
Environmental and social good practice note

Small hydropower projects



European Bank
for Reconstruction and Development

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Introduction

Purpose of this good practice note

1. This note provides detailed guidance on the management of environmental and social risks specific to small hydropower plant (sHPP) projects subject to EBRD direct or indirect financing.
2. The detailed environmental and social good practice note for sHPPs supplements the environmental and social guidance note for hydropower projects that was issued by the EBRD in 2016, but does not replace it: both documents should be referred to for sHPP projects, across their pre-construction, construction, post-construction and operational phases.
3. This good practice note has been developed for the benefit of those involved in small hydropower projects subject to direct or indirect EBRD financing. This particularly includes consultants, contractors, developers and partner-financial intermediaries, and their advisers, working on hydropower projects directly or indirectly financed by the EBRD. The good practice note is consistent with the objectives and performance requirements (PRs) of the EBRD's *Environmental and Social Policy* (ESP) that applies to all projects subject to EBRD financing.

Scope of the good practice note

4. There is no international consensus on the definition of a small hydropower project and the EBRD does not have a specific definition. For the purposes of this good practice note several parameters for sHPP definition are provided below.
5. The term "small hydropower" refers to any hydropower project that does not trigger "category A" requirements and is located on a river with an average annual flow below 10m³/s.
6. For a hydropower scheme that uses water from multiple intakes, the sum of the average annual flows should be considered.
7. This 10m³/s criterion is introduced to clarify the scope of application of the present good practice note. It is not an official definition of sHPP by the EBRD, and the term sHPP might be used with a different meaning in other documents issued or referred to by the EBRD. Any HPP projects falling outside this definition should be appraised against the requirements of the HPP guidance note (see point 13 below) and the ESP.

Definitions

8. The financier is any entity (facility, financial intermediary, fund or the EBRD itself) that provides finance directly or indirectly to one or more sHPP project(s).
9. The developer is the entity that owns the sHPP project and receives direct or indirect EBRD financing.
10. The contractor is any entity contracted by the developer for the construction of the sHPP.
11. The ESP is the EBRD's *Environmental and Social Policy* 2019
12. The ESS is the EBRD's *Energy Sector Strategy* 2019-23.
13. The HPP guidance note is the EBRD's guidance note for hydropower projects 2016.

Rationale for the good practice note

Specific environmental and social challenges

14. Small hydropower covers a wide range of schemes that can have a full range of environmental and social impacts, depending notably on their location, design and operation. Small hydropower schemes are not systematically considered to have a lower environmental and social impact than larger schemes.
15. Small hydropower schemes are associated with specific environmental and social risks that larger schemes do not face. These risks include, amongst others:
 - In many countries, below a certain size set by the legislation, sHPPs are subject to limited or no environmental and social requirements. Small HPPs can, in some cases, receive a construction permit with little or no assessment of their environmental and social impacts, or only a generic assessment without baseline environmental and social or recent hydrological data collected in the field. Due to the perception that their impact is more benign than larger operations, they may also be permitted in sensitive areas otherwise restricted for development (such as legally protected and/or internationally recognised nature protection areas or areas proposed for such status by national governments, critical habitats or other ecosystems which support priority biodiversity features, areas of archaeological or cultural significance, and areas of importance for local communities, indigenous peoples or other vulnerable people).
 - Small HPPs are often developed in clusters or cascades that can have significant cumulative environmental and social risks beyond individual plants that may not be adequately considered in the local permit granting process.
 - Compared to larger schemes, sHPPs generally require smaller investment: they are accessible to a wider range of investors, including newcomers to the hydropower sector with no previous experience in identifying, assessing, mitigating and monitoring the environmental and social impacts of a hydropower scheme.
 - SHPPs are typically located on smaller rivers: despite their size, smaller rivers may be critical for endangered species, the maintenance of ecosystems or dependent social users. Developers, contractors, permitting authorities or financiers may not be fully aware of the contribution of such a watercourse to the broader sustainability of aquatic and terrestrial biodiversity or social uses, in particular against a backdrop of a changing climate, unless this is adequately defined by specialists in the field.
 - Small HPPs tend to be smaller infrastructure projects, often located in remote areas, and present challenges to regular inspections by competent authorities. Consequently, verification that sHPPs are meeting environmental and social obligations is often more challenging than in large schemes with higher visibility.

