Concept Environmental and Social Review Summary

Concept Stage

(ESRS Concept Stage)

Date Prepared/Updated: 03/17/2021 | Report No: ESRSC01952

BASIC INFORMATION

A. Basic Project Data

Country	Region	Project ID	Parent Project ID (if any)
China	EAST ASIA AND PACIFIC	P175708	
Project Name	China Energy Transition Towards Carbon Neutrality Project		
Practice Area (Lead)	Financing Instrument	Estimated Appraisal Date	Estimated Board Date
Energy & Extractives	Investment Project Financing	6/28/2021	5/19/2022
Borrower(s)	Implementing Agency(ies)		
Ministry of Finance	National Energy Administration		

Proposed Development Objective

The project development objective is to accelerate energy transition towards carbon neutrality in the power sector through supporting development of policies at national level and piloting implementations in selected province(s).

Financing (in USD Million)	Amount
Total Project Cost	19.43

B. Is the project being prepared in a Situation of Urgent Need of Assistance or Capacity Constraints, as per Bank IPF Policy, para. 12?

No

C. Summary Description of Proposed Project [including overview of Country, Sectoral & Institutional Contexts and Relationship to CPF]

Climate change is one of the key challenges that the global society is facing. China is the largest emitter of greenhouse gas emissions, so China's action in dealing with the climate change is critical for the global success in this regard. China's pledge of carbon neutrality by 2060 makes it possible to achieve the global target of limiting warming to 1.5°C above pre-industrial levels.

China launched an energy revolution program in 2014 which put a solid ground towards China's pledge to achieve the said carbon neutrality. Achieving higher renewable energy (RE) penetration and reducing the share of coal power are required to meet the demand of energy revolution, and the coming 14th Five-Year-Plan (FYP, 2021-2025) could be a

critical period to determine the roadmap of achieving the strategic decision of carbon emission peaking and neutrality.

Addressing the major challenges of RE integration and reduction of the share of coal power will be the key solutions for energy transition. The measures to improve RE integration include applications of advance technologies to increase power system flexibility and removal of institutional barriers to enhance regional power exchange. Enabling legal and policy environments are also required to remove the market barriers for the application of these advanced technologies and measures. Pilot implementation of energy transition in typical provinces will be important to test the pathways of achieving carbon emission peaking and neutrality.

The proposed project aims to support China's efforts in promoting energy transition through accelerating RE development and reducing the share of coal power, focusing on improving RE integration and piloting coal power transition in power systems. Based on the issues to be addressed, the project will include the following three components: Component (1) Policy and technical support. This component will support (a) preparing pathways, targets and work plans to achieve carbon emission peaking by 2030 and carbon neutrality by 2060 in China's power sector, (b) improving RE integration related policies and preparing for reducing the share of coal power, and (c) establishing policy environment to expand the applications of emerging technologies. Component (2) Provincial/city level energy transition pilots. This component will support the pilot implementation of carbon emission peaking roadmaps and the supportive solutions for energy transition in power systems at provincial and/or city levels. Component (3) Capacity building and project management. This component will support the improvement of capacity for policy makers and institutions regarding implementation of the energy revolution program, as well as the monitoring and evaluation of the project outcomes.

The proposed project will be implemented by the National Energy Administration of China.

D. Environmental and Social Overview

D.1. Detailed project location(s) and salient physical characteristics relevant to the E&S assessment [geographic, environmental, social]

China has encountered challenges in meeting the continuous increase of energy demand, fueled largely by coal, and addressing the ensuing serious environmental pollution and high GHG emissions. To meet the key challenges in energy sector, China has embarked an energy transition program to shifting away from coal.

Component 1 will focus on country-wide support to policy studies by National Energy Administration (NEA) on carbon emission peaking/neutrality, through recuding the share of coal power and incresing RE. Component 2 will be implemented at provincial/city levels (including Shanxi and other provinces to be identified) to pilot application of the policies developed under Component 1, including coal power repurposing, green hydrogen production, and battery storage. The GEF grant will predominately support the technical assistance (TA) activities (such as technical studies and design, monitoring and evaluation, and knowledge dissemination), and the project will enable co-financing of physical investments. Component 3 involves project management and capacity building for concerned institutions and organizations.

