of renewables by 2020 and beyond. Social acceptance of renewable energy is still low. Common issues with Azerbaijan are identified in Georgia in terms of lack of local technical expertise. Stakeholders indicated the lack of a comprehensive, transparent and horizontally applicable scheme to all interested investors, as projects are negotiated, and agreements are concluded on a case-by-case basis by the Ministry of Energy. The same applies to the PPA, which is not standardized but negotiated on a case-by-case basis. Furthermore, the methodology and the monitoring of tariffs calculation is not transparent and accessible to all parties. This business culture induces financial and legal risks in the final terms creating an unattractive environment to international investors. Further administration-related barriers identified include the lack of a transparent and comprehensive mapping of permits and licensing processes required before and after the implementation of the project. Access to the grid is also a barrier for Georgia as there is currently lack of pre-established technical standards for connection, lack of regulation for the access of renewable energy to the grid, other issues regarding physical access to the grid (including long waiting times) and insufficient grid capacity for distributed generation.

14. Similar barriers are identified in Kazakhstan with specific targets for renewables existing but with no yet long-term action plan on how to reach them. Electricity market structure in Kazakhstan is based on a model with high prominence of the state participation.

There is a tariff cap on conventional generation that needs to be re-examined in relation to renewable energy. The purchase of electricity relies on conditional customers. PPAs suffer from a series of bankability issues, including strict timelines to secure permits and begin construction. In terms of access to the grid, there is currently lack of specific connection standards for renewable energy in the Grid Code, which induces uncertainty both to the Transmission System Operator (TSO) and the developers. Furthermore, within the connection agreement there is no clarity on the rights and obligations of both parties, hence the allocation of responsibility for non-compliance is uncertain. A significant barrier refers to the network congestion and potential instability from the integration of large scale of renewables, as there is currently no planning for the long-term effect on the grid. The current connection system disincentivizes the grid operator to proceed with connection, as renewable energy generation is exempted from paying for grid costs. Furthermore, due to the limited experience with renewable energy financing and project finance structures, the banking sector could be unconvinced about project bankability and its long-term viability, hence remains reluctant to provide financing to large-scale renewable projects. However, Kazakhstan has awarded 857.93 MW of green power supply contracts through twenty auctions held in 2018.

15. Serbia's target is 27% of renewable energy in gross final energy consumption by 2020. No Feed-in Premium (FiP) system is in place yet, while the current Feed-in Tariff (FiT) scheme is due to expire by 2019 and the intention is to move towards an auction system to identify projects. Furthermore, grid congestion is a limiting factor for regional interconnections. Market distortions have also been identified, namely high fossil fuel subsidies creating artificially low electricity prices discouraging new wholesale market participants, while currently there is no incentive for customers to move from the dominant supplier to other smaller ones. Administrative procedures for permitting and licensing are quite lengthy despite the simplifications been made, as the process involves multiple authorities; moreover, large- and small-scale renewable energy projects follow the same administrative process despite the lower level of complexity of small projects. In Serbia, there is a relatively high level of social and political resistance towards specific renewable energy technologies, especially against small hydro projects. Added benefits from renewables are not yet understood by the public, who perceive subsidies to renewable energy as an extra burden to their electricity bills. There is currently insufficient implementation of the planning, construction, operations and maintenance processes. There are no local manufacturing firms offering relevant services, while the country lacks local technical expertise. In terms of access to finance, there is limited availability of local or international capital for green energy infrastructure as very few lenders are available, and the cost of capital remains high. Commercial banks, as opposed to developmental banks, do not have the experience or capacity to assist developers with project bankability and long-term financial sustainability. Due diligence processes for commercial banks are lengthy and there is lack of experience with small-scale and distributed projects. As in other countries examined, several issues related to the Grid Code and management exist, due to grid operators' limited experience in intermittent renewable energy and the lack of standards for the renewable energy integration to the grid.

