



DRAFT DISCUSSION PAPER (3 DECEMBER 2018)

Type of Risk/Barrier ¹	Specific Barriers Identified	Best Practice Recommendations	Country-Specific Recommendations
1. Power Market Risk			
Market outlook	<ul style="list-style-type: none"> Although a NREAP exists, measures are lagging behind Targets for the share of renewable energy in the total final consumption by 2020 are not fixed goals for each individual sector. 	<i>Transparent and long-term bidding targets for RES penetration.</i>	<ul style="list-style-type: none"> Revise Energy Strategy and NREAP with long-term inter-sectoral impact and ambitious targets behind 2020. Adopt Roadmaps on how to achieve targets of revised ES and NRAP Sector specific: Establishment of market value chain framework for wood biomass utilization Targets for individual sectors increased compared to those fixed by 2020 Sector specific: Support public forest

¹ Following categories and types of the UNDP Report “Derisking Renewable Energy Investment” (DREI); http://www.undp.org/content/undp/en/home/librarypage/environment-energy/low_emission_climateresilientdevelopment/derisking-renewable-energy-investment.html

Type of Risk/Barrier ¹	Specific Barriers Identified	Best Practice Recommendations	Country-Specific Recommendations
			management enterprises for the wood biomass production.
Market access and prices	<ul style="list-style-type: none"> Lack of a day-ahead market Regulated prices in Republika Sprska Feed-in tariffs at the entity level <p>No competitive procurement mechanism for</p>	<i>Electricity sector unbundling and segmented markets operation in view of revealing effective costs and allow for appropriate hedging at the appropriate time frames.</i>	<ul style="list-style-type: none"> Adopt the EnC approved Law on Transmission of Electric Power, Regulator and Electricity Market of Bosnia and Herzegovina Develop and introduce auctions for renewable energy for cost-effective achievement of renewable energy targets.
Market distortions	<ul style="list-style-type: none"> Artificially low electricity prices Heavily subsidized sector Cross-subsidies between commercial customers and households Independent regulator? 	<i>Assessment of the true subsidies (including indirect as environmental cost coverage) needed for conventional generation taking into account the RES penetration targets established as above.</i>	<ul style="list-style-type: none"> Abolish fuel subsidies and gradually cross-subsidies. Establish market rules that help reveal and properly allocate costs according to a “beneficiary pays” principle; transparency in pricing structure. Establishment of an independent regulatory body with competence over the entirety of the electricity sector.
2. Permits Risk			
Labour- and time-intensive, complex processes	<ul style="list-style-type: none"> Lacking institutional coordination in the authorisation process, especially for small, 	<i>Clarify and streamline authorisation process</i>	<ul style="list-style-type: none"> Establish a “one-stop shop” for all permits and authorisations needed, simplify process for projects pre-approved for auction.

Type of Risk/Barrier ¹	Specific Barriers Identified	Best Practice Recommendations	Country-Specific Recommendations
	decentralised renewables <ul style="list-style-type: none"> Clarity and simplification of procedures is needed (more than 20 permits, 100 steps, 2-5 years) 		<ul style="list-style-type: none"> Adopt an electronic permitting process Develop simplified guidelines for all phases of the permitting process
3. Social Acceptance Risk			
Lack of awareness on RE	<ul style="list-style-type: none"> Subsidies make added benefits of renewables more difficult to communicate to the general public. Lack of effective public access to information and public participation in decision-making procedures for legislation, plans, policies, programmes and specific activities. 		<ul style="list-style-type: none"> Promote awareness raising campaigns to promote environmental and financial benefits of renewables Clear pricing methodologies will make financial benefits of renewables more evident Adopt Maastricht Recommendations on Promoting Effective Public Participation in Decision-making in Environmental Matters Sector specific: Initiate integral strategic project on wood biomass.
Social and political resistance	<ul style="list-style-type: none"> Introducing RES into households is expensive. RES is not top priority at policy agenda. 	<i>Pilot projects, campaigns on results, campaigns on the overall benefits of RES towards conventional resources where social impact is internalised and taken into consideration.</i>	<ul style="list-style-type: none"> Increase awareness and capacity of long-term RE benefits in public sector stakeholders, disassociate conflicting interests, and involve public sector stakeholders as partners and pioneers in RE proliferation. Sector specific: Reforms of forestry management and governing frameworks with respect to market requirements.