Shanxi Province is the second largest coal-producing province in China. Shanxi had about 870,000 coal mine workers in 2018, accounting for 4.8 percent of the provincial employment. Shanxi is committed to transforming from a leader in coal to a pioneer of energy revolution. Shanxi's shift away from coal induce hardship to local economy and social impacts of worker lay-off. From 2016-2018, 88 coal mines were closed and around 50,000 workers were affected. The number of affected workers keeps declining annually. There are four typical ways to resettle affected workers, including (a) reallocation to new coal mines, (b) job transfer to non-coal business, (c) early retirement, and (d) contract termination after receiving severance pay. The central and provincial governments have enforced proactive labor measures to protect the welfare of lay-off workers. Substantial public funding has been mobilized to compensate and train the affected workers. The provincial government has established a leading group to provide across-sectoral coordination for workers outplacement. The governments have a strong desire to well resettle the affected workers to avoid social stability risks.

Qinghai is a landlocked province in the northwest of China, ranked the fourth largest in area and the third smallest population. Located mostly on the Tibetan Plateau, Qinghai has more than 37 ethnic groups. Qinghai has unique advantages in developing clean energy, such as solar, wind, and hydropower. Qinghai's renewable generation installed capacity amounted to 27.76 GW by the end of 2019. In 2019, Qinghai exported 16.6 billion kWh renewable electricity to other provinces. Qinghai run on 100% renewable energy for 31 direct days in 2020.

Zhejiang is an eastern, coastal developed province. Han Chinese makes up most of the population. In 2020, the renewable energy consumed in Zhejiang shall account for at least 19% of the total. Zhejiang are mandatory to buy more renewable energy to meet the quota.

Since China is aiming to achieve carbon emission peaking by 2030 and carbon neutrality by 2060, solar and wind development will be accelerated, particularly in northwestern provinces/regions with great RE potential and high proportion of ethnic groups.

D. 2. Borrower's Institutional Capacity

At the national level, the key counterpart is National Energy Administration (NEA)'s New and Renewable Energy Department which is in charge of renewable energy policy in China. A national Project Management Office (PMO) has been established by NEA with overall project planning, coordination and monitoring responsibilities. The national PMO will report to NEA for all major decisions, including approval of the selected pilots and key project activities. The national PMO will be the key implementing agency for Components 1 and 3. The implementation of Component 2 will be implemented by selected provincial/city level entities but will be directly managed by the national PMO during the project implementation stage.

NEA has been implementing GEF renewable energy programs since 2006 and therefore, has acquired extensive experience with the Bank's safeguards policies, and have strong technical capacity regarding policy development and project management. NEA has a satisfactory track record of safeguard management in previous Bank projects (e.g. P067625 and P127033 The first and second phase of the renewable energy scale-up program, P162299 Distributed renewable energy scale-up project). Some potential participating pilot provinces/cities may also have experience through the implementation of Bank projects. Although this project will be the first for NEA and some participating provinces/cities to prepare and implement under the new Environmental and Social Framework (ESF), in general, national and provincial borrowers have the technical capacity to implement the project to meet the objectives of the ESSs, including good international industry practice (GIIP). Capacity and awareness of GIIP at local level (e.g., cities and counties) is comparatively weaker. A time-bound capacity development plan will be prepared in the ESMF (and key

actions will be committed to under the ESCP), through which the capacity of particularly PMOs at the local level will be strengthened with regards to ESF implementation. The national PMO will have dedicated focal point to coordinate environmental and social (E&S) risk management for the project. The national PMO will hire E&S consultants to support preparing, updating, and implementing relevant environmental and social instruments. Once the provincial/city level participating entities are identified, their capacity in environmental and social risk management will be further assessed, and the demands for institutional capacity building will be identified. Given the capacity and demands assessment results, the Bank team will provide trainings to enhance both the awareness and capacity of the PMO and relevant participating entities to ensure the TA is implemented consistent with the ESF requirements.

II. SCREENING OF POTENTIAL ENVIRONMENTAL AND SOCIAL (ES) RISKS AND IMPACTS

A. Environmental and Social Risk Classification (ESRC) Substantial

Environmental Risk Rating Substantial

The project has overall environmental benefits of promoting energy transition in the pilot provinces/cities through increasing RE penetration and reducing the share of coal power in the power sector, and therefore reducing both local air pollutants and GHG emission, and contributing to climate change mitigation. The proposed project primarily consists of country-wide policy studies, pilot policy applications at provincial/city levels, and capacity building with regards to enabling a dominant role of renewable energy. The project development will adopt a framework approach as the policy studies, pilot applications and participating provinces/cities will be determined during project preparation and implementation.

