Project Document
CHINA

Project Title: United Nations Development Programme - People's Republic of China - Guangdong-Hongkong-Macao Greater Bay Area Hydrogen Economy Vocational College Demonstration Project
Project ID: 115572 **Start Date:** January 2021 **End Date:** December 2023
Implementing Partner: China Automotive Technology and Research Center Co., Ltd.
Key stakeholders: People's Government of Nanhai District, Foshan City in Guangdong Province of China

Brief Description

As one of the 11 cities in the Guangdong-Hongkong-Macao Greater Bay Area of China, Foshan is not only the forerunner in promoting the demonstration of hydrogen industries, but also the pioneer in the technology development and standard innovation. Foshan city is one of the early five demonstration cities of the 'Accelerating the Development and Commercialization of Fuel Cell Vehicles in China' project (GEF FCV Project), which is being implemented by UNDP in close collaboration with the Ministry of Science and Technology and with funding from the Global Environment Facility (GEF), supported by the China Automotive Technology and Research Center Co., Ltd (CATARC).

However, with the rapid development of technology-intensive hydrogen industries with high safety level requirements and the gradual improvement of relevant industrial planning, which requires highly skilled workers in research, industrialization, safety, detection and all aspects of hydrogen industrial chain. The shortage of technical talents in the hydrogen energy industries has become increasingly obvious across China.

To this end, within the framework of 'GEF/UNDP/MOST Accelerating the Development and Commercialization of Fuel Cell Vehicles in China' project, the United Nations Development Programme (UNDP) cooperates with the People's Government of Nanhai, Foshan, to set up the Hydrogen Economy Institute (Hydrogen Economy Vocational College) in Guangdong-Hongkong-Macao Greater Bay Area for further solving the shortage of technical talents in the hydrogen industries.

In order to establish the Hydrogen Economy Institute (Hydrogen Economy Vocational College), Nanhai District is responsible for the implementation of the project and the identification of and coordination with the university that houses the project, and first set up 'UNDP China Guangdong-Hong Kong-Macao Greater Bay Area Hydrogen Economy Institute' (hereinafter referred to as Hydrogen Economy Vocational College) to carry out preparatory work. The Institute will draw from the experience of the German 'Berufsschule' (i.e., 'Vocational College') model and implement the pilot of 'dual system' training combining theoretical knowledge with hands-on practices in enterprises. The project will provide further support for upgrading of Hydrogen Economy Institute to Hydrogen Economy Vocational College when time is right. The college will take the lead in innovation of the dual accreditation of awarding academic degrees and professional qualifications certification to students after successful completion of vocational training to ensure the sustainable development of talents in the hydrogen and fuel cell industries.

The establishment of the Hydrogen Economy Institute will fill the vacancy of professional and skilled workers in China's hydrogen industry development. At the same time, by integrating the world' first-class teachers in the field of hydrogen energy in China and abroad, it will be established as one of the top vocational colleges for training professionals in hydrogen economy in Guangdong-Hong Kong-Macao Greater Bay Area, and even the whole world.

Apart from this perspective of sustainability, there is no doubt that hydrogen economy represents an opportunity for the region. The district of Nanhai has traditionally been an important focus for automotive industry, electronics manufacturing and nonferrous metal processing in China. The rise of hydrogen industry in Nanhai District of Foshan will further take the lead in the hydrogen economy, and become the main cluster of technology R&D, key parts production and system integration in the field of hydrogen fuel cells in China, thus driving the rapid development of China's hydrogen energy and fuel cell industry.

This project aims to meet the needs of cultivating talents in hydrogen energy and fuel cell industry, strengthen the innovation system with deep integration of production, learning and research, and attach great importance to the introduction of high-level talents into the hydrogen industry.

The duration of the project is estimated for 3 years, in order to promote the further development of Hydrogen Economy Institute, improve the fuel cell industry talent educational system, and drive the China's hydrogen vocational training forward to scale-up, systematization and specialization. Based on the development of China's hydrogen industry, phase II activities of the project could be studied and launched after this project ends.

Contribution to the United Nations Sustainable Development Goals (SDGs): Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Goal 5: Achieve gender equality and empower all women and girls. Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all. Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. Goal 13: Take urgent action to combat climate change and its impacts. Contribution to the United Nations Development Assistance Framework (UNDAF) for China from 2016 to 2020: Outcome 2: More people enjoy a cleaner, healthier and safer environment as a result of improved environmental protection and sustainable green growth. Outcome 3: The effectiveness of China's engagement in international cooperation is enhanced for the mutual benefit of China and the world. Contribution to the UNDP Country Programme Document (CPD) for China (2016-2020): Output 2.1: China's actions on climate change mitigation, biodiversity and chemicals across sectors are scaled up, funded and implemented.	Total resources required	$3,100,000

Agreed by (signatures)

United Nations Development Programme in China	China Automotive Technology and Research Center Co., Ltd.	People's Government of Nanhai District, Foshan City in Guangdong Province of China	Foshan Nanhai South China New Energy Vehicle Industry Promotion Center
Print Name: Devanand Ramiah Deputy Resident Representative	Print Name:	Print Name:	Print Name:
Date: 2021.4.5	Date: 2021.4.6	Date: 2021.4.30.	Date: 2021.5.7

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List of Acronyms

CPD	Country Programme Document
CTA	Chief Technical Advisor
NIM	National Implementation Modality
ESMF	Environmental and Social Management Framework
GRM	Grievance Redress Mechanism
M&E	Monitoring and Evaluation
MOST	Ministry of Science and Technology
MOE	Ministry of Education
MOHRSS	Ministry of Human Resource and Social Security
PMO	Project Management Office
ProDoc	Project Document
SBAA	Standard Basic Assistance Agreement
SDG	Sustainable Development Goals
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme

I Background

More than 170 countries signed the Paris Agreement in 2015 with the aim of limiting global temperature rise this century well below 2 degrees Celsius above pre-industrial levels, and even further to 1.5 degrees Celsius. In October 2018, the *Special Report: Global Warming 1.5°C* issued by the Intergovernmental Panel on Climate Change pointed out that human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels. If emissions continue at the current rate, it is expected that as early as 2030, global warming is likely to reach 1.5°C. This will result in the inundation of the coastline, more severe storms and increased poverty in coastal areas and islands, particularly in the tropics. By 2040, the global temperature rise will reach 2°C, and the population affected by natural disasters will further increase by 420 million.

Clean energy is considered one of the most effective approaches to address climate change and has been used to replace fossil fuels in many countries. Among which, hydrogen is hailed as 'the clean energy of the 21st century'. The world's three major Bay Areas (the New York Bay Area and San Francisco Bay Area in the United States, and the Tokyo Bay Area of Japan) have already been promoting the development of the hydrogen energy industry.

China has been committed to advancing the progress of United Nations Sustainable Development Goals, especially leading the world in the R&D and utilization of clean energy. Since the country recently issued *Made in China 2025* and *Revolutionary Energy Technology Innovation Action Plan (2016-2030)*, *The Medium and Long-Term Development Plan of Automobile Industry*, *Green Industry Guidance Catalogue (2019 edition)*, *New Energy Vehicle Industry Development Plan (2021-2035)*. More than 20 cities in China, have set up industrial parks the with hydrogen energy as the leading industry; Beijing, Shanghai, Guangdong, Hebei, Hubei, Shandong, Hainan, and other provinces and cities have also introduced various Hydrogen Industry incentive policies, the energy revolution is imperative.