16. The policy action in Ukraine seems to lack tangible midterm goals to achieve the set renewable energy targets. As large-scale renewable energy investments require over 10 years of payback, investors miss the market signals coming from a long-term goal beyond 2030 (sustained political commitment is needed to achieve the 11% target by 2020), which should be reaffirmed in practice by concrete policy measures, legislative actions and detailed planning. In Ukraine, investors are subject to counterparty risk given the fragile state of the country's economy, which makes it difficult for investors to find insurance against this risk type. Furthermore, international practices commonly provide guarantees with regards to the Green tariff to power generating developers during the financing stage of the project (before major investments have been made). However, according to the current legislative procedures in Ukraine, the producer is obliged to first commission the project and then sign the PPA to receive the Green tariff, increasing the investment risk of project developers. PPAs are signed every year with a state-owned company called "Energoynok". This process is not in line with international power contracts and exposes investors and financiers to additional project risks. Balancing cost according to the law on electricity market in Ukraine

shall be borne by the producers of renewable energy. Private investors have raised their concerns due to the lack of high-quality wind data (inducing revenue risks), nascent penetration of renewable energy in the market, lack of forecasting technologies as well as the lack of an established ancillary service provider and buyer of the produced electricity. Access to the grid requires a long, bureaucratic process which significantly lengthens the time needed to complete a project. Lack of a transparent and time efficient system of approvals, permits and local government engagement have also been identified as existing barriers. Ukraine's high potential in biomass heating and co-production of heat and power remains untapped due to the absence of a competitive heat market in the country. Finally, access to finance originating from Ukrainian Banks foresee high interest rates (up to 24%), which are not attractive to investors.

17. In Bosnia and Herzegovina, similar key barriers have been identified. Although a National Energy Action Plan (NEAP) exists with targets for the renewable energy share in the total final consumption by 2020, there are no fixed goals for each individual sector. There is currently lack of a day-ahead market and electricity prices are regulated by the Republic of Sprska, while there is no competitive procurement mechanism for renewable energy projects. Artificially low electricity prices induced by market distortions, namely subsidies to conventional generation technologies, have also been indicated as barriers against the attainment of renewable energy penetration targets. Additional bottlenecks include the lack of institutional coordination to efficiently and transparently administer renewable energy-related licensing and permitting procedures and the lack of public access to information and participation in decision-making procedures for legislation, plans, policies, programmes and specific activities. Although there is large, cost-competitive renewable energy potential, no measures are in place to actively exploit it, there is lack of inter-sectoral dialogue on biomass and lack of adequate potential mapping for wind and solar resources. Biomass value chain needs to be better organised. As in other countries investigated, Bosnia and Herzegovina lacks local content (domestic equipment manufacturers) and biomass technologies are relatively obsolete. Priority of connection and dispatch for renewables is not respected in practice. Furthermore, the country lacks modern efficient grid management and transmission infrastructure, resulting in difficulties to integrate intermittent RES. The Trans-European Networks - Energy (TEN-E) Regulation is not transposed, making general infrastructure development and interconnection planning difficult. Although the tariffs are publicly available, there is not a unified calculation methodology of the tariffs. As far as the financing is concerned, private capital (debt and equity) is low in the sector, resulting in lack of experience on how to manage private debt. Other barriers distinguished include the difficulty of cooperation and coordinated action between entities, the low "Ease of Doing Business" index of the country and the poor institutional capacities.

V. Recommendations

18. The second part of the Hard Talk focuses on consolidating the findings on key barriers hindering the deployment of renewable energy in the host country and on identifying solutions to improve the investment climate through policy recommendations.

19. Key outcomes of the Hard Talks in Baku, Azerbaijan are listed here. One of the recommendations discussed was the development of a study on renewable energy options to meet targets considering the advantageous synergies between natural gas and renewables. This study shall inform mid- and long-term targets included in the NREAP, demonstrating a clear vision regarding the involvement of the private sector. The new Action Plan should be included in the updated "State Program on the use of alternative and renewable energy in Republic of Azerbaijan".