Environmental and social due diligence

Environmental and social organisation and responsibilities

16. Consistent with the EBRD's ESP, any financier considering sHPP projects will have in place an environmental and social organisational structure which includes:
 - environmental and social responsibility assigned to appropriately qualified and experienced staff (the environmental and social manager)
 - An environmental and social due diligence mechanism that follows the steps described below and either (i) determines the environmental and social conditions under which an sHPP can be financed or (ii) informs the decision not to finance an sHPP.
17. The environmental and social due diligence steps described below will be followed and documented by all financiers, the EBRD included, for each sHPP project. The EBRD requires its clients to adopt these steps when directly financing an sHPP project. The EBRD may at any time ask the financier to provide the environmental and social due diligence documentation for a given project.

Key overarching principles

18. Across the due diligence steps, the following overarching principles of the EBRD's ESP have to be systematically applied:
 - Associated facilities: the environmental and social risks and impacts will be assessed not just for the hydropower scheme, but for all associated facilities and activities, as defined in the ESP, including transmission lines, access roads, temporary sites, quarries, spoil disposal areas and others as identified during the first stages of the due diligence process.
 - Sensitivity of the location: where the proposed sHPPs are planned to be carried out or are likely to have a perceptible impact, including cumulative impact in combination with other relevant past, present and reasonably foreseeable

developments, on sensitive locations of international, national or regional importance, they should be categorised as "A" and subject to environmental and social impact assessment and formalised and participatory public consultation process.

- Cumulative impacts: where the proposed sHPP is to be built as part of a cascade of sHPPs, or in a river basin where other hydropower schemes and cross-river infrastructures exist or are planned, cumulative environmental and social risks and impacts need to be assessed and mitigated in compliance with the ESP.
- Mitigation hierarchy: the mitigation hierarchy will be systematically applied, and its application will be documented. Potential environmental and social risks and impacts will be first avoided, or, if not avoidable, minimised to an extent that they become negligible. Only as a last resort should environmental and social risks or impacts be compensated or otherwise offset compensated, in case they cannot be avoided or minimised.

Step 1. Initial environmental and social screening

19. Initial screening will be undertaken by the financier. The developer will provide the available technical, environmental and social information relating to the sHPP. The initial screening of pertinent environmental and social issues will be undertaken by the environmental and social manager within the financier. The EBRD can provide initial screening tools to any developer and financier.
20. Based on this screening, the environmental and social manager should prepare an initial screening report and, if relevant, define the scope for environmental and social due diligence (step 2). The initial screening process occurs before the financier decides whether to finance the sHPP project.
21. The key issues to be considered in the initial screening report include those provided in Table 1 below. The environmental and social manager will be required to verify the disclosures made by the developer and/or the competent authorities and reliance on third parties should be limited to expert assessment of specific environmental or social issues.

Table 1. Topics to be covered in the initial environmental and social screening

Topic	Key issue	Screening decision
Project description	Availability of a comprehensive description of the project concept: planned infrastructure (including associated facilities such as transmission lines, access roads, and so on), operational mode and high-resolution map.	If unavailable, such information should be provided before the initial screening can be progressed.
Developer's environmental and social capacity	Review of the developer's environmental and social capacity: <ul style="list-style-type: none"> • Commitment to environmental and social performance (environmental and social policy, environmental and social staff in place). • Previous experience developing hydropower schemes meeting international standards. 	Assess the developer's environmental and social capacity from high (committed and experienced) to low (inexperienced, no capacity in place). Indicate to the developer what capacity is required in order to progress.