Implementation of TA activities under Component 1 and 2 will not cause any direct adverse environmental impacts but will involve significant stakeholder engagement and potentially have downstream impacts due to changes to the government policies and regulations during the implementation of the products/outcomes of TA, which would need to be considered and assessed during the policy and strategy planning process. This is supported by building the counterpart capacity for integrating environmental and social objectives into their work, and have the Terms of Reference (ToR) and study outputs reviewed by the Bank team to ensure that the relevant ESSs of the ESF are complied with. Based on current project design, the pilot subprojects at provincial/city levels will be composed of both studies and physical works associated with upgrading of existing coal power plants to the sites of renewable energy with storage, green hydrogen production, and battery energy storage systems (BESS) installation at wind farms or solar PV stations. The specific information on pilot works such as location, scope and scale is pending for confirmation during project preparation. An environmental audit will be conducted for candidate existing coal power plants, and the project will only invest in facilities that already meet the applicable national standard for pollutant emissions with no legacy or historical compliance issues. Given the nature of potential physical works, the adverse environmental impacts during construction phase would mainly include general construction nuisance of dust, noise, soil disturbance, traffic safety, waste disposal, and disturbance to modified habitats, which are generally temporary, short-term, localized, and could be effectively avoided, reduced or mitigated through adopting mature civil work techniques and good management practice. Any new construction or rehabilitation that may cause negative impacts on critical habitats or natural habitats will be excluded. Fire and explosion risks during hydrogen facilities and BESS construction and operation can be well controlled by following national design standards with safety considerations, including placement criteria, fire and explosion prevention measures and emergency response requirements. Battery waste management is an emerging issue that needs to be considered as current recycling technologies are complex.

The environmental impacts assessment will compare domestic standards with Bank's EHS guidelines and GIIP and determine more stringent performance criteria for the battery operation and disposal.

NEA has demonstrated adequate capacity and satisfactory performance to manage environmental and social risks under the safeguards policies during previous Bank project implementation. For this project, NEA has established a national PMO and will make sure that the national PMO is staffed and equipped to enable it to effectively carry out environmental and social risk assessment and management. The overall environmental risk is rated substantial at this stage given the pilot subprojects uncertainty and potential downstream environmental impacts and risks from TA activities. The risk rating will be further assessed during preparation.

Social Risk Rating Substantial

As identified in the concept stage, the main project activities will be TA studies and small to medium scale physical works associated with the pilot investment projects. Considering the amount grant (US$ 19 million) and co-financing mobilized by the government to support the GEF activities, the scale of the GEF project itself would be moderate. TA studies and pilots would be carried out in a few provinces, such as Shanxi, Qinghai, and Zhejiang. However, the project outputs would be replicated across the county to reduce carbon emissions. Geographically, the TA would have national wide downstream implications.

The project will bring significant social benefits to broader society by contributing to carbon neutrality in the long term. The grant will be largely used for technical studies and a few pilots. Considering amount of the grant and allocated and counterpart financing, the pilots will concentrate on addressing key bottleneck on power system transition and demonstrating the pathway towards carbon neutrality in power sector. Components 1 and 2 would have national wide downstream social implications by contributing to an enabling policy circumstance and technical standards to increase RE integration and penetration. The project social risks are mainly related to ESS1, ESS2, ESS5, ESS7, and ESS10.

Considering the type of project activities, implementing the GEF project itself would largely have labor related risks and the risk of inadequate stakeholder engagement to inform the technical studies. However, applying the advice and measures proposed in study outputs would have multifaced downstream social implications. For example, measures to repurposing coal-fired powerplants would have a potential impact on worker's livelihoods. Increasing RE investment would require land acquisition and potential impacts on ethnic minorities considering their geographical distribution. Applying energy storage technologies would have site-specific occupational health and safety (OHS) and community health and safety (CHS) risk. The proposed roadmap to energy revolution would also bring social changes by a novel system and create potential exclusion risk to vulnerable persons and groups. There would be more favorable circumstances to enable the business to reduce pollution, promote low-carbon lifestyles, and provide more green goods and services. Vulnerable groups would be disadvantaged in sharing green energy-related benefits and opportunities, which requires special inclusive consideration.