20. Accordingly, a comprehensive, unified legal instrument that clearly regulates renewables should be developed to incorporate current best practices adapted to the context of Azerbaijan. Stability and transparency of the investment environment (including support measures, connection terms, etc.) and its uniform application to all interested parties is of vital importance for enhancing the confidence of investors.

21. A “special fund for renewable energy” (funded with additional export revenues of natural gas saved using renewable energy) should be established to support payments to renewable energy producers. This should be done by considering international best practice with national regulators and examining the option of introducing an Independent Regulatory Authority. Other uses of renewable energy for example in transport, heating and off-grid solutions for remote areas should also be considered together with the energy efficiency and environmental impact nexus.
22. Renewable energy tariffs should consider global return on investment for similar projects incorporating the specificities of the Azerbaijani economy. Donor-funded technical assistance for the development of a computation methodology of the tariffs should be requested, and a concise guide describing the project development process would provide a more accessible environment to foreign investors.
23. An updated Grid Code should be introduced with the support of donors. Furthermore, data on connection points and available capacities should be provided to interested parties and technical standards including the type of connection method for the integration of intermittent RES into the grid should be clearly defined.
24. Towards the same direction, grid expansion should take place where renewable resources (e.g. wind) are available to allow integration of distributed generation from renewable energy. Education programs providing knowledge validation and certification should be adopted. As far as the access to finance is concerned, capacity-building active local banks should be realised to allow funding for renewable energy projects. Standard template of PPA accommodating specific requirements of different renewable energy technologies should also be adopted.
25. In Kazakhstan, a set of priority actions were proposed to further foster the development of renewable energy in the country. To begin with, the existing energy strategy should be further developed to be aligned with climate objectives and should link other sectors such as water and agriculture. Furthermore, ensuring the independence of a regulatory body in charge of market operation, tariffs, licenses, service quality and competition could further support renewable energy investment. A separate agency for renewable energy deployment dedicated to the monitoring, enforcement and evaluation should also be introduced.
26. Market distortions induced by subsidies for conventional generation technologies should be removed to reflect the true cost of energy of the technologies. Furthermore, adopting a new PPA template with more realistic timeframes for beginning of construction, bank step-in rights, arbitration, compensation for early termination and take-or-pay rules, among others, could enhance market access and PPA bankability.
27. Labour- and time-intensive permits and authorisations could be simplified by the introduction of a “one-stop shop”.
28. Assessment of resource potential could be realized through the preparation and online publication of relevant data on a locational basis namely an atlas of renewable energy potential. Investments in grid infrastructure should be transparent and fair based on international standards. To this end, transmission system tolerances and ability to integrate renewable energy should be investigated and planned for the long term, considering renewable energy proliferation and regional interconnections. Grid expansion costs should be allocated according to the “beneficiary pays” principle.
29. Access to finance could be enhanced through capacity building in the banking sector on appropriate lifecycle financial modelling for renewable energy projects. Banks should develop products to hedge against political and currency fluctuation risks, while governments should formulate clear, transparent, legal and regulatory frameworks on investments and provide incentives to attract foreign investments.
30. Experts participating in the Hard Talk held in Serbia concluded to several key country-specific policy recommendations.

The review and active monitoring of the progress of renewable energy targets should be carried out. NREAP needs to be revised with long term, ambitious and inter-sectoral targets beyond 2020, along with the adoption of roadmaps on how to achieve these targets.

31. Policy support for renewables should be introduced based on latest EU guidelines, including policies for other renewable energy sectors such as transport, heating and distributed small-scale net-metering projects.

