

2. **Social and Environmental Screening Template** [English][French][Spanish], including additional Social and Environmental Assessments or Management Plans as relevant. (NOTE: The SES Screening is not required for projects in which UNDP is Administrative Agent only and/or projects comprised solely of reports, coordination of events, trainings, workshops, meetings, conferences, preparation of communication materials, strengthening capacities of partners to participate in international negotiations and conferences, partnership coordination and management of networks, or global/regional projects with no country level activities).

Project Information

Project Information	
1. Project Title	Hydrogen Economy Pilot in China
2. Project Number	00096939
3. Location (Global/Region/Country)	China

Part A. Integrating Overarching Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Overarching Principles in order to Strengthen Social and Environmental Sustainability?
<i>Briefly describe in the space below how the Project mainstreams the human-rights based approach</i>
The project does not have any activities specifically focused on mainstreaming the human rights based approach. It will, however, in general terms ensure it follows the human rights based approach, despite one identified risk, as explained below.
<i>Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment</i>
The project does not have any activities specifically focused on mainstreaming gender equality and women's empowerment. As such, it is not likely to improve these areas in a general way. Yet, efforts will be taken to promote gender equality and women's empowerment where possible and as follows: Throughout all its activities, the project will aim to include as many women as possible, both as recipients of various forms of technical assistance and as consultants retained by the project. In particular, six major project activities, workshops, and study tours include in their design efforts to include as many women as possible.
<i>Briefly describe in the space below how the Project mainstreams environmental sustainability</i>
This project's objective is demonstrate the application of hydrogen production and technology in the field of manufacturing and consumer, and build the first "Hydrogen City" to demonstrate the hydrogen economy. Renewable energy based hydrogen production of substantial scale is introduced into China as are hydrogen refueling stations with varied business models. Policy promoting FCVs is enhanced as is awareness of FCVs.

Part B. Identifying and Managing Social and Environmental Risks

<p>QUESTION 2: What are the Potential Social and Environmental Risks?</p> <p><i>Note: Describe briefly potential social and environmental risks identified in Attachment 1 – Risk Screening Checklist (based on any “Yes” responses). If no risks have been identified in Attachment 1 then note “No Risks Identified” and skip to Question 4 and Select “Low Risk”. Questions 5 and 6 not required for Low Risk Projects.</i></p>	<p>QUESTION 3: What is the level of significance of the potential social and environmental risks?</p> <p><i>Note: Respond to Questions 4 and 5 below before proceeding to Question 6</i></p>			<p>QUESTION 6: What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?</p>
<p>Risk Description</p>	<p>Impact and Probability (1-5)</p>	<p>Significance (Low, Moderate, High)</p>	<p>Comments</p>	<p>Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.</p>
<p>Risk 1 (Principle 1-4): There is a possibility that residents of certain neighborhoods will not be included in decisions to site hydrogen refueling stations in those neighborhoods.</p>	<p>I = 3 p = 3</p>	<p>Moderate</p>		<p>Project plans annual survey of public perception of hydrogen refueling stations in the neighborhood of the HRS demos. For cities that lack standard consultative process, first annual survey will serve to initiate consultation process.</p>
<p>Risk 2 (Principle 2-2): There is a possibility that the project will unintentionally reproduce discrimination against women based on gender, particularly with regard to participation in some project activities. While women are well-represented in the workplace in China, they may face a “glass ceiling” and as such may not be accorded equal opportunities for involvement in special activities, such as workshops and international study tours.</p>	<p>I = 3 p = 3</p>	<p>Moderate</p>	<p>The reason a probability of 3 “moderately likely” is given is that it will generally be the beneficiary work unit rather than the project itself that makes the decision as to who will be involved in project activities. Beneficiary work units may have a bias towards involving men in project activities over women. The impact is also rated 3 (“moderate”). With fewer women involved in project activities than might be, the potential for them to be significantly involved in the</p>	<p>Throughout all its activities, the project will aim to include as many women as possible, both as recipients of various forms of technical assistance and as consultants retained by the project. In particular, six major project activities, one for each of the aforementioned groups) include written into their design that an effort to include as many women as possible will be made.</p>