China has adopted a system for social stability risk assessment for major government decisions. The government would assess underlying social conflict risks associated with projects and reforms and apply relevant measures to reduce the risks. The governments normally establish a leading group to guide the transitions that would involve many affected persons. Government funding or subsidiaries would be offered to support the affected persons to transform their livelihoods, which, as a result, would reduce the hardship that the affected persons would experience.

The overall social risk is deemed as Substantial at the current concept stage. The project social risk rating will be further justified when more specific information on project activities are available during preparation.

B. Environment and Social Standards (ESSs) that Apply to the Activities Being Considered

B.1. General Assessment

ESS1 Assessment and Management of Environmental and Social Risks and Impacts

Overview of the relevance of the Standard for the Project:

Initial environmental and social due diligence was conducted primarily based on a desk review of the draft project concept note and desktop study of the environmental and social implications of relevant and similar studies. The project has overall environmental benefits of promoting clean and low-carbon development in China and the pilot provinces/cities, and therefore reducing GHG emission, improving air quality, and contributing to climate change mitigation.

Implementation of TA activities under Component 1 and 2 will not cause any direct adverse environmental impacts but will involve significant stakeholder engagement and public consultation for inclusive planning and potentially have downstream impacts during the implementation of the products/outcomes of TA (such as impacts, risks and hazards from construction, installation and operation of battery storage, wind farms, solar PV stations, and electric power transmission facilities, including general construction nuisance, habitat alteration or disruption, electric and magnetic fields exposure, hazardous materials disposal, fire and explosion risks, occupational health and safety, etc.). Downstream environmental issues and implications would need to be considered and assessed during the policy and strategy planning process and technical standards setting, including conducting environmental and alternatives analysis. This is supported by building the counterpart capacity for integrating environmental and social objectives into their work, and have the ToRs and outputs reviewed by the Bank team to ensure that the relevant ESSs of the ESF are complied with. National PMO will hire environmental and social experts to support the development of the TAs, and the project lawyer and/or LEGEN should be consulted when advising government in developing regulatory instruments.

Based on current project design, the pilot subprojects at provincial/city levels will be composed of both studies and physical works associated with upgrading of existing coal power plants to the sites of renewable energy with storage, green hydrogen production, and BESS installation at wind farms or solar PV stations. The specific information on pilot works such as location, scope and scale is pending for confirmation during project preparation. An environmental audit will be conducted for candidate existing coal power plants, and the project will only invest in facilities that already meet the applicable national standard for pollutant emissions with no legacy or historical compliance issues. Given the nature of potential physical works, the adverse environmental impacts during construction phase would mainly include general construction nuisance of dust, noise, soil disturbance, traffic safety, waste disposal, and disturbance to modified habitats, which are generally temporary, short-term, localized, and could be effectively avoided, reduced or mitigated through adopting mature civil work techniques and good management practice. Any new construction or rehabilitation that may cause negative impacts on critical habitats or natural habitats will be excluded. Fire and explosion risks during hydrogen facilities and BESS construction and operation can be well controlled by following national design standards with safety considerations, including placement criteria, fire and explosion prevention measures and emergency response requirements. Planning for battery waste management will require the review of current recycling technologies and practices in China. The environmental impacts assessment

will compare domestic standards with Bank's EHS guidelines and GIIP, and determine more stringent performance criteria for the battery operation and disposal.

The project social scale varies a bit among the policy and technical support to improve RE penetration and pilots to move away from coal. Implementing the policy support (component 1) and the support to technology improvement to apply battery storage in the power system (component 2) would have broader social effects than the pilots (component 2). Components 3 (capacity building and project management) is unlikely to bring significant risks. The project and the pilots themselves would have moderate social risk and impact, largely associated with the risk of potential inadequate stakeholder engagement over the period of technical study. However, application of the advice proposed by the technical study would have downstream social changes such as worker retrenchment and livelihood impact (by repurposing coal power plants), site-specific OHS risk (similar to the RE battery storage investment), land acquisition and resettlement (RE investment), and exclusion risks to vulnerable groups, for which the technical study shall take it into account before formulating appropriate and strategical advice consistent with relevant ESSs. Impacts on ethnic minorities will be further revisited by baseline scoping assessment to understand the project's nature and geographical implications. The Bank team will further identify and review the social risks (particularly downstream risks) during preparation per relevant ESSs.