Topic	Key issue	Screening decision
Protected areas/areas of conservation value	<p>Distances between the project components and the nearest protected or conservation areas, based on official sources:</p> <ul style="list-style-type: none"> • Legally protected areas (including candidate or adopted “Emerald” sites). • Areas proposed for protection by the national government. • Internationally recognised areas including key biodiversity areas, important bird areas, and “Ramsar” sites. 	<p>Record distances in the initial screening report. If the project (or any of its components) is located inside, next to or functionally connected to a conservation area, identify the extent of the additional assessments required to meet EBRD PR6. If the project might affect a protected or conservation area, the entity in charge of that area should be consulted and the project’s risks to the conservation objectives understood before the initial screening can be passed.</p>
Environmental baseline	<p>Availability of recent and reliable environmental baseline information specific to the project area collected on the ground (compulsory for aquatic biodiversity, case-by-case justification for other fields), including a description of the conservation status of species as per national legislation, EU Habitat Directive, IUCN and relevant international conventions. To fully understand the impacts of an sHPP project the baseline may need to cover not only local impacts but also a wider sphere of influence. The baseline should consider any existing river basin level data, such as management plans and strategic level planning and/or assessment documentation.</p>	<p>If the project’s environmental baseline is incomplete, identify the extent (time and cost) of the surveys and assessments required to meet EBRD PR6 considering the specific requirements of the habitats directives including the need for critical habitat assessments and/or an appropriate assessment.</p>
Cumulative impacts	<p>Avoid significant cumulative impacts on a stretch of a river or the river basin as a whole arising from the development of a number of small and other hydropower developments and other schemes affecting the water availability and/or quality and continuity of the aquatic habitat for migratory species.</p>	<p>If there are a number of developments affecting water availability or the quality of available water, the cumulative impacts of the project in combination with other relevant past, present and reasonably foreseeable developments should be considered in the categorisation of the project and adequately assessed.</p>
Climate change	<p>Consistency of the project, and sHPPs in general, with national strategies or policies for renewable energy and power sector decarbonisation targets.</p> <p>Adequate consideration given to impacts of climate change on the project, in particular in terms of environmental and social risks, as well as power generation, other infrastructure resilience, and public safety.</p>	<p>If the project’s consistency with the decarbonisation of the power sector or the assessment of impacts of climate change on the project are incomplete, undertake a proper assessment to confirm positive contribution of the project to decarbonisation and to identify and introduce appropriate structural and non-structural climate resilience measures.</p>
Aquatic biodiversity: measures to maintain continuity	<p>Continuity of measures proposed for aquatic biodiversity (fish, macroinvertebrates, semi-aquatic mammals, amphibians):</p> <ul style="list-style-type: none"> • Environmental flow regime consistent with the seasonal use of the river by aquatic species • Fish pass design consistent with fish species • Naturalised fish pass preferred to concrete fish pass where physically possible • Protection mechanism for downstream movement of fish against mortality through sHPP turbines. 	<p>If measures proposed for aquatic biodiversity present gaps, identify the extent (time and cost) of the assessments required to meet EBRD PR6.</p> <p>Flag the risks for the economic feasibility of the project in case structural or operational modifications are needed.</p> <p>It is important to note that arbitrary calculations of environmental flow, as may be permitted by host government requirements, may not be sufficient to support the specific biodiversity features of the location of an sHPP project. Equally, an environmental flow calculated by percentage of mean average flow may be sufficient on larger rivers but may not on smaller water courses, however, both should be subject to verification.</p>

Topic	Key issue	Screening decision
Social and socioeconomic baseline	An inventory of land and river or water uses likely to be impacted by the SHPP should be provided, including all components and associated facilities.	If no inventory is available, include one in the environmental and social due diligence scope. Highlight the risks to the economic feasibility of the project in the event that structural or operational modifications or additional compensation are needed.
Social impacts on local communities	Avoid any reduction of water availability or quality of available water to the extent that water is used by local communities as drinking water or for activities sustaining their livelihoods or that have cultural historic or significant recreational value to the local communities.	If the project could have a significant impact on the water availability or the quality of available water, either temporarily or permanently, the local communities should be provided with adequate information on the planned development and its impacts as well as being appropriately consulted to avoid community disputes and social demonstrations during the construction or operation of the project.
Involuntary physical resettlement	Avoid any involuntary physical resettlement for SHPP projects. If needed, the physical resettlement of households for an SHPP should be carried out through a negotiated settlement.	If involuntary physical resettlement is planned, an alternative design or a negotiated approach to avoid involuntary resettlement should be provided before the initial screening can be passed.
Cultural heritage	Verify whether the project is expected to be within, readily visible from, or could otherwise impact, the nearest cultural heritage sites, for example: <ul style="list-style-type: none"> • UNESCO world heritage sites • religious or cultural sites of regional, national or international importance¹ • tourist sites or landscapes of regional, national or international importance. 	Record distances in the initial screening report. If the project is readily visible from a cultural heritage site, design should be agreed (and modified if needed) with the entity in charge of the cultural heritage site before the initial screening can be passed.
Stakeholder engagement	Verify whether the project has engaged with key stakeholders, notably: <ul style="list-style-type: none"> • the local population, land and river or water users • civil society organisations that run activities in the project area • entities in charge of the potentially affected protected or conservation areas and cultural heritage sites • opportunities to maximise community benefits. 	Identify the stakeholder engagement gaps that will need to be closed during environmental and social due diligence. Stakeholder engagement activities should be used to inform the contextual risks associated with the project and the project's social licence to operate.
Project categorisation	With reference to the EBRD's ESP Appendix 2 "category A" projects, determine the project's category: A or B. The project is categorised "B" if: <ul style="list-style-type: none"> • it does not create a large "dam" as defined by the International Commission on Large Dams (ICOLD) • it does not include the construction of high-voltage overhead electrical power line • it is not planned to be carried out in or likely to have a perceptible impact on protected/conservation area • it will not result in significant adverse social impacts to local communities or other project affected parties. 	Project category. If the project is category "A", it will be referred to the EBRD by the partner-financer and will be subject to an environmental and social impact assessment and disclosure process that meets EBRD requirements for category A projects.

