



**UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION**

**TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL  
SERVICE AGREEMENT (ISA)**

<b>Title:</b>	International Green SHP Technical Consultant to develop training material, conduct training session and study tours for “Upgrading of China SHP Capacity Project” Project number: SAP 140196—03
<b>Main Duty Station and Location:</b>	Remote work with travels to China as necessary
<b>Mission/s to:</b>	Domestic travel to be defined based on work plan
<b>Start of Contract (EOD):</b>	TBC
<b>End of Contract (COB):</b>	TBC
<b>Number of Working Days:</b>	6 months
<b>Apply By:</b>	ASAP, no later than 15 July, 2019

**ORGANIZATIONAL CONTEXT**

The United Nations Industrial Development Organization (UNIDO) is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability. The mandate of UNIDO is to promote and accelerate inclusive and sustainable industrial development in developing countries and economies in transition.

The International Center on Small Hydropower (ICSHP) is a public and non-profit institution under the auspices of UNIDO, China's Ministry of Water Resources (MWR) and Ministry of Commerce (MOFCOM), aiming at promotion of global SHP development. ICSHP is hosting the Project Management Unit (PMU) in its premises in Hangzhou, China. ICSHP is responsible for the project technical management, organizing the project application and execution, providing service, supervision, motoring and acceptance, establishing a management system to ensure project implementation.

**PROJECT CONTEXT**

UNIDO in association with the Ministry of Water Resources (MWR) is currently implementing the project entitled Upgrading of China Small Hydropower (SHP) Capacity. The Project will focus on environmental upgrading of rural SHP stations in China, in line with the priorities of the Chinese Government, as outlined in the 12<sup>th</sup> FYP (five-year plan) 2011-2015.

For the first time, the Outline of 12<sup>th</sup> FYP for National Economic and Social Development has taken the reduction of CO<sub>2</sub> emission intensity per unit of GDP by 17% as a binding target, and further specified the key tasks for GHG emission control among other aspects. Since 2004, the central Chinese Government has listed rural hydro power development in its rural infrastructure construction tasks to further increase investments and loan input to support rural hydropower development.

The Project aims at supporting the SHP capacity expansion programme of the MWR, by reducing the environmental

impact of SHP plants to better meet the challenges imposed by climate change. The objective of this project is to reduce GHG emissions and dependence on fossil fuels through the promotion of upgrading, greening and improving the management of existing SHP stations, contributing to the competitiveness of China's industries. Alongside important social and economic benefits, the project will improve local river ecology, hence contributing to adaptation of SHP plants to climate change. It is estimated that additional electricity of about 154,193 MWh per year will be obtained through the project activities, resulting in emission reductions of 2.16 m tCO<sub>2</sub>e. The project will transfer knowledge and technology in the field of green hydropower within China, leading to positive environmental impacts. More specifically the project is structured in three technical components, plus a monitoring and evaluation component, as set out below:

**Component 1: Policy and institutional framework.** This component will strengthen the policy and regulatory framework to effectively promote and support green SHP upgrading by the development of a Ministerial Standard on green SHP, through support for incentive measures as well as assisting in the roll out of the Safe Production SHP standards.

**Component 2: Technology Demonstration.** This component will demonstrate technical feasibility and commercial viability of 24 green and safe upgraded SHPs at different capacities demonstrating a variety of environmental measures and safe production measures. Technical assistance and grants will be provided to facilitate the projects' development. These will build the confidence of both industry and the finance sector, create best practice examples to pave the way for replication, on the basis of experience gained reduced (perceived) risk and increase capacity and awareness at multiple levels, i.e. industry (both at operational and decision-making level) and finance.

**Component 3: Capacity building and increasing knowledge base.** This component will strengthen the institutional capacity as well as address the insufficient technical capacity training, awareness and the development of knowledge products. Activities under this component will be implemented in parallel with components 1 and 2 on policy framework and technology demonstration in order to prepare for the scale up / mainstreaming of green and safe SHP within and beyond the project.

**Component 4: Monitoring and Evaluation.** A two pronged approach will be followed: 1) monitoring and evaluation against the GEF's strategic indicators and 2) monitoring and evaluation project specific technical indicators for outputs per component (components 1-3 as listed above). Ultimately this will provide an indication of the achievement of the goals that the project has set out to be achieved.

Primary target beneficiaries of the project are SHP owners, designers, policy-making and implementing institutions, primarily MWR and MEP, SHP associations, installers, training institutes, energy professionals and service providers and the financial sector.