As details of TAs and pilot subproject activities will only be confirmed during project preparation and implementation, an ESMF will be prepared prior to project appraisal to 1) state the principles for integrating E&S analysis into design and implementation of TAs and pilots; 2) provide the procedure for E&S screening and subsequent assessment of TAs and pilots; 3) state the requirements on E&S instruments for TAs and pilots.

The ESMF will:

a) Review national regulatory framework and their enforcement related to E&S management of the energy sector, along with mechanisms proposed to fill any major gaps if identified against ESF and also relevant GIIP;

b) Establish high-level environmental and social baselines pertaining to the project proportionate to the E&S risks (for example the potential labor retrenchment impacts by TA studies);

c) Conduct a preliminary E&S risk scoping to inform the selection of E&S assessment instruments (including E&S audits of existing facilities) and the design and selection of city and provincial pilots;

d) Conduct E&S screening and analysis of TAs and pilots, and propose recommendations for addressing potential E&S impacts that are consistent with ESSs 1-10;

e) Document procedures to manage environmental and social impacts, including the E&S eligibility criteria/exclusion list (to exclude high E&S risks activities), development, appraisal and approval of specific E&S instruments, implementation monitoring, public consultation and information disclosure;

f) Document key findings and recommendations from E&S assessment conducted for the project;

g) Review of existing institutional capacity on E&S management and the proposal for project-specific capacity building plan;

h) Establish monitoring and reporting requirements;

i) Set out appropriate E&S assessment tools to analyze the downstream E&S risks and impacts of relevant studies.

Once a pilot and specific project activities are known, the PMO should carry out screening to determine its eligibility for financing. The grant applicants will develop appropriate E&S documents proportionate to the risks and impacts of

the particular activity, consistent with the ESMF. The E&S documents will provide sufficient details to inform stakeholder engagement and the World Bank decision making. The PMO and the grant applicants will submit to the World Bank and disclose the E&S documents as specified in the ESCP.

Areas where "Use of Borrower Framework" is being considered:

Although China has a comprehensive E&S Framework, its use for the project is not recommended due to the limited experience of the implementing agencies in implementing and applying ESF and its associated environmental and social standards. Also, a comprehensive assessment of the borrower framework has not been completed.

ESS10 Stakeholder Engagement and Information Disclosure

As the project primarily consists of policy and strategies development, pilot research and studies, and capacity building, stakeholder engagement and information disclosure is a central pillar to promote transparency and inclusive planning, and ensure wide public participation, acceptance and equal access of vulnerable groups.

At this stage, key stakeholders identified for the project include i) national and local governments engaged in the renewable energy sector management; ii) academic institutions, NGOs and community organizations involved in renewable energy research; iii) companies undertaking renewable energy projects design and implementation; iv) the wide public and communities that would be positively or negatively affected by the application of the project outputs; v) the regional local authorities that have substantial influence on energy transition away from coal; vi) vulnerable groups, such as ethnic minorities, workers employed or engaged in brown energy sector, etc.

Considering the pilots would be known in the early stage of implementation, the Borrower will develop a Stakeholder Engagement Framework (SEF) before the Appraisal. The SEF will identify the specific stakeholder groups, strategically assess the impacts to and influence by various stakeholders, and map the different approaches for engaging with them. The SEF will include a framework outlining general principles and a collaborative strategy to identify stakeholders and plan for an engagement process per ESS10. The SEF will give particular consideration to the influential authorities/parties, the affected persons/groups, vulnerable groups (including the ethnic minorities, the coal mine works, etc.) and the current context of COVID-19.

Once the TA contents and a pilot's location is known, an activity-specific stakeholder engagement plan (SEP) will be prepared during its preparation. During the process of TA, PMO shall put in-place culturally appropriate actions and measures to enable ongoing meaningful consultation throughout the whole process of studies and pilots. The activity-specific SEP will be developed with the implementation of appropriate mechanism for disclosure and public consultation. It will also include the description of an accessible and effective grievance redress mechanism (GRM) to respond to the concerns about the study findings as well as the risks in connection with the pilots. The GRM will be operational by project effectiveness and before any activities are supported that require the GRM coverage.