¹ A site of regional, national or international importance is a site that is regularly visited by people from the region, the country or abroad. It also includes sites that are registered with a specific recognition status as cultural heritage sites by the competent regional or national authorities.

22. If, at the time of the initial screening, the construction of the sHPP has already started, the environmental and social manager will assess the environmental and social management systems in place and the activities carried out to date by the developer, or their contractors, to manage environmental and social risks and impacts. If activities undertaken prior to the initial screen are materially below the objectives and requirements of this good practice note, and significant adverse environmental and social impacts that cannot be readily remedied have occurred, the environmental and social manager shall consider the project as not eligible for direct or indirect EBRD financing.
23. The initial screening report should include a conclusion that the financier will consider before taking the decision to proceed or not to proceed with the next due diligence stage. This conclusion will in particular state:
 - whether the technical, environmental and social information available for the sHPP project is sufficient to scope the environmental and social due diligence – if not, additional information must be provided before the initial screening stage can be closed
 - the project category according to the EBRD's ESP (A or B)
 - the developer's environmental and social capacity ranking
 - the scope and estimated time (season and duration) and resources (cost, experts) required to perform the environmental and social due diligence, considering the minimum requirements described in this good practice note and with the objective to close all the baseline and assessment gaps identified during the initial screening stage
 - a detailed list of potential risks for the project to require structural or operational modifications, design changes or additional costs to meet EBRD PRs
 - the list of stakeholders that should be engaged during the environmental and social assessment.
24. Taking the initial screening report into account, the financier decides whether to proceed with the sHPP project due diligence. As a matter of principle, sHPPs owned by developers with an environmental and social capacity ranked "low" should be pursued only if they are categorised "B" and if no significant environmental and social issue was identified during the screening stage.

Environmental and social management costs for consideration during screening

25. The cost and effort required to assess fully the environmental and social risks associated with an HPP scheme are not proportionate to the installed capacity of the project under consideration. Conversely, the budget allocated by a developer to manage environmental and social risks and impacts is frequently proportional to the size of the investment. As such, sHPPs generally have lower environmental and social budgets allocated than those of larger schemes. The environmental and social obligations detailed in this good practice note do not take into consideration such factors and sufficient budget and resource allocation has to be made available to manage environmental and social risks in compliance with the EBRD's ESP regardless of the project size.
26. If, as a result of the initial screening, the time or the cost of managing the environmental and social risks or impacts of an sHPP in accordance with this good practice note cannot

be accommodated in the developer's business model, the sHPP project will not be eligible for direct or indirect EBRD financing and step 2 of the environmental and social due diligence will not be launched.