32. A market-based support scheme (FiP/CfD) with transparent and fair auction rules should be introduced. As in the case of Kazakhstan and Azerbaijan, PPA duration and bankable provisions should be reviewed and revised according to international standards and access to the balancing markets should be facilitated. Regional trading through interconnections should be enhanced and TSO/DSO (Distribution System Operators) unbundling concerns should be addressed.

33. As in Kazakhstan's case, fuel subsidies should be abolished, while regulatory oversight of market activities and participants on the relation between operational expenses and wholesale price should be introduced. Market rules that help reveal and properly allocate costs according to the "beneficiary pays" principle should also be established along with a transparent pricing structure.

34. Administrative burden could be addressed by establishing a "one-stop-shop" where are all the permits and authorizations can take place, the introduction of an electronic permitting process and the simplification of the permitting processes for small-scale projects.

35. Recommendations regarding the preparation and publication of renewable energy potential assessment maps on the locational basis are also applicable in the context of Serbia. To further tap into the biomass potential of the country, the value chain of the technology should be explored, and inter-sectoral linkages need to be better understood.

36. Similar recommendations were provided with regards to the streamlining of the Grid Code, the connection processes with renewable energy and expansion of grid infrastructure. Further to already mentioned recommendations, the introduction and enforcement of priority connection and dispatch rules for renewable energy should be enforced.

37. As far the financing sector is concerned, international cooperation with investors to attract foreign capital, manufacturers to participate in project development as equity holders and assume part of the financing risk and the participation of developmental banks shall increase renewable energy access to finance. Relevant capacity building activities to the banking sector and adjustment of financing terms for small scale projects were also applicable recommendations for Serbia.

38. In the case of Ukraine, outcomes of the discussions concluded to the following key recommendations. The lack of tangible mid-term goals in the Ukrainian policy framework should be addressed by the development of sector-specific roadmaps covering power generation, heating (including co-production of heat and power) and biofuels for transportation. Roadmaps should focus on the:

- (a) Assessment/development of future pathways/scenarios per sector and monitoring procedures;
- (b) Prioritisation of areas/projects;
- (c) Assessment of economic and strategic implications per pathway;
- (d) Identification of appropriate regulatory changes to implement pathways;
- (e) Assessment of funding/investment opportunities for implementing projects;
- (f) Identification and assignment of national & local roles and responsibilities per sector.

39. Lack of a competitive heat market in Ukraine is one of the major barriers against introduction of biomass in the heating sector. Overcoming this barrier would necessitate the diversification of the Ukrainian heat market in line with international practices by the:

- (a) Definition of an acceptable heat market model;

(b) Revision of the ownership regime, management and third-party access to the transmission system;

(c) Construction of reliable biomass supply chains at local level in collaboration with municipalities;

(d) Consideration of other private capital influx options (e.g. PPPs, tendered concessions, ESCO participation or auctions);

(e) Technical and regulatory modernisation of the whole sector.

40. The status of biofuels should be re-evaluated from a classification and taxation point of view. Furthermore, a comprehensive assessment of renewable energy potential by region to provide data-driven basis for project development should be undertaken. A project development facility building on the results of the renewable energy atlas could be instrumental in providing technical assistance, building capacity and financing comprehensive mapping. The collaboration of the International community with the State Agency on Energy Efficiency and Energy Saving (SAEE) and Ministry of Regional Development would be vital in moving this issue forward.

41. Bankability barriers in Ukraine could be overcome by implementing a set of credit enhancement measures to mitigate counterparty risk, such as through bilateral and multilateral agencies, e.g. Partial Risk insurance guarantee (WB) or Political Risk Insurance mechanisms (MIGA), export Credit Agencies, sovereign Guarantees, etc.

42. While the top level of government would need to be involved, the National Bank of Ukraine should take the leading role in overcoming the issue of counterparty risk.