B.2. Specific Risks and Impacts

A brief description of the potential environmental and social risks and impacts relevant to the Project.

ESS2 Labor and Working Conditions

This standard is relevant. According to ESF definition, PMO staff are not considered as "direct workers", and they are managed as government civil servants, fully complying with national labor management regulations. ESS2 is not applied for such government civil servant except for the provisions on occupational health and safety (OHS). The contracted workers for the TA activities are mostly white collar knowledge workers (e.g. consultants, trainers or monitors recruited by the implementing agency or its sub-contractors), and as such, effectively protected by existing legal system. The pilot subprojects may involve contracted workers to perform construction works and equipment installation. Community workers are unlikely to be engaged in consideration of technical nature for the potential pilot subprojects. The risk of forced labor, child labor or health and safety regarding the contracted workers or primary supply workers is low considering China's comprehensive regulations on labor protection and increasingly strengthened labor inspection by local authority. As there is uncertainty on the provincial/city-level pilot subprojects in component 2 which may present labor management risks, the screening process as set out in the ESMF will identify the key ESS2 related issues. During the preparation, the ESMF will further assess the project's labor risks and determine the form of labor management procedure to be adopted for the project itself.

The TA studies and pilots would have potential downstream impacts on labor and working conditions. For example, risks associated with the downstream application of policy may involve livelihood risks to workers associated with repurposing coal power plants. The study itself should include assessment of labor-related risks and impacts and consider integrating mitigation into design as policy level inputs for management of social change (such as labor retrenchment and livelihoods). The advice in the TA output shall be consistent with ESF to address the livelihood concerns of affected coal mine workers by set outing a clear strategical action plan for the government to consider. In addition, the application of battery storage in the power system may involve site-specific OHS and CHS risks. The technical and environmental standards produced under component 2 shall include relevant OHS aspects. The ESMF will set out the procedure to include the E&S aspects in the roadmap study and policy design, as well as E&S criteria for selecting pilots.

There are two tiers of consideration for applying LMP. Before Appraisal, NEA will prepare an LMP for the project itself to i) protect workers' rights as set out in ESS2; (ii) include a responsive grievance mechanism to allow workers to quickly inform management of labor issues; and (iii) promote a healthy and safe working environment for project workers, including specific health and safety issues posed by COVID-19. The LMP will distinguish between the different types of workers as identified under ESS2 and identify specific protections for each type/category.

A second tier is to recommend appropriate LMP as an instrument to manage downstream retrenchment and other labor risks identified in relevant studies. The sector-specific LMP will be developed during the implementation and will be included as part of the project design in the study outputs to enhance labor management in downstream activities consistent with the relevant aspects of ESS2.

During implementation, the labor and working conditions will be subject to spot checks by the Borrower and the World Bank as part of monitoring and supervision requirements. Incidents (e.g. health and safety incidents in the workplace) involving any type of labor hired under the project should be reported to the Bank through the reporting mechanisms established for the project.

ESS3 Resource Efficiency and Pollution Prevention and Management

This standard is considered relevant as the project aims to promote sustainable use of energy and minimize emission of climate pollutants. Study and comparison of various emerging technologies and their applications will need to benchmark energy efficiency and GHG emissions with available national and international benchmarking data and standards, including GIIP and the applicable EHS guidelines of the World Bank Group. Recommendations from TA studies and pilots may have downstream implications on resource efficiency and pollution management. During project preparation, a preliminary scoping will be carried out to screen and assess the key ESS3 related issues with regards to the TA studies and pilots, and any downstream implications by applying the outputs from the studies, such as proper disposal of used batteries and other hazardous wastes, options for recycling and repurposing battery components, increasing battery life through advanced battery management systems, etc. The scoping results will inform the preparation of the ESMF to require that the ToRs for the TA studies to take into account sustainable use of resources and pollutants minimization. For pilot upgrading of coal power plants, the original/baseline pollution from the existing facilities, including air emissions, industrial solid wastes and hazardous wastes, and wastewater will remain. The ESMF will require that an environmental audit be conducted and the project will only invest in facilities that already meet the applicable national standard for pollutant emissions with no legacy or historical compliance issues. Opportunities to further reduce the pollutants during the conversion would be explored during subproject preparation and implementation. For pilot physical investments associated with BESS and green hydrogen production and storage, the used batteries, adsorbent and engine oil are considered as hazardous wastes with damage to humans and environment if not properly disposed. During project preparation, relevant domestic regulations and their enforcement will be reviewed against the requirements of ESS3 and the World Bank's applicable EHS guidelines to inform the assessment and mitigation measures proposed in the ESMF/ESCP.