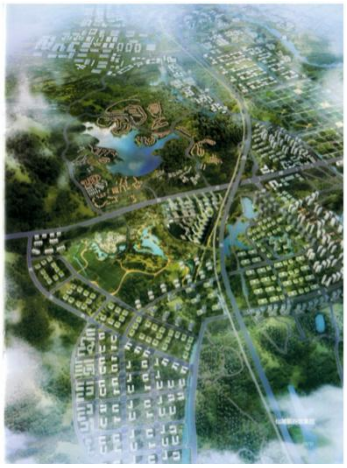
As one of the 11 cities in the Guangdong-Hongkong-Macao Greater Bay Area of China, Foshan is not only the forerunner in promoting the demonstration of hydrogen industries, but also the pioneer in the technology development and standard innovation. Foshan city is one of the early five demonstration cities of the 'Accelerating the Development and Commercialization of Fuel Cell Vehicles in China' project, which is being implemented by UNDP in close collaboration with the Ministry of Science and Technology and with funding from the Global Environment Facility (GEF). The first commercialization of hydrogen refueling stations in China, the construction and operation of hydrogen refueling stations and the support policies for the operation of hydrogen energy vehicles, and the opening of the first demonstration line of hydrogen-powered trams in China have fully proved that Foshan is here. This city is standing out from the increasingly fierce competition in this energy revolution. Prof. Mao Zongqiang, Vice President of the International Association for Hydrogen Energy

and a professor of Tsinghua University, said that: *Foshan is the leader of the national hydrogen energy industry, with a high positioning and remarkable results. The International Hydrogen Energy Association is very optimistic about China's hydrogen energy, and Guangdong Foshan plays an important role in China's hydrogen development*. Guo Liejin, an academician of the Chinese Academy of Sciences, said that, '*For the development plan of the hydrogen energy industry, Foshan Nanhai District has been relatively advanced and has formed a certain scale. Nanhai District will definitely make a difference by continuing on this road and to improve on the relevant technical talents and industries, as well as supporting and optimizing of the investment environment'*. However, with the rapid development of technology-intensive hydrogen industries with high safety level requirements and the gradual improvement of relevant industrial planning, which requires highly skilled workers in research, industrialization, safety, detection and all aspects of hydrogen industrial chain. The shortage of technical talents in the hydrogen energy industries has become increasingly obvious across China.

To this end, within the framework of 'GEF/UNDP/MOST Accelerating the Development and Commercialization of Fuel Cell Vehicles in China' project, the United Nations Development Programme (UNDP) cooperates with the People's Government of Nanhai District, Foshan, to set up the Hydrogen Economy Institute (Hydrogen Economy Vocational College) in Guangdong-Hongkong-Macao Greater Bay Area for further solving the shortage of technical talents in the hydrogen industries. It is the first vocational college of hydrogen economy in China and even in the world, and its campus will be located in Nanhai District, Foshan City, Guangdong Province.

The Vocational College will conduct trainings in a dual system, combining theoretical and practical training in enterprises. In Germany, dual system vocational training programmes have been operating for a long time. These programmes offer great opportunities for obtaining vocational training and accumulating working experience. They usually last between 24 and 42 months and include both theoretical and practical hands-on training. Among them, in the theoretical teaching section, students can learn the knowledge needed in their future careers at college several days a week or several weeks in a row. In the practical section, students will enter the enterprise, apply the theory to practice and understand the enterprise operation mode, production lines, and find further job opportunities with the enterprise.

The planned area of 'Xianhu Hydrogen Valley', the carrier of hydrogen energy industry in Nanhai District, is 48 square kilometers. According to the pattern of 'One lake, One city and Three parks', it focuses on the layout of high-performance hydrogen fuel cells and power systems, core materials and components, distributed power generation and standby power systems, fuel cell vehicles, hydrogen energy equipment, etc., and introduces diversified hydrogen energy application scenarios and experience activities in combination with the humanities, commerce and tourism around Danzao Town and Xianhu.



佛山南海湾区氢城 HYDROGEN CITY IN BAY AREA NANHAI FOSHAN

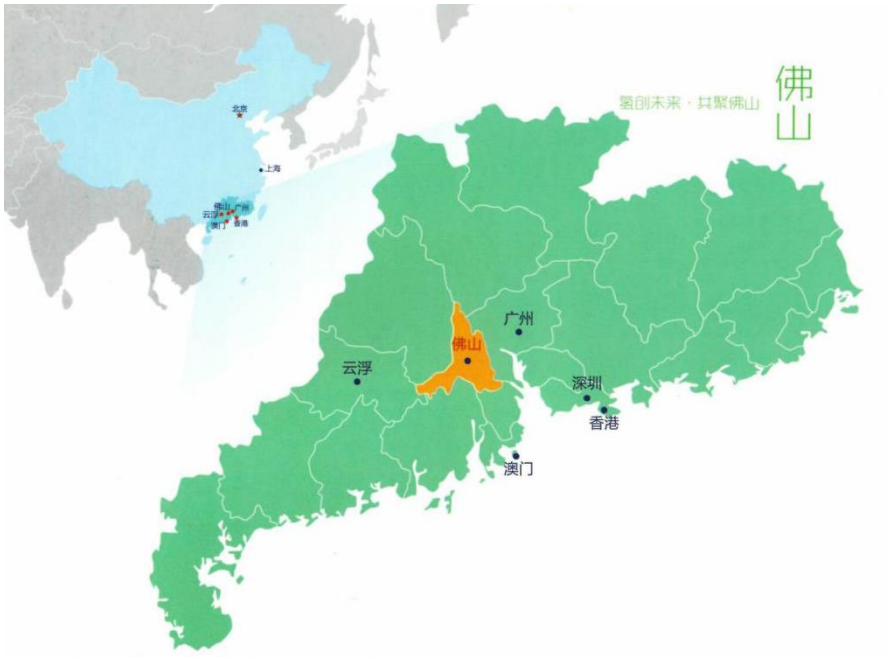
The establishment of the Hydrogen Economy Institute will fill the vacancy of professional and skilled workers in China's hydrogen industry development. At the same time, by integrating the world' first-class faculty in the field of hydrogen energy in China and abroad, it will be established as one of the top vocational colleges for training professionals in hydrogen economy in Guangdong-Hong Kong-Macao Greater Bay Area, and even the whole world.

II Project Strategy

2.1 Development Challenges

The inherent advantage for the Greater Bay Area of opting for an economy based on Hydrogen Energy is evident. The use of hydrogen as an alternative fuel, produced mainly from renewable energies, will provide the region with an energy carrier of zero emissions, thus proposing a sustainable scheme for both transport, industry and residential use.

There is no doubt that hydrogen economy represents an opportunity for the region. The district of Nanhai has traditionally been an important focus for automotive industry, electronics manufacturing and nonferrous metal processing in China. The rise of hydrogen industry in Nanhai District of Foshan will further take the lead in the hydrogen economy, and become the main cluster of technology R&D, key parts production and system integration in the field of hydrogen fuel cells in China, thus driving the rapid development of China's hydrogen energy and fuel cell industry.



Therefore, it is very important to solve the following problems and challenges faced by the China’s hydrogen energy industry:

1. The manufacture and production of equipment related to hydrogen (fuel cells, compressors,

hydrogen circulation pumps, other key components and related equipment etc.) requires professional technicians with specific knowledge for designing, R&D and manufacturing of key components and related equipment.

2. On the other hand, the deployment of a certain hydrogen infrastructure (hydrogen production and refueling stations, etc.), also requires technicians to carry out the operation and maintenance of these facilities.