			FCV sector is further reduced.	
Risk 3 (Principle 3, Standard 3-3.1): It is possible that elements of project operation will lead to potential safety risks to the community, as relates to the production, transport, and refueling of hydrogen, as well as its use in vehicles. For FCVs the main risk relates to hydrogen leaks (due to part failure or rupture due to impact), which could lead to fire or explosion. For hydrogen refueling stations, the main risk relates to hydrogen leaks (due to part failure or misuse), which could lead to fire or explosion. For hydrogen production, the main risk is that hydrogen leak (due to part failure) could lead to fire or explosion. As for hydrogen transport (from producer to station), the main risk is hydrogen leak at tanker truck (due to part failure, accident) that could lead to fire or explosion.	I = 2 P = 2	Low	While safety issues are acknowledged and deserve careful attention, there is in a sense also a certain level of myth in regard to hydrogen safety issues. Hydrogen has some substantial advantages that limit the impact of any incident: It is so light that it immediately evaporates upwards and disappears. It is also non-poisonous, so that there is no contamination or health impact to affected people or environment (except fire/explosion). Finally, because hydrogen is so light, any fire will be gone quickly (much faster than a gasoline/natural gas fire).	Safety issues will receive prominent position in technical assistance for FCV manufacturers and renewable energy based hydrogen production, as well as in technical assistance for hydrogen refueling stations. Their coverage is specifically indicated in the text of the project design. Standards and testing work will further reinforce safety aspects. Specific countermeasures taken for each sub-area of risk and that will be adopted in the aforementioned activities include the following: (1) FCV risk: countermeasures in vehicle and component design (special hoses, valves, position of tank in vehicle), hydrogen sensors, and shutoff-valves; (2) hydrogen refueling station risk: station design, safety/shutoff mechanisms, control of station, and location of pump and equipment; (3) hydrogen production risk: design, shutoff mechanisms, and operator training; (4) hydrogen transport risk: tanker and component design, safety/shutoff mechanisms, and operator training.
Risk 4 (Principle 3, Standard 3-3.2): It is possible that elements of project operation will lead to potential occupational safety risks as relates to the production, transport, and refueling of hydrogen, as well as its use in vehicles. The specific risks for each of these areas is the same as outlined above under Risk 3.	I = 2 P = 2	Low		Same management measures as described in cell directly above in Table 1 .
QUESTION 4: What is the overall Project risk categorization?				
Select one (see SESP for guidance)			Comments	
<i>Low Risk</i>			<input type="checkbox"/>	
<i>Moderate Risk</i>			<input checked="" type="checkbox"/> Of four risks, two are rated "moderate;" Two rated "low."	
<i>High Risk</i>			<input type="checkbox"/>	
QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are relevant?				
Check all that apply			Comments	

	Principle 1: Human Rights	<input checked="" type="checkbox"/>	Risk 1 relates to human rights – the right to be involved in decisions that impact one’s community
	Principle 2: Gender Equality and Women’s Empowerment	<input checked="" type="checkbox"/>	Risk 2 relates to gender equity and women’s empowerment – the principle that women should be treated equally and have equal opportunity (in this case equal opportunity for participation in the project and related career advancement or business opportunity)
	1. Biodiversity Conservation and Natural Resource Management	<input type="checkbox"/>	
	2. Climate Change Mitigation and Adaptation	<input type="checkbox"/>	
	3. Community Health, Safety and Working Conditions	<input checked="" type="checkbox"/>	Risks 3 and 4 relate to safety of the community and employees with regard to hydrogen production, transport, refueling, and use in vehicles.
	4. Cultural Heritage	<input type="checkbox"/>	
	5. Displacement and Resettlement	<input type="checkbox"/>	
	6. Indigenous Peoples	<input type="checkbox"/>	
	7. Pollution Prevention and Resource Efficiency	<input type="checkbox"/>	

Final Sign Off

Signature	Date	Description
QA Assessor		UNDP staff member responsible for the Project, typically a UNDP Programme Officer. Final signature confirms they have “checked” to ensure that the SESP is adequately conducted.
QA Approver		UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD), Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have “cleared” the SESP prior to submittal to the PAC.
PAC Chair		UNDP chair of the PAC. In some cases PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.

SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks	
Principles 1: Human Rights	Answer (Yes/No)
1. Could the Project lead to adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No
2. Is there a likelihood that the Project would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups? ¹¹	No
3. Could the Project potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups?	No
4. Is there a likelihood that the Project would exclude any potentially affected stakeholders, in particular marginalized groups, from fully participating in decisions that may affect them?	No
5. Is there a risk that duty-bearers do not have the capacity to meet their obligations in the Project?	No
6. Is there a risk that rights-holders do not have the capacity to claim their rights?	No
7. Have local communities or individuals, given the opportunity, raised human rights concerns regarding the Project during the stakeholder engagement process?	No
8. Is there a risk that the Project would exacerbate conflicts among and/or the risk of violence to project-affected communities and individuals?	No
Principle 2: Gender Equality and Women's Empowerment	
1. Is there a likelihood that the proposed Project would have adverse impacts on gender equality and/or the situation of women and girls?	No
2. Would the Project potentially reproduce discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	No
3. Have women's groups/leaders raised gender equality concerns regarding the Project during the stakeholder engagement process and has this been included in the overall Project proposal and in the risk assessment?	No
4. Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? <i>For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being</i>	No
Principle 3: Environmental Sustainability: Screening questions regarding environmental risks are encompassed by the specific Standard-related questions below	
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management	
1.1 Would the Project potentially cause adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services? <i>For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes</i>	No
1.2 Are any Project activities proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	No
1.3 Does the Project involve changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No
1.4 Would Project activities pose risks to endangered species?	No
1.5 Would the Project pose a risk of introducing invasive alien species?	No
1.6 Does the Project involve harvesting of natural forests, plantation development, or reforestation?	No

¹¹ Prohibited grounds of discrimination include race, ethnicity, gender, age, language, disability, sexual orientation, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to "women and men" or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender people and transsexuals.