ESS4 Community Health and Safety

This standard is relevant. Some pilot subprojects may involve civil works, and bring general construction nuisance (e.g. dust, noise, traffic disturbance, waste) to communities located close to the construction site. These construction impacts are anticipated to be temporary, short-term, localized, and can be readily mitigated by incorporating good civil work practices. Given the expected nature and scale, these civil works are unlikely to cause large labor influx. Therefore, the risks of communicable disease spread and sexual exploitation and abuse and sexual harassment (SEA-SH) associated with labor influx are considered low. Operation of hydrogen production facilities and BESS could bring community health and safety concerns such as noise and fire and explosion risks. In addition to follow existing national regulatory and supervision system for these operational phase impacts, necessary actions/mitigations measures will be proposed in the ESMF and ESCP to further control these impacts with reference to Bank's EHS guidelines, GIIP and also technical and environmental standards developed from TA studies.

The TA studies may involve quite a number of meetings, workshops and trainings with stakeholders, and travel by project workers to the field, in which case there is possibility of the transmission of communicable diseases such as COVID-19. Therefore, preventative measures need to be built into project design and operating procedures to minimize the risk of person-person transmission. Community health and safety guidelines will draw on existing World Bank and WHO guidance on COVID-19 to prevent or minimize the spread of COVID-19 in the workplace or communities. The Borrower will monitor the situation and prepare emergency response plan for COVID-19 spread when it is necessary.

As part of the ESMF, the exclusion list and screening checklist shall include appropriate dimensions in selecting the pilots.

Another tier of consideration is to apply ESS4 to the studies. In the future, adopting pathways in the study outputs would have downstream risks on community health and safety. For example, battery energy storage and other emerging technologies would have health and safety risks to surrounding communities. The studies and pilots shall consider potential downstream community health and safety risks and impacts and include appropriate advice following the ESS4, which would provide a more useful sustainability outcome of the project.

ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

ESS5 is considered relevant, although the project itself will focus on technical studies and would not involve physical investment activities. Resettlement risks are primarily associated with the downstream application of the project outputs to increase RE penetration. For example, advice to increase the share of RE (e.g., solar, wild, green hydrogen) would have social ramifications on land acquisition. China has formulated relevant policy to promote RE development on wasteland, low-productive land, etc., to minimize competing for farmland and grazing land. Applying emerging technologies (e.g., battery storage) to increase power system flexibility would involve small scale land use and, in some cases, with remote area legacy land issues in existing RE facilities. As part of the TA studies and pilots, land acquisition and resettlement risks shall be screened and assessed. The advice and other support provided shall include appropriate recommendations for addressing social risks consistent with ESS5. Downstream resettlement risks will be further assessed during preparation when more information on the project activities is available. During preparation, a preliminary scoping will be conducted to inform the screening of potential downstream resettlement risks and the preparation of the ESMF. The ESMF will set out appropriate procedures to include land acquisition and resettlement aspects as part of the road map study and the policy design.

ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

This standard is considered relevant. Exclusion criteria will be included in the ESMF to avoid any negative impacts on critical habitats or natural habitats. Under the proposed ESMF, all subprojects will be screened whether the construction or operation may cause adverse impacts to any modified habitat and its biodiversity, and mitigation measures will be proposed to avoid or minimize the impacts. Relevance of ESS6 will be further reviewed during project preparation.

ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities

ESS7 is deemed relevant in consideration of potential sensitive locations of certain pilots and the design of culturally appropriate stakeholder engagement to inform the study. The project aims to support China's energy revolution program through improving RE integration in the power systems to increase RE penetration. Some northwestern regions (such as Gansu, Qinghai, Inner Mongolia, Shanxi, etc.) have a higher composition of ethnic minority groups and lead RE development. The project itself is unlikely to cause relevant social risks to ethnic minorities. However, applying the advice in the study output would induce potential social implications to ethnic minorities, such as land acquisition, labor and working conditions, community safety, etc. To promote improved planning, meaningful and inclusive engagement with broader stakeholders (including ethnic minorities) are important during the study process

itself. During preparation, a preliminary scoping will be conducted to analyze the impacts to and influence by ethnic minorities on the project and to inform the preparation of the ESMF and stakeholder engagement framework (SEF). The ESMF and SEF will include elements consistent with ESS7 and consider that specical needs of ethnic minorities. The roadmap study and policy design will include ethnic minorities aspects to assess the downstream social risk to ethnic minorities and advise appropriate mitigation strategies. If the ESS7 is confirmed to be relevant to a pilot, appropriate measures should be taken by the grant applicant to ensure relevant requirements of ESS7 are to be met.

ESS8 Cultural Heritage

This standard is considered relevant. The project will neither have a material impact on intangible cultural heritage nor use such cultural heritage for commercial purposes, but location of the civil works under pilot subprojects remains known until project preparation or implementation. The E&S screening process of ESMF will include screening for risks and impacts on cultural heritage, and relevant requirements of ESS8 will be applied where subprojects are found to have significant risks and impacts on cultural heritage. The ESMF will also incorporate chance find procedures. Relevance of ESS8 will be further reviewed during project preparation.

ESS9 Financial Intermediaries

ESS9 is not relevant as the project will not involve any financial intermediaries.

B.3 Other Relevant Project Risks

Not currently anticipated.

C. Legal Operational Policies that Apply

OP 7.50 Projects on International Waterways	No
OP 7.60 Projects in Disputed Areas	No

III. WORLD BANK ENVIRONMENTAL AND SOCIAL DUE DILIGENCE

A. Is a common approach being considered? No

Financing Partners

Not applicable

B. Proposed Measures, Actions and Timing (Borrower's commitments)

Actions to be completed prior to Bank Board Approval:

PMO to develop an ESMF in compliance with ESF;

PMO to develop a LMP in compliance with ESS2;
PMO to develop a SEF in compliance with ESS10;
PMO to develop Appraisal stage ESCP;
PMO to develop timebound institutional capacity enhancement plan (as part of the ESMF);
PMO to disclose the ESMF, LMP, SEF, and ESCP as early as possible and before appraisal.
For the pilot demonstrations that can be determined before appraisal, the grant applicants to develop appropriate environmental and social documents (including LMP) consistent with the ESMF and ESSs, and disclose them before appraisal.

Possible issues to be addressed in the Borrower Environmental and Social Commitment Plan (ESCP):

Maintenance of a PMO with qualified staff and resources to support management of environmental and social risks and impacts of the Project, including an environmental and social specialist.
ToRs for commissioning organizations (e.g. research, consulting or monitoring institutions) to be reviewed by the Bank to ensure inclusion of aspects related to the relevant ESSs.
ToRs for studies supported by the TA to be reviewed by the Bank to ensure compliance with the relevant provisions of the ESF.
Maintenance of an operational and effective stakeholder engagement and grievance redress mechanism by the PMO and grant applicants.
PMO and grant applicants to implement SEF at all critical stages of the project.
For those pilots and activities that would be confirmed during implementation, grant applicants to develop appropriate E&S documents (including LMP) consistent with the ESMF and apply relevant ESSs.
PMO to submit annual Environmental and Social Monitoring Report.

C. Timing

Tentative target date for preparing the Appraisal Stage ESRS	05-May-2021

IV. CONTACT POINTS

World Bank

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Borrower/Client/Recipient

Borrower: Ministry of Finance

Implementing Agency(ies)

Implementing Agency: National Energy Administration

V. FOR MORE INFORMATION CONTACT

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VI. APPROVAL

Task Team Leader(s):	Ximing Peng, Christophe de Gouvello
Practice Manager (ENR/Social)	Ann Jeannette Glauber Recommended on 17-Mar-2021 at 20:33:4 GMT-04:00
Safeguards Advisor ESSA	Nina Chee (SAESSA) Cleared on 17-Mar-2021 at 21:45:46 GMT-04:00