3. The development of hydrogen industry is inseparable from the maintenance and operation of hydrogen energy equipment and facilities. In order to ensure the smooth development of hydrogen energy industry in Nanhai District of Foshan, Greater Bay Area and even in China, and to ensure the maintenance workers can meet the needs of industrial development, it is necessary to establish an educational system and related institutions for specialized technicians training as soon as possible. The establishment of the Hydrogen Economy Institute can not only solve the shortage of technical talents for hydrogen industry, but also help the Hydrogen Economy Institute become an important reference source for the technology development of in China and abroad. The Hydrogen Economy Institute will provide study and job opportunities for all male and female teachers and students, ensure that women will not be treated unfairly because of their gender, and provide a brand-new development and employment environment for women.

4. The public's traditional perception of vocational college hinders the development of vocational education. The career development of vocational college students is rather unclear, and the teaching quality of vocational college is poor. Such problems also exist in other countries. Therefore, it is necessary to publicize the importance of vocational education and its key position in the development of national & local education, and also among schools, enterprises and governments, to transform the public perception towards vocational training, and turn vocational colleges into the cradle of national craftsmen.

5. It is very important for China to provide capacity building assistance and play a leading role for other developing countries. For example, African countries can train their own students in the Institute of Hydrogen Energy Economics, so as to develop and expand the talent team for their own hydrogen energy technology faster and better. Promoting the development of hydrogen energy industry in other developing countries can not only promote local economic development, but also contribute to environmental improvement and promote the realization of the United Nations Sustainable Development Goals.

2.2 Theory of Change

China has always been committed to energy conservation and emissions reduction in the transportation sector. A Sustainable Development model has been established, to curb the emissions of carbon dioxide and harmful substances, as well as setting emissions reduction targets to improve the urban living conditions. However, gap still exists between the expected goals and current situation in terms of technology development and deployment scale of FCVs, which needs to be filled in order to further promote new energy vehicles in China.

Key barriers to the development of China's hydrogen industry include:

1. The subsidy policies of hydrogen industry are mainly aimed at the production end of hydrogen energy vehicles, which lack relevant supporting policies for the market side and the user side, resulting in the high cost of using hydrogen and the lack of enthusiasm of users to use hydrogen fuel cell vehicles.

2. On the demand side, due to the shortage of hydrogen infrastructure in cities, hydrogen fuel cell vehicle users cannot find enough hydrogen refueling stations, thus limiting the demand for hydrogen fuel cell vehicles. Although a large number of urban public transport systems and service vehicles have the intention to use hydrogen energy, the inadequate hydrogen infrastructure, high hydrogen use cost and limited using areas have created great difficulties for operation of fuel cell vehicles.

3. At present, the hydrogen market is relatively small, which leads many companies to be optimistic about the long-term development of hydrogen industry, but not confident that hydrogen industry will develop rapidly in the short term.

Additionally, the development of hydrogen energy in transport sector has been hindered for the following reasons:

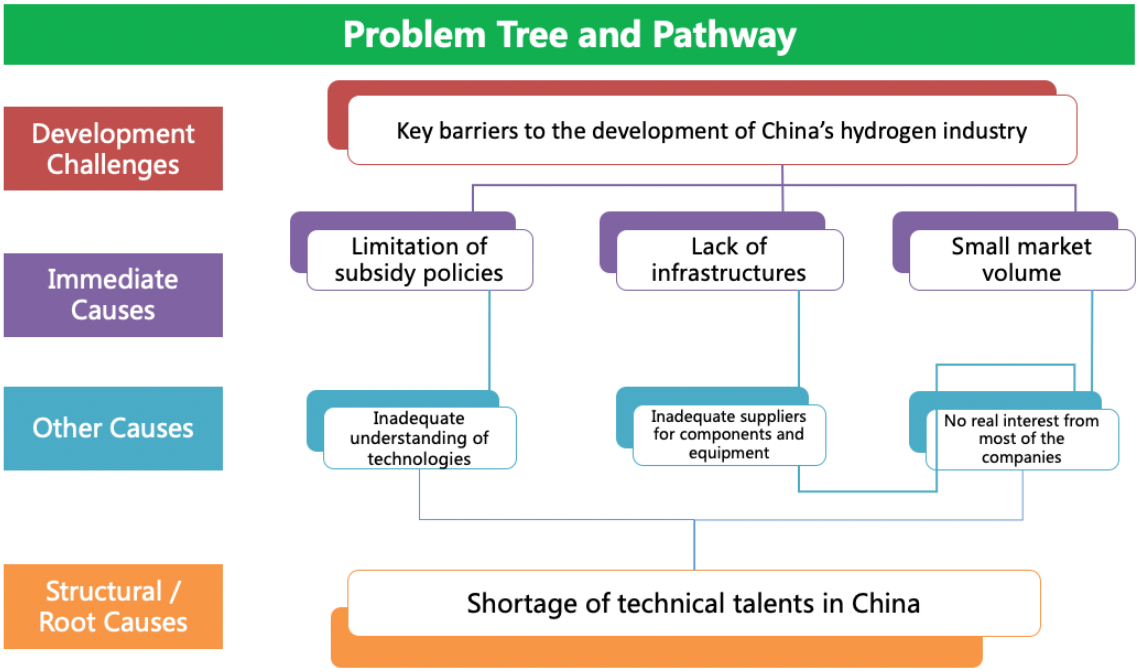
1. On the one hand, enterprises have different understandings towards the development of fuel cell vehicles. On the other hand, the lack of publicity leads to the inadequate understanding of hydrogen fuel cell vehicle technology by general public.

2. There are inadequate suppliers of key components of fuel cell vehicles and hydrogen infrastructures.

3. Most of the related enterprises have not included the development of hydrogen fuel cell in the alternative technology development plan.

The abovementioned challenges show that China lacks professional and technical talents to accelerate the development of hydrogen energy industry. Therefore, more trained technicians can quickly speed up the infrastructure construction of the hydrogen industry, provide better supporting conditions, and attract more enterprises' focus on the development of the hydrogen industry, so that enterprises can accelerate the industrial transformation and investments. At the same time, it can also raise public's awareness of hydrogen industry, to further promote the central and local governments to announce more supporting policies for users.

Simplified illustration of the ToC problem tree



In order to face the environmental and energy challenges, as an alternative fuel solution, the development of hydrogen energy can promote the United Nations Sustainable Development Goals: Goal 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all); Goal 5 (Achieve gender equality and empower all women and girls); Goal 7 (Ensure access to affordable, reliable, sustainable and modern energy for all); Goal 8 (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all); Goal 11 (Make cities and human settlements inclusive, safe, resilient and sustainable); and Goal 13 (Take urgent action to combat climate change and its impacts).

The establishment of this Hydrogen Economy Institute, with focus on training the hydrogen energy professionals, who will be contributing to the whole hydrogen industrial chain. These professionals could be developers, producers, customers, and potential users of the hydrogen fuel cells and establish a complete supply and value chain for China.

2.3 Strategic Objectives

The main strategic objective of the project is to establish the Hydrogen Economy Institute (Hydrogen Economy Vocational College), explore the training methods of professionals needed for hydrogen economy development, promote the application of hydrogen energy and fuel cell technologies, R&D and manufacture of key components, and further push forward Nanhai District of Foshan into an international hydrogen economy demonstration zone.

The project is characteristic to its international hydrogen background, and it will facilitate exchanges between teachers and students in countries aiming to develop hydrogen economy, so as to promote vocational education in other developing countries, especially in African countries.

The project will further transform the public's perception (or prejudice) of vocational colleges, and raise policy suggestions to different ministries and departments, so that vocational education can receive more attention, understanding and recognition, and turning vocational college into the cradle of 'national craftsmen'.