Step 2. Environmental and social assessment and stakeholder engagement

27. The scope of the environmental and social assessment and the stakeholders that should be informed and/or consulted is defined by the environmental and social manager during the initial environmental and social screening stage. Its objective is for the sHPP project to meet EBRD performance requirements. It covers:
 - the closure of the environmental and social baseline and assessment gaps identified during the initial screening stage
 - the determination of mitigation measures following the mitigation hierarchy (mitigation measures will be agreed with the sHPP project developer, including possible structural or operational modifications, design changes or additional compensation required to meet EBRD PRs)
 - engagement and consultation with the relevant stakeholders identified during the initial environmental and social screening.
28. The environmental and social assessment has to be undertaken by qualified environmental and social experts, with experience of meeting international environmental and social standards in the hydropower sector and in their respective fields. As a result of the completion of the environmental and social assessment, these experts deliver the following documents:
 - An environmental and social assessment report that provides the required environmental and social baseline, assessment of direct and cumulative impacts, outcomes of the stakeholder engagement and appropriate mitigation measures.
 - An environmental and social action plan (ESAP) that details all the actions required to ensure the sHPP project meets EBRD PRs in a timely manner. The ESAP will address all minimum requirements set below in the good practice note and must be agreed with the project developer. The financier will include the ESAP in the financing agreement with the developer, so that it becomes a formal commitment between the entities.
 - Stakeholder engagement through disclosure of information and consultation, as required, on the project, its impacts and proposed mitigation measures will be carried out with the stakeholders identified to inform the decision-making regarding the project.
 - A stakeholder engagement plan (SEP), including a grievance mechanism and project information disclosure requirements to meet EBRD PR10. The SEP will be agreed with the project developer, and its effective implementation will be requested in the ESAP.
29. These documents are reviewed and approved by the environmental and social manager before the financier signs a financing agreement with the developer.
30. The following sections of the good practice note set out the minimum requirements to be considered in the environmental and social assessment at each phase of the project.

Minimum requirements during the pre-construction phase

31. The developer and the financier will ensure that compliance with the environmental and social requirements of this good practice note and of the EBRD's environmental and social guidance note for hydropower projects is included in a binding manner in the contracts of the consultants and engineers retained for the sHPP technical and environmental and social studies.

Appropriate level of assessment

32. The level of assessment of environmental and social risks specific to the location of the sHPP under consideration will be in line with national law, good international practice and EBRD performance requirements.
33. The project needs to demonstrate alignment with any prevailing national power sector decarbonisation pathways, and resilience to climate change.
34. Relevant baseline data collected during site visits will feed the assessment of environmental and social risks and impacts.
35. From a social perspective, the following will be documented as a minimum:
 - Inventory of land and river or water uses likely to be impacted (upstream and downstream) by the sHPP project or any of its components.
 - Cultural, tourist or recreational sites that could be impacted visually or disturbed during construction.
 - Concerns and expectations from the surrounding population and other project stakeholders.
36. With regard to biodiversity, the following will be documented as a minimum:
 - The presence of other existing or planned cross-river infrastructure along the river upstream and downstream as appropriate.
 - Distance to the nearest conservation areas (proposed, legally protected or internationally recognised areas).
 - Description of habitats around the sHPP project and their biodiversity value.
 - Description of the aquatic habitat and ecosystems and the importance of maintaining the continuity of those for migratory aquatic species.
 - Field surveys and literature review to establish the biodiversity baseline of the sHPP project: surveys are compulsory for aquatic biodiversity (including fish, macroinvertebrates, aquatic and semi-aquatic mammals and amphibians) and will be conducted on a case-by-case basis for other fauna and flora taxa, depending on the type of habitats that will be affected by the sHPP project, and the biodiversity features that the nearest conservation areas are intended to protect.
 - Description of the conservation status of species likely to be permanently or seasonally present in the project area as per national legislation, EU habitat directive and IUCN. Identification of priority biodiversity features and critical habitat, if present, as per EBRD PR6.

- Biodiversity impact assessments, including critical habitat assessments (where necessary), will be conducted and mitigation measures defined as required by EBRD PR6.
- An appropriate assessment as defined by the EU habitat directive will be undertaken for any sHPP project located inside, next to or hydraulically connected to a Natura 2000 or (candidate) Emerald site. If the host country does not yet have a competent authority to formally approve the appropriate assessment, the entity in charge of the Natura 2000 or Emerald process will be consulted on the conclusions of the appropriate assessment.

Adequacy of flow regime

37. The project's assessment of flow regime must take into consideration the impacts of climate change on hydrological and climatological conditions at the project site through appropriate and well-documented risk assessment or stress testing.
38. For diversion schemes and schemes that would result in a temporary or permanent modification of downstream flows, the risks associated with the modified flow regime will be assessed and mitigated for the following receptors:
 - Aquatic biodiversity: the functions played by the river for aquatic biodiversity across the seasons must be maintained (access to food, fish migration or avoidance of stranding, breeding or spawning grounds, macroinvertebrates' development, flow and river continuity, sediment transport, and so on). Viable populations of native species must be maintained in the river, with no net loss of priority biodiversity features and critical habitat. Fish stocking aimed at forcing the presence of a fish population in a river that could no longer sustain this species as a result of the sHPP project is not an accepted mitigation measure.
 - Social uses: water intakes, recreational, domestic or other uses or tourist activities.
 - Public safety, with a focus on the risk of people (especially children or those with reduced mobility) crossing the river by foot or accessing islands.
39. If the permitted minimum flow is insufficient to mitigate the risks generated with the proposed flow regime change, additional mitigation measures must be taken, including, if relevant, an increase of the minimum flow or modification to the flow regime or the creation of varied flow volume and timing of flow releases to facilitate fish migration. Such additional mitigation measures or the increase of the environmental flow will need to be compatible with the sHPP project economics. Where such measures are incompatible with the project economics the project viability should be reconsidered.