43. The PPA timing issue can be addressed by the draft electricity Market law through establishing the Green Tariff regime according to which, terms are locked-in after securing the necessary permits but before the construction of the plant begins. Regarding the specific amount of the FiT, it should be flexible to change dynamically to adjust with the market conditions. However, these changes should be made in the context of a pre-established and transparent methodology. As in other countries, PPA template should be revised and aligned with international standards. The revised PPA should include provisions for curtailment compensation and international arbitration in third country.

44. Project financing conditions in Ukraine and access to financing from the local banks should be improved. This could be realised through the introduction of a financing programme of renewable energy projects via a special-purpose fund. Financing could be facilitated by inclusion of certain projects (e.g. retrofitting DH with biomass / co-production of heat and power) under the Energy Efficiency fund.

45. Barriers and recommendations in Georgia were classified into three groups, namely the overarching issues, bankability and project development.

46. The recommendations on the overarching issues refer to the wider governance and support for renewable energy investment. Government should formulate a comprehensive NREAP in line with Energy Community obligations and finalize the National Energy Efficiency Action Plan (NEEAP). The Law on Renewable Energy based on EU Directive (2009/28/EC) should be adopted by the country and there should be explicit commitment by policy makers to pursue specific, long-term renewable energy targets aiming for 2020 and 2030 (or other). As far as the barriers on social acceptance of renewable energies are concerned, public outreach and awareness raising activities for renewable energy should be implemented as part of renewable energy development strategy. Technical capacity for RES project development could be enhanced through technical education programmes, courses and degrees, advanced learning activities for professionals. Resource Mapping activities are important for an assessment of the renewable energy potential by region/city (Atlas) in sectors not already available, to provide data-driven basis for project development.

47. Recommendations referring to the bankability of the renewable energy project target at allowing projects to get financing at viable rates. To this direction, a support scheme which will include measures by technologies should be developed and capacity goals for each technology type and methods to reach them. Investment environment (support measures, connection terms, etc.) should be stable and known in advance. Green energy certificates, tax

exemptions, etc. should also be considered. Transparent calculation of FiT and consideration of global returns on investment could be effective measures also in Georgia. Finally, FiTs should be secured against any future retroactive regulatory changes. The adoption of the international standard PPA template together with provisions (e.g. PPAs to be signed before construction of the plant, to provide guaranteed purchase of fixed annual amount, transparent procedures for tendered concessions, etc.) were additional recommendations to enhance the bankability of the project.

48. Finally, the project-development related recommendations are oriented towards facilitating renewable energy project development. This could be realised through the increased participation of private developers in project development: identification, pre-development and feasibility research. Introducing a one-stop shop, fast-track procedures for small-scale renewable energy projects and a state-sponsored “Manual for renewable energy Permitting” to assist investors appreciate the steps to be followed, time and costs required could significantly save investors’ time. Connection points and available capacities should be readily available and publicly accessible. Technical standards for renewable energy integration should be defined and adopted. Connection costs should be transparent and fair. The distribution network unbundling should follow EU legislation and best practices.

49. Outcomes of the Hard Talks in Bosnia and Herzegovina comprised a set of priorities that the country should act upon.

50. First, the 2020 and 2030 targets need to be clear amongst local institutions but also towards the Energy Community (EnC), along with the methodology to quantify biomass consumption in households and progress made towards the targets. Removing market distortions, such as fossil fuel subsidies (especially coal) is a prerequisite for the energy transition, together with the implementation of the WB6 (Western Balkan six countries) Roadmap, adopted by the Bosnia and Herzegovina Council of Ministers. Amended Law on Transmission of Electric Power, Regulator and Electricity Market of Bosnia and Herzegovina in line with EnC requirements and obligations, as well as the law and regulations on district heating and heat energy systems should be adopted. Furthermore, the country should implement a support scheme based on FiP and set capacity auctions for large-sale wind/solar projects, project-specific auctions on pre-selected projects for Hydro and finally set administratively fixed FiP for small RES, including biomass. Biomass sector should be further incentivised either at the production side (especially regarding heat and co-production of heat and power) or the fuel side (incentives to produce modern feedstocks).