In addition, it will strongly promote gender equality, bringing these advanced technologies closer to men and women, equally. With all this, the Hydrogen Economy Vocational Training Institute will contribute to a sustainable development of the local economy.

2.4 Strategic Approach and Guiding Principles

The project seeks to promote sustainable development through creating a Hydrogen Economy Institute, train front-line professional and technical talents in hydrogen economy for Greater Bay Area and China, share knowledge and experience with other schools and colleges, strengthen national and international public-private partnerships, integrate relevant technologies and financial resources, advance innovative working mechanisms, and engage various stakeholders and promote sustainable development of transportation and environment.

The project contributes directly to the United Nations SDGs, especially to Goal 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all); Goal 5 (Achieve gender equality and empower all women and girls); Goal 7 (Ensure access to affordable, reliable, sustainable and modern energy for all); Goal 8 (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all); Goal 11 (Make cities and human settlements inclusive, safe, resilient and sustainable); and Goal 13 (Take urgent action to combat climate change and its impacts).

It also contributes to the United Nations Development Assistance Framework (UNDAF) from 2016 to 2020 for the People's Republic of China, in Outcome 2 (More people enjoy a cleaner, healthier and safer environment as a result of improved environmental protection and sustainable green growth) and Outcome 3 (The effectiveness of China's engagement in international cooperation is enhanced for the mutual benefit of China and the world).

Finally, this project directly contributes to one of the outcomes of the UNDP Country Programme Document (CPD) for China (2016-2020): China's actions on climate change mitigation, biodiversity and chemicals across sectors are scaled up, funded and implemented.

2.5 Implementation Modality

Within the framework of the UNDP GEF FCV Project, the implementation of the project will be based on public partnerships and will be coordinated closely with sustainable development projects on environmental governance and climate change funded by governments, through collaboration and experience sharing, and strengthening the effectiveness and impact of project implementation in policy and technology promotion.

The project will invite the United Nations Development Programme, the Ministry of Science and Technology (MoST), the Ministry of Education (MoE), Ministry of Human Resources and Social Security (MoRHSS) to provide guidance for project implementation. The project will have a Project Steering Committee (PSC) with the participation of key stakeholders as the highest decision-making body for the project. Its members include UNDP, CATARC, government of Nanhai District, Foshan. In alignment with the project design, the PSC will promote project results, cross-sectoral consultation & coordination, and experience sharing of relevant departments through regular meetings.

The project will involve sharing of experiences with similar projects implemented by international agencies, as well as in different countries and geographies worldwide, in the private, but also in the

public sector. This will help to ensure the sustainability of the outcomes and experience of these projects shared and promoted domestically as well as globally.

2.6 Financial Modality

The project will be supported by the Government of Nanhai District, Foshan city in Guangdong, province of China, for a period of three years (2021 - 2023) with a total amount of USD $3,000,000. In addition, the government of Nanhai District, Foshan city will provide additional funding for the UNDP Hydrogen Industry Conference.

During the implementation of the project, technical cooperation will be carried out with projects supported by local government special financial funds to jointly promote technical and policy objectives in the cross-over and overlapping areas under the premise of unchanging the usage of funds and unchanging the implementation system, it will be included in the annual work plan (AWP) of the project and implemented centrally.

The project will promote a participatory approach, seeking to include views and experiences from a number of stakeholders including academia, the private sector, charitable foundations and other civil society groups during the implementation period. According to the priority areas of different parties, newly identified opportunities will be incorporated to enrich project achievements and expand the project's influence and sustainability of its results.

New partners participating in the project and any new project activities will be planned, designed and approved in accordance with the requirements of the project management of UNDP and the Government of Nanhai District.

III Results and Partnerships

3.1 Expected Results

In the next three years till 2023, the project seeks to achieve the following results:

- Expected Outcome 1: A Hydrogen Economy Institute established in the Guangdong-Hong Kong-Macao Greater Bay Area and the upgrading to a Hydrogen Economy Vocational College facilitated. In this sense, through the Hydrogen Economy Institute (which will be upgraded to the Hydrogen Economy Vocational College in the later period) will provide technicians with sufficient training and knowledge to promote the development of hydrogen economy in the Nanhai District, become the engine of China in this field, and enhance the public's confidence in this clean and sustainable technology and its industrialization.
- Expected Outcome 2: Sustainable educational policies promoted for hydrogen industry.

3.2 Expected Outcomes and Outputs

The project will achieve the expected outcome by carrying out the following activities and achieving associated outputs:

Expected Outcome 1: A Hydrogen Economy Institute established in the Guangdong-Hong Kong-Macao Greater Bay Area and the upgrading to a Hydrogen Economy Vocational College facilitated

- Output 1: A detailed vocational training development programme formulated
- Output 2: A detailed guidance plan developed for setting up the teaching and learning areas for Hydrogen Economy Vocational College
- Output 3: Evaluation procedures designed to monitor the performance of the Hydrogen Economy Vocational College at multiple levels
- Output 4: A world-class faculty gathered for the hydrogen industry through UNDP's network
- Output 5: The establishment of a Hydrogen Economy Vocational College was facilitated
- Output 6: A branding strategy and a student enrolment plan developed, and the Hydrogen Economy Vocational College introduced to international forums, organisations and other educational institutes

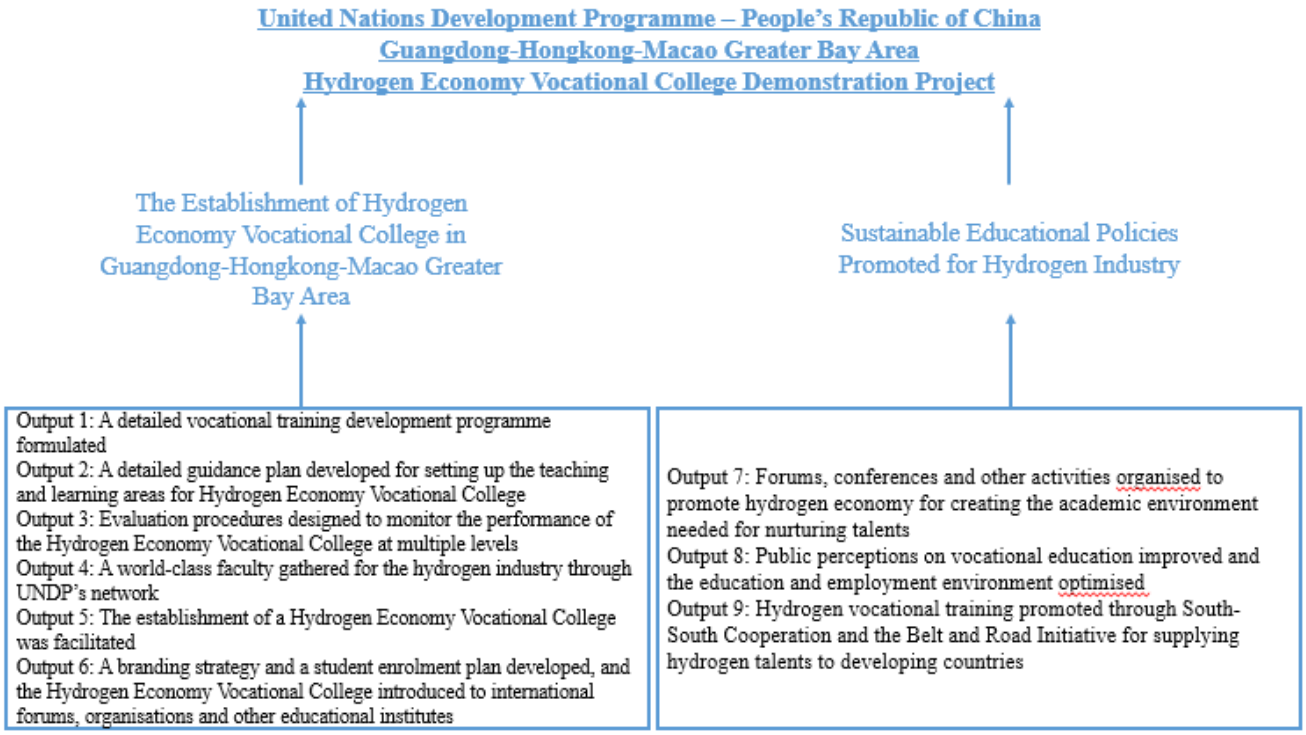
Expected Outcome 2: Sustainable educational policies promoted for hydrogen industry