Type of Risk/Barrier ¹	Specific Barriers Identified	Best Practice Recommendations	Country-Specific Recommendations
4. Resource and Technology Risk			
Inaccuracies in assessment of resource potential/supply	<ul style="list-style-type: none"> • Although large, cost-competitive potential (126.9GW*10% - IRENA), no measures to actively exploit it. • Lack of inter-sectoral dialogue on biomass. • Lack of adequate potential mapping for wind and solar. 	<p><i>Capacity building in RES potential assessment</i></p> <p><i>Joint decision making aimed at creation of coherent cross-sectoral strategic solutions (e.g. Bioenergy Joint Program)</i></p>	<ul style="list-style-type: none"> • Preparation and online publication of RE potential assessments on a locational basis (geographic information system (GIS)): atlas of RES potential. • Establish a project identification institution as a matchmaker between project owners and investors (see GEDF)
Lack of local capacity for planning, construction, operations and maintenance; lack of supporting infrastructure	<ul style="list-style-type: none"> • Sustainability criteria for biomass must be transposed. • Biomass value chain needs to be better organised. 		<ul style="list-style-type: none"> • Capacity building in RE Project Development Cycle, planning for efficient implementation of projects.
Lack of knowledge of and experience in hardware	<ul style="list-style-type: none"> • Lack of capacity in wind/solar • Lack of domestic manufacturers of equipment • Dependence on obsolete technologies in biomass 		<ul style="list-style-type: none"> • Training programs for blue-collar workers, with emphasis on retraining of workers employed in fossil technologies (e.g. coal).
5. Grid / Transmission Risk			

Type of Risk/Barrier ¹	Specific Barriers Identified	Best Practice Recommendations	Country-Specific Recommendations
Grid code and management	<ul style="list-style-type: none"> • Unbundling has not proceeded with TSO and all DSOs² (Energy Community infringement case). • Priority of connection and dispatch for renewables are not in place and not respected in practice. 	<p><i>Strengthening the capacity of the Grid Company in developing an adequate Grid Code, International best practices and management tools exchange in grid companies.</i></p>	<ul style="list-style-type: none"> • Unbundle TSO and DSOs. • Introduce clear technical rules/terms for RE grid connection. • Introduce and enforce priority connection and dispatch rules, with clear penalties in case of violation.
Transmission infrastructure	<ul style="list-style-type: none"> • Old transmission / distribution infrastructure; high losses, difficulty to integrate intermittent renewable energy. • TEN-E Regulation not transposed, making general infrastructure development and interconnection planning difficult. 	<p><i>Transparent, fair and based on international best practices regulatory framework for the investments needed in the networks and the corresponding assessment of the companies' revenue, banks to provide for loans to assist grid companies.</i></p>	<ul style="list-style-type: none"> • Research transmission system tolerances and ability to integrate RE. • Plan long-term investments taking into account RE proliferation and regional interconnections. Adopt TEN-E Regulation. • Allocate grid investment costs according to “beneficiary pays” principle. • Integrate capacity and grid expansion planning to minimize losses. • Prioritise distributed solutions closer to demand.

² Bundled with electricity production in the Federation of Bosnia and Herzegovina and with electricity supply in Republika Srpska

Type of Risk/Barrier ¹	Specific Barriers Identified	Best Practice Recommendations	Country-Specific Recommendations
Connection Tariffs	<ul style="list-style-type: none"> Tariffs are public but methodology is not readily accessible 	<p><i>Strengthening the capacity of the grid companies (TSOs and DSOs) in developing fair and transparent connection tariffs.</i></p>	<p>Costs involved with grid connection and usage by RE should be transparently and fairly allocated according to international best practices.</p>
6. Counterparty Risk			
Off-taker's credit quality, corporate governance, management and operational track-record or outlook	Current support schemes are not cost-efficient or sustainable and do not inspire long-term confidence to investors.	<p><i>Strengthening the company's (counterparty) performance by capacity building, corporate governance, best practices in cost recovery etc.</i></p> <p><i>Governmental guarantees were the counterparty is specifically created to undertake the financial settlement of RE and no other major activity is performed i.e. the counterparty is not a utility.</i></p>	<p>Adopt new, integrated support scheme for RE which:</p> <ul style="list-style-type: none"> Takes into account RE technology improvements Takes advantage of low LCOE from RE Utilizes competitive procedures for procurement Guarantees long term viability of financial support scheme.
7. Financial Sector Risk			
Capital scarcity		<p><i>Financial Sector Policy reform towards promoting long term infrastructure investments, financial products tailored to assist RES developers to access capital.</i></p>	

Type of Risk/Barrier ¹	Specific Barriers Identified	Best Practice Recommendations	Country-Specific Recommendations
Limited experience with renewable energy financing, networks and skills with project finance structures	<ul style="list-style-type: none"> Private investment is low in the sector, resulting in lack of experience on how to manage private debt. 	<i>Build capacity with local banks in analysing RE project risk and, by mitigating them, increasing their bankability.</i>	Capacity building to Banking sector on appropriate financial modelling for RE projects throughout their lifetime.
8. Political Risk			
Political instability, poor governance, poor rule of law and institutions	<ul style="list-style-type: none"> Difficulty of cooperation and coordinated action between entities Need for centralized approach to sector Poor institutional capacities to combat against illegalities in forestry sector 		Streamline procedures between different institutions, particularly between entities and between an entity and central government.
Government policy (currency restrictions, corporate taxes)	<ul style="list-style-type: none"> Very low “Ease of Doing Business” index, particularly in starting 	<p><i>Banks to develop appropriate products to hedge against political risks, including expropriation, political violence, currency restrictions.</i></p> <p><i>Clear, transparent and stable, legal and regulatory framework on investments.</i></p>	Improve general business environment with targeted solutions based on digitalization and “cutting the red tape”.
9. Currency / Macroeconomic Risk			
Volatile local currency, unfavourable currency exchange		<i>Bank tools to hedge against currency fluctuations Regulatory framework to allow for guaranteed prices defined in more stable currencies.</i>	Consider/ develop exchange rate guarantee schemes