1.7	Does the Project involve the production and/or harvesting of fish populations or other aquatic species?	No
1.8	Does the Project involve significant extraction, diversion or containment of surface or ground water? <i>For example, construction of dams, reservoirs, river basin developments, groundwater extraction</i>	No
1.9	Does the Project involve utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)	No
1.10	Would the Project generate potential adverse trans-boundary or global environmental concerns?	No
1.11	Would the Project result in secondary or consequential development activities which could lead to adverse social and environmental effects, or would it generate cumulative impacts with other known existing or planned activities in the area? <i>For example, a new road through forested lands will generate direct environmental and social impacts (e.g. felling of trees, earthworks, potential relocation of inhabitants). The new road may also facilitate encroachment on lands by illegal settlers or generate unplanned commercial development along the route, potentially in sensitive areas. These are indirect, secondary, or induced impacts that need to be considered. Also, if similar developments in the same forested area are planned, then cumulative impacts of multiple activities (even if not part of the same Project) need to be considered.</i>	No
Standard 2: Climate Change Mitigation and Adaptation		
2.1	Will the proposed Project result in significant ¹² greenhouse gas emissions or may exacerbate climate change?	No
2.2	Would the potential outcomes of the Project be sensitive or vulnerable to potential impacts of climate change?	No
2.3	Is the proposed Project likely to directly or indirectly increase social and environmental vulnerability to climate change now or in the future (also known as maladaptive practices)? <i>For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding</i>	No
Standard 3: Community Health, Safety and Working Conditions		
3.1	Would elements of Project construction, operation, or decommissioning pose potential safety risks to local communities?	Yes
3.2	Would the Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	Yes
3.3	Does the Project involve large-scale infrastructure development (e.g. dams, roads, buildings)?	No
3.4	Would failure of structural elements of the Project pose risks to communities? (e.g. collapse of buildings or infrastructure)	No
3.5	Would the proposed Project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, and erosion, flooding or extreme climatic conditions?	No
3.6	Would the Project result in potential increased health risks (e.g. from water-borne or other vector-borne diseases or communicable infections such as HIV/AIDS)?	No
3.7	Does the Project pose potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction, operation, or decommissioning?	Yes
3.8	Does the Project involve support for employment or livelihoods that may fail to comply with national and international labor standards (i.e. principles and standards of ILO fundamental conventions)?	No
3.9	Does the Project engage security personnel that may pose a potential risk to health and safety of communities and/or individuals (e.g. due to a lack of adequate training or accountability)?	No
Standard 4: Cultural Heritage		
4.1	Will the proposed Project result in interventions that would potentially adversely impact sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: Projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	No
4.2	Does the Project propose utilizing tangible and/or intangible forms of cultural heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement		
5.1	Would the Project potentially involve temporary or permanent and full or partial physical displacement?	No
5.2	Would the Project possibly result in economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	No
5.3	Is there a risk that the Project would lead to forced evictions? ¹³	No

¹² In regards to CO₂, 'significant emissions' corresponds generally to more than 25,000 tons per year (from both direct and indirect sources). [The Guidance Note on Climate Change Mitigation and Adaptation provides additional information on GHG emissions.]

5.4	Would the proposed Project possibly affect land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples		
6.1	Are indigenous peoples present in the Project area (including Project area of influence)?	No
6.2	Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	No
6.3	Would the proposed Project potentially affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the Project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)? <i>If the answer to the screening question 6.3 is "yes" the potential risk impacts are considered potentially severe and/or critical and the Project would be categorized as either Moderate or High Risk.</i>	No
6.4	Has there been an absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No
6.5	Does the proposed Project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.6	Is there a potential for forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources?	No
6.7	Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	No
6.8	Would the Project potentially affect the physical and cultural survival of indigenous peoples?	No
6.9	Would the Project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	No
Standard 7: Pollution Prevention and Resource Efficiency		
7.1	Would the Project potentially result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or trans-boundary impacts?	No
7.2	Would the proposed Project potentially result in the generation of waste (both hazardous and non-hazardous)?	No
7.3	Will the proposed Project potentially involve the manufacture, trade, release, and/or use of hazardous chemicals and/or materials? Does the Project propose use of chemicals or materials subject to international bans or phase-outs? <i>For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Conventions on Persistent Organic Pollutants or the Montreal Protocol</i>	No
7.4	Will the proposed Project involve the application of pesticides that may have a negative effect on the environment or human health?	No
7.5	Does the Project include activities that require significant consumption of raw materials, energy, and/or water?	No

3. Risk Analysis. Use the standard [Risk Log template](#). Please refer to the [Deliverable Description of the Risk Log](#) for instructions

¹³ Forced evictions include acts and/or omissions involving the coerced or involuntary displacement of individuals, groups, or communities from homes and/or lands and common property resources that were occupied or depended upon, thus eliminating the ability of an individual, group, or community to reside or work in a particular dwelling, residence, or location without the provision of, and access to, appropriate forms of legal or other protections.