- Output 7: Forums, conferences and other activities organised to promote hydrogen economy for creating the academic environment needed for nurturing talents
- Output 8: Public perceptions on vocational education improved and the education and employment environment optimised

- Output 9: Hydrogen vocational training promoted through South-South Cooperation and the Belt and Road Initiative for supplying hydrogen talents to developing countries

Besides the above-mentioned outcomes, this project also includes a non-technical component of project management, monitoring and evaluation.

Project Results Framework



Outcome 1: A Hydrogen Economy Institute established in the Guangdong-Hong Kong-Macao Greater Bay Area and the upgrading to a Hydrogen Economy Vocational College facilitated

<u>Output 1</u>: A detailed vocational training development programme formulated.

To achieve this output, the project will facilitate meetings with and visits to international institutes and universities with ongoing vocational training programmes specializing in fuel cell and hydrogen technologies. The curriculums of the Hydrogen Economy Vocational College will be designed with reference to knowledge and experience from international partners, including courses, teaching materials and diploma issuance after successful completion of studies. The development plan at the college will also be designed.

Activity 1.1: To conduct international visits to draw from other countries' experiences on the formulation and implementation of vocational training programmes as such.

Activity 1.2: To design adequate training goals and strategies for the students and courses of the Hydrogen Economy Institute, integrating national and international energy strategies and the development needs of the industry in China.

Activity 1.3: To design the *Overall Institutional Development Plan* and *Curriculum Design Plan* for the Vocational College, covering courses of science and engineering, economics, etc.

<u>Output 2:</u> A detailed guidance plan developed for setting up the teaching and learning areas for Hydrogen Economy Vocational College.

Activity 2.1: To design teaching methods of the vocational training programmes.

Activity 2.2: To develop a college infrastructure management plan, including the arrangement of laboratories, workshops and classrooms.

Activity 2.3: To plan and design for necessary teaching facilities.

Activity 2.4: To organise and conduct discussions with national and international companies related to the hydrogen industry in order to facilitate internship programmes that prepares students entering the job market.

Activity 2.5: To develop scientific research activities for the Hydrogen Economy Institute.

<u>Output 3:</u> Evaluation procedures designed to monitor the performance of the Hydrogen Economy Vocational College at multiple levels.

To achieve this output, the project will design evaluation indicators for the Hydrogen Economy Institute (Hydrogen Economy Vocational College) from various levels to ensure the effective monitoring of the performance, while also evaluate baseline data for the indicators. Currently, the estimated duration of the project is three years. However, it is possible that the project could be extended for 2 more years for further implementation of some project activities (ex. the activities under Output 3, to fully monitor the performance of Hydrogen Economy Vocational College).

Activity 3.1: To design the evaluation criteria assessing student performance drawing from international best practices.

Activity 3.2: To design the evaluation criteria assessing faculty performance drawing from international best practices.

Activity 3.3: To design the criteria for evaluating the College's taught/research programmes drawing from international best practices.

Output 4: A world-class faculty gathered for the hydrogen industry through UNDP's network.

To achieve this output, the project will facilitate the recruitment and retention programmes of high-calibre national and international talents at all levels (including students) to create an attractive package for teachers, researchers and students.

Activity 4.1: To map out the requirements of trainer qualifications of different courses and disciplines with reference to ongoing or completed research in other universities, colleges and institutions.

Activity 4.2: To develop policies and recommendations for attracting high-end talents and teams in the field of hydrogen energy and retaining the faculty for Hydrogen Economy Vocational College.

Activity 4.3: To establish a world-class faculty in hydrogen economy with international experts in fuel cells, hydrogen production, infrastructure, hydrogen economy and other fields.

Output 5: The establishment of a Hydrogen Economy Vocational College was facilitated.

Activity 5.1: To organise workshops discussing the feasibility and policy recommendations for hydrogen vocational training, through the liaison with line ministries and departments, in collaboration with the Task Force of Foshan Nanhai-UNDP Hydrogen Economy Vocational College (hereinafter referred to as *the Task Force*).

Activity 5.2: To apply for the necessary approvals for establishing the Hydrogen Economy Vocational College, through which students will be awarded diplomas upon successful completion of studies, through liaison with national educational departments to, through liaison with competent education authorities in collaboration with the Task Force, so that recognition for vocational training by the society will be improved.

Activity 5.3: To apply for the necessary approvals for the Hydrogen Economy Vocational College to issue National Vocational Qualification (NVQ) certificates to students upon successful completion of studies, accrediting students' technical skills in accordance with national standards, through liaison with competent human resources and social security authorities, in collaboration with Task Force.

Output 6: A branding strategy and a student enrolment plan developed, and the Hydrogen Economy Vocational College introduced to international forums, organisations and other educational institutes.

Activity 6.1: To design branding activities for the Hydrogen Economy Vocational College.

Activity 6.2: To develop a student enrolment plan for the curriculums to attract national and international students.

Outcome 2: Sustainable educational policies promoted for hydrogen industry.

Output 7: Forums, conferences and other activities organised to promote hydrogen economy for creating the academic environment needed for nurturing talents.

This will allow the Hydrogen Economy Vocational College to be the key of promoting green hydrogen economy and sustainable development. The Vocational College will serve as an intersect for national and international experts, that allows knowledge exchanges and technological development. Organisation of forums will also allow enterprises to facilitate science-business cooperation at different levels. This could be another one of the project goals that requires a possible 2-year extension to achieve better completion.

Activity 7.1: To organise and conduct a global hydrogen economy vocational education summit.

Activity 7.2: To explore the cooperation opportunities with relevant institutions related to the hydrogen industry worldwide.

Activity 7.3: To establish a platform that facilitates exchanges between the Vocational College and enterprises to nurture talents for the hydrogen industry, promote coordinated development amongst production, learning and research.

Activity 7.4: To organise academic forums and workshops to promote the sustainable development of hydrogen economy through UNDP Hydrogen Industry Conference and other academic platforms.

<u>Output 8:</u> Public perceptions on vocational education improved and the education and employment environment optimised.

In China, vocational education lacks attractiveness to the general public as they are perceived as offering limited skills and knowledge to students than tertiary education. This perception needs to be shifted, as vocational education could be essential for many industries and students seeking to become skilled workers (ex. vocational training for hydrogen industry).

Activity 8.1: To conduct a feasibility study on China's vocational education reform with regards to hydrogen economy, organise workshops with experts to compile reform proposals and developing policy recommendations for competent authorities such as the Ministry of Education.

Activity 8.2: To conduct a feasibility study on National Vocational Qualification (NVQ) certification system for students of Hydrogen Economy Vocational College, organise of workshops with experts for developing policy recommendations for the Ministry of Human Resources and Social Security.

Activity 8.3: To organise campaigns with media's support to increase public awareness of vocational colleges.