Type of Risk/Barrier ¹	Specific Barriers Identified	Best Practice Recommendations	Country-Specific Recommendations
rate movements			
Inflation, interest rate outlook performance, unstable macro-economic environment		<i>Bank tools for interest rates swaps</i>	Work on financially derisking RE investments by introducing efficient banking tools.

Legend: '-': not identified

Day 2 – Discussion Paper for Breakout Groups

Proposed Nexus criteria to be applied for the assessment for sustainable RE deployment

1) Maximizing synergies: opportunities for investing in Renewable Energy while achieving cross-sectoral benefits

Renewable energies can help achieving different objectives. As such, there are synergies that can be identified to facilitate the development of renewable energy.

	Water	Agriculture, forestry, rural development	Environmental & Social	Transboundary
Hydropower	Multi-purpose dams <ul style="list-style-type: none"> Enhanced flood control Controlling access to water for different uses Buffering low flows 	Multi-purpose dams / small scale hydro <ul style="list-style-type: none"> Access to irrigation Integration of micro hydro when renovating agricultural infrastructure	<ul style="list-style-type: none"> Multi-purpose dams Ensured environmental flows Possibility to also capitalize on solar synergies by adding FPVs 	Coordination of hydropower cascades
Bioenergy (biomass, biogas)	<ul style="list-style-type: none"> Use of floodplains for biomass. Biogas from wastewater treatment. 	<ul style="list-style-type: none"> Use of biomass from agricultural residues or forestry Sustainable reforestation and forest management, in order to guarantee long-term resource planning and fuel supply. Usage of byproducts (fertilizer, etc.) 	<ul style="list-style-type: none"> Beneficial use of waste Decrease of indoor pollution due to cleaner fuels and technologies and move away from traditional biomass 	Sustainable forestry as a means for flood protection
Wind and solar	Treatment of water from polluting industrial plants or other sources (?)	Renewable energy for productive uses (e.g. irrigation, pumping)	<ul style="list-style-type: none"> Small scale projects for decentralized access (e.g. remote touristic areas). 	

			<ul style="list-style-type: none"> • Replacement of technologies with higher environmental impacts. • Employment opportunities in new technologies. 	
--	--	--	---	--

2) Addressing trade-offs: a checklist for addressing inter-sectoral impacts

The exploitation or mismanagement of renewable energy sources can also lead to environmental problems or risks to human health. These should be identified and addressed as early as possible early in the planning process.

Proposed criteria	Current application of criteria	Applicability for:		
Environmental assessment		Hydropower	Biomass	Wind/Solar
EIA/SEA in a domestic context	<ul style="list-style-type: none"> • Capacity lacking in administration • Quality needs improvement 			
EIA/SEA in a transboundary context	No			
Strategic assessment and planning				
Domestic inter-sectoral impact assessment of RE projects	Not assessed			
Transboundary inter-sectoral impact of RE projects	Not assessed			
Public participation and transparency				
Level of domestic public participation in new RE projects	Weak			
Level of transboundary public participation in new RE	No			

projects				
Level of awareness through public campaigns and education programmes				
Sustainable hydropower deployment and usage Guidelines				
Application of domestic sustainable hydropower guidelines	No			
Application of regional /basin level sustainable hydropower guidelines	No			
Sustainable RE Deployment Guidelines				
Application of domestic sustainable RE guidelines in line with SDGs	No			
Application of regional sustainable RE guidelines	No			
Regional inter-sectoral biomass deployment and usage Guidelines	No			
Regional Sector-specific dialogue & coordination				
Energy sector regional dialogue	High (EnC)			
Water sector regional dialogue	Medium (ISRBC)			
Food sector regional dialogue	Low			
Inter-sectoral dialogue & coordination				
Domestic inter-sectoral coordination	Low			
Regional inter-sectoral coordination	No			

Environmental coordination				
Regional coordination on environmental targets (NDCs, etc)				
Regional coordination on environmental standards				
Regional coordination on integrated nexus policies				
Transboundary impact: notification and consultation				
Legal and institutional frameworks at transboundary level	Yes (ISRBC, ICPDR)			
Procedures for notification and consultation about planned projects	Not assessed			