51. As far as the permitting and licencing procedures are concerned, they need to be time-efficient, simplified, streamlined and rationalized. Supporting measures should be undertaken for improving the quality of studies required for permits strengthening their implementation and enforcement. The recommendations of the legal framework analysis for the removal of obstacles to investment in the energy sector provided by the Energy Investment Activity (USAID EIA) and the GIZ’s Promotion of Renewable Energy (GIZ ProRE) should be further implemented. Furthermore, inter-institutional coordination and monitoring is essential for improving the permitting process. Enhancing the social acceptance of RES could be realised through the establishment of net billing of distributed/small scale RES, effective public access to information and participation in decision-making for legislation procedures and for specific projects.

52. A common recommendation among most countries, including Bosnia and Herzegovina comprises the accurate mapping and assessment of renewable energy potentials in the region, taking also into account environmental limitations in spatial planning, such as protected areas. The establishment of a clear, transparent and verifiable methodology for long-term monitoring of biomass potential and data shall improve quality, reliability, consistency and reporting of the statistics. To address the grid/transmission issues identified, the unbundling of TSO/DSO should be prioritised. The issue of grid losses should be addressed, for example by incentivizing loss-reducing capacity deployment approaches and technologies. Power balancing issue due to introduction of intermittent renewable energy should also be overcome. Counterparty risk can only be addressed by increasing investors’ confidence in the investment. To this end, renewable energy procurement should transition from a subsidised to a market-based approach. PPA template should be in line with international best practices on bankability. Access to capital can be reinforced through

adopting alternative investment structures, such as communal energy initiatives, cooperatives, etc.

VI. Conclusions

53. Hard Talks aim at mapping the key barriers that hinder the full unfolding of renewable energy potential and identify solutions/provide policy recommendations to overcome these barriers and improve the investment climate.

54. In most countries examined, the lack of feasible, tangible mid-term targets and a concrete Action Plan on how to achieve them have been reported as key barriers. In Ukraine, the lack of a long-term goal beyond 2030 does not provide the necessary market signals to investors. Poor governance and instability of the country reduces investors' confidence in Serbia and Ukraine. Social resistance (NIMBY concerns), lack of technical local capacity and of data on renewable energy potential were reported in Georgia, Serbia and Ukraine. In Azerbaijan and Georgia, a comprehensive, transparent and horizontally applicable support scheme for renewable energy generation is currently missing. Renewable energy project bankability is impacted due to the relatively high counterparty risk. In Ukraine, Kazakhstan's and Serbia's low bankability of renewable energy projects was connected to the high interest rates, securities required from local banks to provide financing and the limited experience of local banks with renewable energy financing and project finance structures. The form and content of the PPA currently being issued (i.e. not having a standardised template, terms inducing legal and financial risks at the pre-development stage and lacking transparency) has also been regarded as a bottleneck against the bankability of the projects in Azerbaijan, Georgia, Serbia and Ukraine. In Kazakhstan, strict deadlines are applied in PPA on securing permits and the initiation of construction of the project. Lengthy and complex permitting procedures were reported in Georgia, Serbia and Ukraine, with same level of complexity applying to even smaller-scale projects. Barriers associated with access to the grid included the lack of pre-established legal and technical standards for connection with the grid and lack of an updated Grid Code (in Azerbaijan, Kazakhstan, Georgia and Serbia). In Kazakhstan and Serbia network congestion issues and lack of grid capacity infrastructure were also regarded as key barriers. Finally, the existence of market distortions (subsidies on fossil fuels, tariff cap on conventional generation) were major bottlenecks in Kazakhstan and Serbia.