<u>Output 9:</u> Hydrogen vocational training promoted through South-South Cooperation and the Belt and Road Initiative for supplying hydrogen talents to developing countries.

Hydrogen Economy could play a fundamental role for development in the developing world. The use of hydrogen as an energy carrier will push forward local economic development, the creation of working environments that upholds gender equality, promotion of environmental protection and sustainable development. Therefore, cooperation with African countries will be the key in establishing Hydrogen Economy Vocational Colleges and enrolling students, thus contributing to the promotion of hydrogen economy.

Activity 9.1: To organise and conduct conferences through South-South Cooperation and the Belt and Road Initiative to promote cooperation on hydrogen economy vocational training.

Activity 9.2: To promote the Hydrogen Economy Vocational College to other countries and discuss with other developing countries on the Hydrogen Economy industrial linkage mechanism.

Activity 9.3: To conduct a feasibility study of establishing Hydrogen Economy Vocational College in other developing countries.

Activity 9.4: To design the scholarship programmes for students from developing countries.

3.3 Resources Required to Achieve the Expected Results

The United Nations Development Programme, the Ministry of Science and Technology of the People's Republic of China, the Ministry of Education of the People's Republic of China and the Ministry of Human Resources and Social Security of the People's Republic of China will provide policy and strategic guidance for the project. Major partners of the project including United Nations Development Programme in China, China Automotive Technology and Research Center, People's Government of Nanhai, Foshan and other relevant institutions will participate in the work of the Project Steering Committee, including project implementation, monitoring and evaluation, and financial management.

The Project Management Office (PMO) of this project will be established by China Automotive Technology and Research Center (CATARC) and relevant departments and bureaus of People's Government of Nanhai District, Foshan. PMO will be responsible for the project implementation management, including daily management and regular reporting.

The Experts Committee will be set up, a director will be selected from the Experts Committee to monitor the implementation, management and coordination of the project, and ensure the success of the project.

To ensure gender mainstreaming in project implementation, mitigation of risks identified as per Section 3.6 and Annex 4, performing M&E activities, a M&E Task Force will be established.

3.4 Partnerships and Stakeholders Engagement

The project will involve close collaboration with several stakeholders, including municipal and local government departments, academic and research institutions (including universities and research institutes), non-governmental organisations, the private sector, civil communities and the public. The project may also explore international linkages and lessons learned to best deliver its expected results. The project design will also reflect relevant UNDP gender equality and women's empowerment practices and policies. In the project design phase, stakeholder relationships have been discussed and analyzed in-depth, and meetings have been held with municipal stakeholders and extensive consultations have been conducted. Identified key stakeholders will be involved in the project preparation and implementation. Mechanisms supporting stakeholder engagement are included in the

project design. The project will seek to create synergies and build on past and ongoing projects within the UNDP China and global portfolios, including the Global Environment Facility (GEF), South-South Cooperation and others.

United Nations Development Programme (UNDP) will work closely with local implementing partners (IP) namely CATARC and people's government of Nanhai as the main responsible party in project implementation. Major stakeholders supporting and participating project implementation include the following departments or bureaus: the Project Management Office (PMO), Nanhai People' s Government of Foshan, Educational Bureau of Nanhai, Development and Reform Commission of Nanhai, Human Resources and Social Security Bureau of Nanhai, Finance Bureau of Nanhai, Administration for Market Regulation of Nanhai, Emergency Management Bureau of Nanhai, Housing and Urban-Rural Development and Water Resources Bureau of Nanhai, State-Owned Assets Supervision and Administration Commission of Nanhai, Traffic Transport Bureau of Nanhai, Nanhai Branch of Foshan Natural Resources Bureau, Nanhai Branch of Foshan Ecology and Environment Bureau and other relevant departments, as well as the identification of and coordination with the university that houses the project, under the recommendation and confirmation from Nanhai government.

Stakeholders and Responsibilities

Stakeholder	**Responsibility related with project implementation**
Project Management Office (PMO) (Established by China Automotive Technology and Research Center Co., Ltd. and relevant departments and bureaus of People's Government of Nanhai, Foshan)	- Take charge of project implementation - In line with ProDoc, formulate the annual work plan and budget of the project and submit them to the Project Steering Committee - Report the implementation of the project to the Project Steering Committee regularly, coordinate and implement its relevant requirements - According to approved annual work plan and budget, supervise and manage its implementation - Draft the project implementation plan to carry out project activities, and implement project activities after approval of the plan to ensure the achievement of project targets - Keep track of the progress of project activities and completion of indicators, and prepare the draft of the project quarterly report and annual report - Complete project audit and other related work - Perform other ad-hoc duties assigned by the United Nations Development Programme, the Experts Committee to ensure the completion of project activities
Nanhai People' s Government of Foshan	- Contribute to the project funding

Stakeholder	Responsibility related with project implementation
	- Draft and implement policy recommendations and related plans - Implement the project promotion strategy - Introduce lessons learned to other domestic and international projects - Support the implementation of recommendations and strategies raised in this project into government-invested projects
Educational Bureau of Nanhai District, Foshan	- Take the lead in the establishment of the Hydrogen Economy Vocational College - Provide educational resources and technical assistance to the project - Incorporate the project into the academic education management and provide policy support - Lead the long-term operation of the project
Development and Reform Commission of Nanhai District, Foshan	- Engage in the partnership building and coordination within the project - Coordinate and supervise the implementation of the project - Incorporate the project into the Nanhai Economic and Social Development Plan and the Hydrogen Energy Industry Development Plan of Nanhai District, and assist the project with communication with the hydrogen enterprises in the region
Human Resources and Social Security Bureau of Nanhai District, Foshan	- Assist the establishment of the Hydrogen Economy Vocational College - Provide educational resources and technical assistance to the project - Incorporate the project into the skill education management and provide policy support - Assist the long-term operation of the project, support the students from Hydrogen Economy Vocational College to find internship opportunities in relevant enterprises
Finance Bureau of Nanhai District, Foshan	- Ensure the delivery of project funding - Support, assist the project to acquire financial support at all levels
Administration for Market Regulation of Nanhai District, Foshan	- Draft and promote the quality control policies and plans related to the project objectives - Provide policy and technical support to the project
Emergency Management Bureau of Nanhai District, Foshan	- Draft and promote the safety supervision policies and plans related to the project objectives - Provide policy and technical support to the project
Housing and Urban-Rural Development and Water Resources Bureau of Nanhai District, Foshan	- Draft and promote fire prevention measures and plans related to project objectives - Provide policy and technical support to the establishment of the Hydrogen Economy Vocational College
State-Owned Assets Supervision and	- Take charge of agency construction work for the Hydrogen Economics Vocational College

Stakeholder	Responsibility related with project implementation
Administration Commission of Nanhai District, Foshan	
Traffic Transport Bureau of Nanhai District, Foshan	- Draft and promote transportation policies and plans related to project objectives - Provide policy and technical support to the project
Nanhai Branch of Foshan Natural Resources Bureau	- Take charge of planning land use - Mainstream project results into land use planning - Provide policy and technical support to the establishment of the Hydrogen Economy Vocational College
Nanhai Branch of Foshan Ecology and Environment Bureau	- Draft and promote ecological and environmental policies and plans related to project objectives - Provide policy and technical support to the establishment of the Hydrogen Economy Vocational College
The university that houses the project identified and coordinated by Nanhai District Government	- Undertake the establishment and promotion of the Hydrogen Economy Vocational College - Provide educational resources and technical support to the project

It is important to note here how the different partners are distributed so that the different stages and missions described in the Theory of Change section will be covered, to detect knowledge needs, address staff training, ensure the incorporation of trained technicians in companies, promote their development in the field of hydrogen, and the use of this energy carrier as a clean and sustainable alternative in the energy landscape.