Considerations of technical design in achieving environmental and social objectives

40. The sHPP technical design has to be verified against the environmental and social mitigation measures defined for the project. The technical design will be changed in case of inconsistency.
41. This means in particular that the following must be done:
 - Verify that all the environmental permit requirements (such as environmental flow) can be implemented effectively within the proposed design.

- Verify that all additional mitigation measures identified during the environmental and social due diligence can be enforced effectively within the proposed design.
- Where a fish pass is planned, check that its design is suitable for the fish species and seasonal flow regime specific to the project area for passage both up and downstream. It is important to verify, in particular, that the fish pass connects with the upstream ponds and the downstream riverbed. Whenever feasible, always prefer a naturalised fish pass and ensure continuity for macroinvertebrates through a fish pass bed load. Ensure a fish pass maintenance plan is in place to include removal of sediment and debris from within the pass and channel excavation to maintain upstream and downstream connectivity (as required) for the lifetime of the project.
- Verify that the operation of gravel traps or desanders will not affect fish passage and that any flushing regime will not negatively impact the downstream hydrogeomorphology or aquatic ecology.
- Verify that the minimum flow can be applied continuously across the river regime, and that no gate or mechanism allows full closure of the environmental flow outlet.

Minimum requirements during the construction phase

Allocation of environmental and social obligations

42. The environmental and social obligations and requirements set out in the sHPP project documentation (including the environmental and social impact assessment and the environmental permit conditions) and those identified during the environmental and social due diligence process will be documented and their implementation responsibility will be assigned to the appropriate party.
43. Environmental and social obligations owned by the sHPP designer or the contractor will be included by way of a formal commitment in their respective contractual documents.
44. The contractor's (and sub-contractor's) environmental and social obligations will include the preparation, submission for approval to the developer, and subsequently the implementation of an environmental, social, health and safety management plan addressing the following topics for the construction phase:
 - Environmental protection:
 - Hazardous materials and waste management, pollution control.
 - Cofferdam design and construction.
 - Erosion control and sediment management on temporary sites and borrow or spoil areas.
 - River and stream protection (including the installation of pipes, culverts or bridges wherever streams and rivers are to be crossed by engines or vehicles) and maintenance of environmental flow during construction.
 - Topsoil management and temporary site reinstatement.
 - Biodiversity protection, including worker induction and limits on public access.

- Social interactions:
 - Public safety, including traffic management and control of blasting activities.
 - Noise, vibrations and dust control.
 - Local employment – opportunities and rules.
 - Community information and grievance mechanism.
 - Worker code of conduct and induction.
 - Worker welfare, health and safety:
 - Workers' accommodation and worker grievance mechanisms (refer to the relevant EBRD good practice note).
 - Work site delineation.
 - Register of activities subject to specific rules and authorisation (works at height, works on or under water, blasting works, works in excavations, works on live systems, works in confined spaces, heavy lifting, working in remote locations and others).
 - Personal and collective protection equipment.
 - Specific risks to the area, such as endemic or natural hazards.
 - Workers' health and safety induction.
 - Monitoring, reporting and non-compliance management.
45. Environmental and social obligations will be determined before the start of the construction activities.

Environmental and social organisation and responsibilities

46. The developer and the contractor(s) will assign the environmental, social, health and safety (ESHS) responsibility to qualified and experienced staff for the duration of construction. These staff will be responsible for the implementation of the environmental and social obligations allocated to the developer and contractor respectively.
47. Environmental and social organisation and responsibilities need to be in place before construction activities start.
48. Before the start of construction activities or disbursement of funds, the developer will provide to the financier the names and contact of the developer and contractor staff responsible for the ESHS performance of the sHPP project during construction, as well as the list of environmental and social obligations respectively owned by the developer and by the contractor.
49. The financier's environmental and social manager will review the documents, visit the site and opine on the project's environmental and social performance before the first disbursement is approved.