55. Recommendations discussed during the Hard Talks were targeted into addressing the identified barriers per country. Main recommendations included the formulation of a comprehensive NREAP incorporating mid-term capacity goals for each technology type and methods to reach them, while there should be explicit commitment by policy makers to pursue specific, long-term RES targets aiming for 2030 and beyond to provide the appropriate market signals to market actors (Ukraine and Georgia). As far as the social acceptance barriers are concerned, public outreach and awareness raising activities for renewable energy should be implemented as part of renewable energy development strategy. Increasing the technical capacity for renewable energy, project development could be enhanced through technical education programmes, courses and degrees and advanced learning activities for professionals. The assessment of the renewable energy potential by region/city (Atlas) in sectors would provide data-driven basis for project development. The bankability of the renewable energy project could be promoted by several measures, such as the development of a support scheme which will include measures by technologies, the establishment of a transparent calculation method of FiT and the consideration global returns on investment for similar projects and provide protection against any future retroactive regulatory changes. The adoption of the internationally standardised PPA template including several provisions (e.g. PPAs to be signed before construction of the plant, to provide guaranteed purchase of fixed annual amount, transparent procedures for tendered concessions, etc.) and a stable investment environment (support measures, connection terms, etc.) can also promote the bankability of the project. The complexity of the permitting process could be addressed by the establishment of "one-stop-shops", while fast-track procedures should be considered for small-scale renewable energy projects. PPAs should be adapted to follow International Standards in terms of the number of permits & timescale of permitting process. As far as access to grid is concerned, renewable energy connection access should be regulated so that the grid

connection permit should be included in the permitting process before project take-off. Technical standards for renewable energy integration should be defined and connection costs should be transparent and fair. The distribution network unbundling should also follow EU legislation and best practices.

Annex I

Abbreviations

<i>CfD</i>	<i>Contract for Difference</i>
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DSO	Distribution system operator
FiP	Feed in Premium
FiT	Feed in Tariff
GIZ ProRE	GIZ's Promotion of Renewable Energy
NEEAP	National Energy Efficiency Action Plan
NIMBY	Not-In-My-Backyard syndrome
NREAP	National Renewable Energy Action Plan
PPA	Power Purchase Agreement
PPP	Public Private Partnership
RES	Renewable Energy Sources
SAEE	State Agency on Energy Efficiency and Energy Saving
TEN-E	Trans-European Networks - Energy
TSO	Transmission System Operator
USAID EIA	Energy Investment Activity

Annex II

Renewable Energy Targets as in NREAP

<i>Country</i>	<i>Sector/Technology</i>	<i>Targets</i>
Azerbaijan	Energy	9.7% of total energy consumption by 2020
	Electricity	20% of electricity consumption from renewable energy sources by 2020 (cumulative renewable power capacity of 2GW by 2020)
	Wind	350 MW of new generation capacity by 2020
	Solar	50 MW of new generation capacity by 2020
	Bioenergy	20 MW of new generation capacity by 2020
Georgia		None
Kazakhstan	Energy	3% alternative sources (solar and wind) in energy production by 2020, 10% by 2030 and 50% by 2050
	Hydropower	539 MW at 41 hydroelectric power stations by 2020
	Wind power	1,787 MW at 34 wind-power stations by 2020
	Solar power	713.5 MW at 28 solar electric plants by 2020
	Bioenergy	15.05 MW at 3 bioelectric stations by 2020
Serbia	Energy	27% of gross final energy consumption by 2020
	Electricity	37% of gross final energy consumption by 2020
	Heating and cooling	30% of gross final energy consumption by 2020
	Transport	10% of gross final energy consumption by 2020
Ukraine	Energy	18% of primary energy by 2020, 11% of final energy by 2020 and 25% of final energy by 2035
	Electricity	11% of generation by 2020, 20% by 2030 and 25% by 2035
	Heating and cooling	12.4% of gross final energy consumption by 2020
	Transport	10% (including electricity in transport) by 2020
Bosnia and Herzegovina	Hydropower	120 MW by 2030
	Solar PV	4 MW by 2030
	Wind power	175 MW by 2030