3.5 Assumptions

The key assumptions of the project's theory of change include: 1) China's policies continue to support environmental sustainability, restoration and protection of key ecosystems, and transformational economic development of resource-based cities; 2) The Nanhai District government's budget support for the above priority objectives will remain at least at the current level; 3) The participating institutions will continue to contribute to achieve satisfactory project outcomes.

All of these assumptions have been analyzed during the project design phase.

3.6 Risk Analysis

According to the theory of change and the experience from similar projects, identification and analysis shows the project will mainly face the following risks:

Project Risk and Mitigating Actions[1]

#	Description	Date identified	Type	Impact and Probability	Countermeasures/ Management Response
1	Project partners have some misunderstandings in the use of public funds in the form of projects to influence policy reforms and adjustments in the area of public policy.	30/JULY/2020	*Political risk*	P = 4 I = 2 P×I =8	- Make full use of the project start-up preparation and start-up seminars, explain the project strategy and partnership to all partners, deepen understanding and eliminate misunderstandings; - Observe the relevant principles of public policy, strengthen the monitoring of the use of funds and direction of the project, and publicize the positive role of public-private partnerships in promoting fair policies and private sector development.
2	Insufficient project resources and reduced interest in industry sector involvement, which in turn affects the achievement of expected results.	30/JULY/2020	*Implementation risk*	P = 2 I = 5 P×I =10	- Explore expanded partnerships, promote project cooperation mechanisms to the municipal government level, ensure the inclusiveness and openness of the cooperation platform, and attract more resources, including from the private sector, foundations and other civil society groups. - Taking the strategic goals of the project as the guideline, gradually establish synergies with the main areas of the city's scientific and technological innovation funds and corporate R&D funds, integrate resources, and jointly promote the development of related fields.
3	The industry involved in the project is wide and the policy process is slow, causing the project to have an expected delay.	30/JULY/2020	*Implementation risk*	P = 2 I = 5 P×I =10	- Optimize the functions of the Project Steering Committee and establish strong communication with the different departments and bureaus of the Government of Foshan District; - Organise policy consultation meetings with relevant industries and departments to inform about project results, to understand policy processes, and to strengthen coordination between project strategy and policy priorities and implementation.
4	Project management capabilities are not adequate, resulting in lags in project implementation and expected achievement delay, even may not achieve expected results.	30/JULY/2020	*Implementation risk*	P = 2 I = 5 P×I =10	- Continuous project management capacity development for Project Management Office; - Optimize the functions of the Project Steering Committee, establish a project technical advisory committee, and strengthen the technical support for the project.
5	Reputation risk to the UNDP due to partner misuse of the project brand for profit or other purposes	30/JULY/2020	*Other risk*	P = 3 I = 4 P×I =12	- Strictly execute UN due diligence and branding requirements to mitigate potential risks, including an updated risk matrix and a comprehensive communication package; - Maintain regular communication and engagement with partners to ensure project implementation complies with all UNDP rules and regulations.

[1]For extended list of project risks and mitigation actions, please refer to Annex 4 in this Project Document.

6	General reputational risks associated with engaging the educational and industrial sector.	30/JULY/2020	*Reputational/ partner risk*	P = 3 I = 4 P×I =12	- The programmatic focus of the project is on transformation to clean energy of different sectors. Furthermore, it adheres to the UNDP policies on working with them. These programmatic focus and implementation in itself is a big deterrence of any negative connotations of engaging with the mentioned sectors.
7	Post-facto direct or indirect reputational issues that may be faced by the Vocational Training Institute in particular, or the Hydrogen Energy, both of which can harm UNDP reputation by association.	30/JULY/2020	*Reputational/ partner risk*	P = 3 I = 4 P×I =12	- Vocational colleges are well known in China. In any case, specific tasks will be implemented in the project with the idea of promoting these institutions and improving the overall perception of them. On the other hand, Hydrogen Economy and Hydrogen Energy are well known worldwide, and supported by the vast majority of governments.
8	Agreed funding not received according to the Annual Work Plan	30/JULY/2020	*Financial Risk*	P = 4 I = 3 P×I =12	- The Annual Work Plan will be formulated jointly by UNDP and the Government of Nanhai District, to ensure that the required funds will be received by specific deadlines. - The local government will maintain communication to ensure that the money will be provided in time and it will maintain communications with UNDP to report on any potential issues identified. - Annual Financial Report will be required to be provided to UNDP and Project Management Office to ensure the stable cash flow of the project.
9	Inadequate coordination among agencies. The lack of coordination mechanisms among participating sectors limits the effectiveness of human and financial resources and reduces the efficiency of the policy process and the impact of project outcomes.	30/JULY/2020	Organisational Risk	P = 2 I = 4 P×I =8	- The project will set up Project Management Office in PMO-UNDP-China. The Project Steering Committee is composed of representatives from relevant departments and representatives of UNDP, ministries and Governmental agencies. The committee is responsible for reviewing project progress, approving the Annual Work Plan, and reviewing quality of the project results. Once the Annual Work Plan and budget are formally approved, the Project Management Office shall ensure full coordination and cooperation among all units, the smooth implementation of the project plan, timely discovering and handling problems of implementation. In the long run, the strategy, institutional setup and public awareness campaigns adopted by the project will promote the sustainability of the project approach.
10	The process of policy formulation and adoption could be slow. The adoption process of project-related policy recommendations is slow and may reduce the efficiency of policies and planning due to poor economic development planning.	30/JULY/2020	Operational Risk	P =3 I = 3 P×I =9	- This risk has been addressed in the project design. Specifically, through targeted design of policy interventions, alignment of relevant activities with policy priorities, and joint implementation of projects, project-related inputs' alliance with policies and plans of each department are ensured. In addition, the project targets at a large number of capacity building and public awareness campaigns for key policy makers and the public, with a particular focus on policy reforms including field trips, which will accelerate the adoption and implementation of policies. At the same time, the project will also support relevant research and activities, as well as follow-up analysis of relevant policy capacity enhancement activities and effects through corresponding capacity building tracking and evaluation tools.

3.7 Assessment of Partnerships

Within the framework of FCV project, the project will be implemented through the Project Management Office, with the guidance of the UNDP, MoST, MOE and MoHRSS, the support of the UNDP China, CATARC and the Government of Nanhai District, Foshan City, to ensure the smooth, effective and compliant implementation of the project, and with referential experience for Nanhai district to implement international cooperation projects. Based on the above analysis, the partnership of the project is perceived as solid.

3.8 Knowledge Sharing and Best Practices

The project will include a series of policy researches, human resource planning, case studies, capacity development, and lessons learned, with strong features of 'evidence-based policy intervention' and 'evidence-based knowledge management'. In the implementation process, provincial and national international platforms for policy advocacy and knowledge sharing activities will be carried out. All of these project activities will offer a large amount of data and case studies that will be adequately disseminated to relevant platforms, both domestically and internationally.

The project will systematically collect, collate and analyze successful experiences and practices, and regularly publish relevant reports in conjunction with national, autonomous and municipal policy processes to share projects outcomes through multiple channels.

3.9 Sustainability and Scaling up

Other aspects of project sustainability will be taken into account. For example, hydrogen safety, researches related to the development of regulations and standards need to be carried out to promote the sound development of hydrogen industry.

The establishment of the Hydrogen Economy Vocational College will be sustainable. Its main goal is to train a new generation of

innovative, professional and technical talents, and promote gender equality between men and women and the opportunity to receive quality vocational training.