**International consultant at ICSHP**

Contributing to component 3, the consultant will support the development of training material, organization of training session as well as study tours. In all three areas, the work will include recommendations on gender mainstreaming in the related policies.

The consultants will report to the National Project Manager at the ICSHP. Considering the large scope of these activities, the international consultant will be working closely with national consultants to successfully complete all activities. Coordination between international and national consultants will be facilitated through ICSHP. For this purpose, the international consultant will be required to regularly report on the progress of his/her work.

**Objective**

Successful development of training material, conducting of training session and study tours.

<b><u>MAIN DUTIES</u></b>	<b>Concrete/ measurable Outputs to be achieved</b>	<b>Expected duration</b>	<b>Location</b>
Review existing draft of training material for green measures applied during refurbishment work, including examples, impacts, applicability of each measure, detail design specifications and operating issues as well as gender dimension;	Reviewed draft training material, including recommendations for their improvement and finalisation	2 weeks	Remote work

Review existing draft training material on benefits of regulations and standards related to green SHP and safe management, including gender dimensions;	Reviewed draft training material, including recommendations for their improvement and finalisation	2 weeks	Remote work
Assist in organizing and conducting two international study tours to Switzerland and Austria, one for SHP owners and design institutes (25 participants) and one for policy makers (30 participants), to get exposure to best practices in green SHP and gain understanding of local benefits derived from green SHP;  Attend the two study tours;	Recommendations given on programme and appropriate site visits consistent with the overall goal of the project for the study tours  Two study tours attended bringing about ideas and innovation exchange with Chinese counterparts  Report on both international study tours with specific focus on topics discussed during the site visits and questions raised by participants, challenges faced, and lessons learned during both study tours;	4 weeks	Remote work + Study tour location
Share expertise on technical and policy aspects of green SHP to relevant stakeholders during three national seminars;	Guest lectures given during three national seminars  Report on conducted national seminars, including presentations given during the seminars	3 months	Remote work and travel to China for seminars

<p>Share international experience on green SHP and showcase the accomplishments of the project, in particular regarding training activities, during an international event on green SHP focusing on lessons learnt from international case studies and innovative green measures.</p>	<p>Guest lectures and presentations given during one international green SHP event</p> <p>Report on international green SHP event, including main topics discussed during the event and presentations;</p>	<p>1 month</p>	<p>Remote work and travel to China for international green SHP event</p>
<p>In all outputs, the consultant will provide recommendations on gender mainstreaming; include sessions on gender dimensions in the trainings and events.</p>			

## **MINIMUM ORGANIZATIONAL REQUIREMENTS**

**Education:** Advanced university degree in hydraulic or electric engineering, or other relevant discipline with a specialization in renewable energy or small hydropower.

### **Technical and Functional Experience:**

- A minimum of 10 years practical experience in the hydropower sector, particularly in the field of green small hydropower, including experience at the international level involving technical cooperation in developing countries. Exposure to the needs, conditions and problems in developing countries;
- Excellent knowledge of environmental and social impacts of small hydropower and appropriate technical mitigation measures;
- Proven experience in developing capacity building programs;
- Good understanding of the hydropower sector in China, including its key institutions and industries;
- Publications in the field of environmental law, renewable energy or hydropower policy.

### **Desirable Skills:**

- Knowledge of both qualitative and quantitative research methodology;
- Excellent command of at least one data analysis program such as Python, STATA, R, Mat Lab is strongly desired;

**Languages:** Fluency in written and spoken English is required. Fluency and/or working knowledge of another official UN language, particularly Chinese is an asset.

## **REQUIRED COMPETENCIES**

Core values:

1. Integrity
2. Professionalism
3. Respect for diversity

Core competencies:

1. Results orientation and accountability
2. Planning and organizing
3. Communication and trust
4. Team orientation
5. Client orientation
6. Organizational development and innovation

Managerial competencies (as applicable):

1. Strategy and direction
2. Managing people and performance
3. Judgement and decision making
4. Conflict resolution

## **APPLICATION PROCEDURE**

Submit the cover letter and a detailed CV to [secretariat@inshp.org](mailto:secretariat@inshp.org) copying [recruitment@inshp.org](mailto:recruitment@inshp.org) with project number as the subject of the email. Shortlisted candidates will be notified and asked to send the further documents as required. For any queries about this job please contact [sagar.dhakal@icshp.org](mailto:sagar.dhakal@icshp.org) or [ynzhang@icshp.org](mailto:ynzhang@icshp.org) .