Impact minimisation

50. The construction schedule will be prepared taking into account time-bound environmental and social obligations. This typically includes social mitigation measures (avoidance of noisy activities at night, avoidance of traffic on public roads on given days or hours and so on) or environmental mitigation measures (seasonal translocation of species, avoidance of tree cutting during bird nesting or bat maternities and so on).

51. The application of the mitigation hierarchy implies the minimisation of construction footprint wherever possible. The contractor will in particular ensure that:
- Activities such as tree cutting or earthworks are well delineated before they start.
 - Excavated materials are reused or disposed of in authorised sites.
 - When excavating across mountain slopes, for example when opening an access road, side casting of excavated materials on the mountain slope in an uncontrolled manner is prevented.
 - Exclude the use of unauthorised extracted river gravel for construction materials.

Relations with neighbouring communities

52. The developer and the contractor will agree who has the responsibility to maintain relations with neighbouring communities.
53. In this regard, the developer will ensure that the contractor has:
- a code of conduct which is communicated to workers
 - adequately planned the design and management of worker camps or accommodation
 - procedures in place to enter privately or communally used or owned land plots
 - informed local communities about specific disturbances (for example blasting works, traffic or service disruptions) and related mitigation measures
 - communicated transparently job opportunities and local employment rules (notably the obligation to respect the worksite ESHS rules)
 - provided regular project updates to local communities, and has a mechanism in place to manage grievances.

Minimum requirements post construction

Reinstatement of temporary sites

54. At the completion of construction, all sites that have been temporarily utilised will be reinstated in accordance with a post-construction restoration plan. The main objective of the reinstatement is to prevent uncontrolled erosion, facilitate vegetation regrowth, and, subsequently, avoid or minimise the increase of sediment transport to aquatic ecosystems. Reinstatement works are also aimed at minimising the visual impacts of disturbed areas.
55. The sites that are to be reinstated include: (i) sites that were temporarily used during construction (camps, storage areas), (ii) quarries or borrow areas that were opened for the project needs, and (iii) spoil disposal areas, embankments, reclaimed land areas, stabilised areas.
56. The first reinstatement step consists of engineering and reshaping the disturbed areas so that surface water flows are controlled to prevent erosion. High gradient slopes must be terraced so that steep sections are not more than four metres high.

57. The second reinstatement step is revegetation. Where the volume of preserved top soil is not sufficient to cover all the surfaces to be reinstated, the contractor may, under certain circumstances, mix top soil with vegetation mulch, in particular when vegetation was cut for construction.
58. Seeding shall only be undertaken if native, endemic seeds can be purchased or collected.
59. In difficult environments (dry, rocky or high altitude) where the regrowth of vegetation is expected to be slow, the contractor will seek expert advice for the selection of solutions and local species that can effectively recolonise the disturbed areas.
60. In all cases species selected for revegetation or replantation shall not be alien to the local flora, and should not be classified as invasive species under EU regulation 1143/2014 on invasive alien species.

Environmental and social commissioning tests

61. During the sHPP technical commissioning testing period, environmental and social commissioning testing shall also be performed. The aim of these tests is to verify the functioning of mitigation-by-design measures.
62. The test will include:
- verification of the minimum flow applications
 - verification of the fish pass flow conditions and upstream and downstream connectivity. This will include an assessment of how these conditions will change under different flow regimes and the acceptability of flows or depths for target fish species
 - verification by an ichthyologist of the continuity and sufficiency of the depth and flow conditions in the depleted reach to ensure adequate fish passage and sustain aquatic life. Identification and definition of the riverbed maintenance measures
 - verification of the sufficiency of the flow conditions for other river or water users.

Minimum requirements during operation

63. If the developer intends to subcontract or delegate the operation of the sHPP, the environmental and social requirements of this good practice note and of the EBRD's environmental and social guidance note for hydropower projects will be included in the sub-contractor's or delegated operator's contract and be fully incorporated into the operations and maintenance programme.

Monitoring

64. The developer will designate an environmental and social officer in charge of the sHPP. The environmental and social officer will prepare and implement an environmental and social monitoring and reporting plan. The monitoring plan will cover the key performance criteria, including minimum ecological flow, and mitigation measures defined in the environmental and social permitting documentation and in the environmental and social due diligence reports of the sHPP scheme.

65. For diversion schemes, aquatic biodiversity experts will, during the first two years of full operation as a minimum, be involved in monitoring at relevant times of the year (for example during fish migration period) to verify the effectiveness of the mitigation measures targeting aquatic biodiversity. These experts will provide the necessary guidance and training to the environmental and social officer for the long-term management of the riverbed in the reach affected by the sHPP.
66. For schemes located inside, next to or in hydraulic connectivity to a conservation area, biodiversity experts will, during the first two years of full operation as a minimum, be involved in monitoring, at relevant times of the year, to verify the effectiveness of the mitigation measures designed to conserve the biodiversity features being protected by the conservation area.
67. The developer will issue annual environmental and social monitoring reports to the financier prepared by the environmental and social officer. Other environmental and social key performance indicators will be periodically reported to the financier, depending on the severity of the issues, as agreed between the parties.

Corrective measures and adaptive management

68. If, as a result of monitoring, a mitigation measure appears to be ineffective or insufficiently effective, the developer will seek specialist advice and will adopt corrective measures.
69. Corrective measures may include (i) structural modifications or (ii) adaptive management techniques including modifications to operations.

Responsibility, transparency and accountability

70. The developer is accountable for the environmental and social performance of the sHPP. The developer is therefore expected to act responsibly and transparently regarding the environmental and social performance of the sHPP.
71. The developer will provide environmental and social monitoring reports to the financier quarterly during construction and annually during operation.
72. The developer will disclose an annual environmental and social monitoring report on a website dedicated to the sHPP. The website will include the sHPP contacts (including the environmental and social officer) for interested stakeholders.
73. The developer will disclose in real-time on the project website an automated measure of the minimum flow discharged by the sHPP. Alternatively, the developer will contract an independent, reputable, scientific or civil society organisation involved in aquatic biodiversity conservation to conduct at least four annual independent monitoring visits to the sHPP, without prior notice and on days or at times at the discretion of the organisation. The organisation will report to the financier, with a copy sent to the developer. The results of the annual monitoring visits will be summarised in the annual environmental and social monitoring report disclosed by the developer on the project website.

Monitoring and corrective action management

74. The following monitoring and corrective action management requirements shall be included in the agreements between the financier and the developer.

Monitoring by the financier

75. The environmental and social manager shall monitor the sHPPs in the financier's portfolio. The responsible person shall review the quarterly and annual reports issued by the developers.
76. The environmental and social manager (or a suitably qualified representative) shall visit the sHPPs twice a year during construction, annually during the first two years of operation, and then alternate years. The findings of these visits shall be documented by the environmental and social manager.
77. The monitoring costs of the environmental and social manager shall be foreseen in advance of project implementation and fully accounted for in the project's financial model.
78. The financier shall report to the EBRD as described in the agreements between the EBRD and the financier under PR9. As a minimum, (i) annual environmental and social reports submitted by developers shall be shared with the EBRD and (ii) the financier shall provide the EBRD with responses to any questions it raises.
79. The financier shall disclose on its website (i) the list of sHPPs it is financing, including a link to the sHPPs websites and (ii) the contact details of its environmental and social manager.
80. The financier shall promptly address any queries regarding the sHPP operations, in line with the environmental and social obligations, from local communities or civil society organisations.

Corrective action management

81. This corrective action management procedure shall be included in the agreements between the financier and the developer.
82. Corrective actions included in the context of this note shall be required when it is noted during project monitoring that there is:
 - poor (or absent) timely implementation of any environmental and social measure required by the environmental and social impact assessment, the environmental permit or the ESAP
 - any obvious and material deviation from the applicable environmental and social requirements, or from EBRD PRs and guidance documents.
83. In case the environmental and social manager notices or is informed of an issue requiring corrective actions, the following procedure shall apply:
 - The environmental and social manager shall notify the developer and requests a corrective action to be proposed within 10 days. If confirmed as acceptable, the corrective action shall be implemented by the developer and verified by the environmental and social manager.

- If no acceptable corrective action is proposed by the developer, or if the developer does not implement the agreed corrective action, the environmental and social manager shall escalate the issue to senior management. The financier's management shall request again a corrective action to be proposed by the developer within a further 10 days. The financier shall notify the EBRD.
- If, within one month, the developer has not proposed an acceptable corrective action, or if the developer has not implemented the agreed corrective action the developer shall be considered to be in breach of its obligations.