Through exchanges and cooperation with international leading hydrogen fuel cell technology enterprises and related institutions, the teaching level of the Hydrogen Economy Vocational College will always be at the forefront of era, thus achieving the long-term sustainable development of the project.

From the point of view of project promotion, the model of this Hydrogen Economy Vocational College can be replicated in other areas within the country, as the different hydrogen economy strategies are being implemented in other regions of China. Meanwhile the project model can be considered to be promoted in other countries (Malaysia).

And finally, and as an objective within the project, it is also worth highlighting the replication and scaling-up to other developing countries, such as certain African countries (ex. Ghana), which could benefit from establishment of this Hydrogen Economy Vocational College to train specialized workers who can contribute to the development of a sustainable and local hydrogen-based economy in other countries.

3.10 Dissemination of Project Results

The project design includes the popularization of the Hydrogen Economy Vocational College, which makes the dual system education of the Hydrogen Economy Vocational College widely recognized. The project will deepen the understanding of the importance of vocational colleges and hydrogen economy to policy makers (government and enterprise level) and the public through the following methods:1) Organising forums, conferences and other activities to create an academic atmosphere for talent training; 2) Promoting sustainable educational policies regarding hydrogen; and 3) Developing strategies for circulating information related to the Hydrogen Economy Vocational College for a variety of national and international forums, organisations, and other educational institutions. These three outputs are not only the main method to support the dissemination of relevant information on hydrogen economy and hydrogen

energy, but also serve as an important method to share the policy and practice experience on education, training and hydrogen technologies on a broader scale.

The project will also make full use of the current partners and new communication platform to communicate with stakeholders, including: 1) the UNDP website; 2) MOE/MoST websites; 3) Government of Nanhai District website 4) briefings, reports and social medias such as WeChat and Weibo.

IV Project Management

The main activities of project management include planning, implementation, management, monitoring and evaluation, annual audit and project information publicity and communication, as well as knowledge sharing.

Within the framework of 'GEF/UNDP/MOST Accelerating the Development and Commercialization of Fuel Cell Vehicles in China' project, the Project Management Office of this project is continued to be established by China Automotive Technology and Research Center (CATARC) and relevant departments and bureaus of People's government of Nanhai, Foshan, to ensure smooth implementation of relevant project activities with participation of education, development and reform, human resources and social security, finance, market supervision, emergency, housing and construction, state-owned assets, transportation, natural resources, ecological environment and other relevant departments of Nanhai District Government of Foshan City and the identification of and coordination with the university that houses the project.

V Project Results Framework

Contribution to the Sustainable Development Goals (SDGs):

- **Goal 4:** Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- **Goal 5:** Achieve gender equality and empower all women and girls
- **Goal 7:** Ensure access to affordable, reliable, sustainable and modern energy for all
- **Goal 8:** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- **Goal 11**: Make cities and human settlements inclusive, safe, resilient and sustainable
- **Goal 13:** Take urgent action to combat climate change and its impacts

Contribution to the United Nations Development Assistance Framework (UNDAF) from 2016 to 2020 for the People's Republic of China

- **Outcome 2:** More people enjoy a cleaner, healthier and safer environment as a result of improved environmental protection and sustainable green growth
- **Outcome 3:** The effectiveness of China's engagement in international cooperation is enhanced for the mutual benefit of China and the world.

Contribution to the UNDP Country Programme Document (CPD) for China (2016-2020)

- **Output 2.1:** China's actions on climate change mitigation, biodiversity and chemicals across sectors are scaled up, funded and implemented.

Performance Indicators

1) The number of different courses that are offered to the potential students in 3 years; 2) The number of students that are interested in joining the Hydrogen Economy Vocational College; 3) The number of companies which are interested in cooperating with the Hydrogen Economy Vocational College; 4) The number of international teachers in the Hydrogen Economy Vocational College; 5) The number of international students in the Hydrogen Economy Vocational College; 6) The number of students from developing countries; 7) The number of R&D projects developed in the Hydrogen Economy Vocational College; 8) The number of forums / seminars / conferences carried out to promote and announce the Hydrogen Economy Vocational College; 9) The results of the analysis of students, teachers and school's outcomes; 10) The number of participants to the first global exchange event on Hydrogen Energy vocational training

Project Title: United Nations Development Programme - People's Republic of China - Guangdong-Hongkong-Macao Greater Bay Area Hydrogen Economy Vocational College Demonstration Project

Project ID: 115572

Expected Outputs	Activity	Indicator	Data Source	Baseline		Targets				Data Collection Methods
				Value	2020	2021	2022	2023	Final	
Output 1: A detailed vocational training development programme formulated.	1.1. To conduct international visits to draw from other countries' experiences on the formulation and implementation of vocational training programmes as such.	Visit 3 countries and submit the Report of International Study Tour.	Annual Project Report, Report of International Study Tour	0	2020	-	2	1	3	Report of International Study Tour
	1.2. To design adequate training goals and strategies for the students and courses of the Hydrogen Economy Institute, integrating national and international energy strategies and the development needs of the industry in China.	Develop talent education plan	Annual Project Report	0	2020	-	-	1	1	Report of Talents Education Plan
	1.3. To design the Overall Institutional Development Plan and Curriculum Design Plan for the Vocational College, covering courses of science and engineering, economics, etc.	Develop Curriculum Design Plan	Annual Project Report	0	2020	-	-	1	1	Report of Curriculum Design Plan

Output 2: A detailed guidance plan developed for setting up the teaching and learning areas for Hydrogen Economy Vocational College.	2.1. To design teaching methods of the vocational training programmes.	Compile Teaching Method Research Report	Research Report	0	2020	-	-	1	1	Research Report
	2.2. To develop a college infrastructure management plan, including the arrangement of laboratories, workshops and classrooms.	Compile infrastructure planning report	Planning Report	0	2020	-	-	1	1	Planning Report
	2.3. To plan and design for necessary teaching facilities.	Develop teaching facilities design plan	Design Scheme	0	2020	-	-	1	1	Design Scheme
	2.4. To organise and conduct discussions with national and international companies related to the hydrogen industry in order to facilitate internship programmes that prepares students entering the job market.	Communicate with enterprises for 4 times, expand the number of companies interested in cooperation with Hydrogen Energy Institute.	Annual Project Report			2	2	-	4	Annual Project Report
	2.5. To develop scientific research activities for the Hydrogen Economy Institute.	Carry out hydrogen related technology research, learning, training and other activities.	Annual Project Report			1	1	-	2	Annual Project Report

Output 3: Evaluation procedures designed to monitor the performance of the Hydrogen Economy Vocational College at multiple levels	3.1. To design the evaluation criteria assessing student performance drawing from international best practices	Establish the plan of the criteria for assessing the students' outcomes.	Annual Project Report	0	2020	-	1	-	1	Annual Project Report
	3.2. To design the evaluation criteria assessing faculty performance drawing from international best practices	Establish the plan of criteria for assessing the faculty performance	Annual Project Report	0	2020	-	1	-	1	Annual Project Report
	3.3. To design the criteria for evaluating the College's taught/research programmes drawing from international best practices.	Establish the plan of criteria for assessing College's taught/research programmes	Annual Project Report	0	2020	-	-	1	1	Annual Project Report
Output 4:A world-class faculty gathered for the hydrogen industry through UNDP's network	4.1: To map out the requirements of trainer qualifications of different courses and disciplines with reference to ongoing or completed research in other universities, colleges and institutions.	Map out the requirements of trainer qualifications of different courses and disciplines	Research Report	0	2020	-	-	1	1	Research Report

	4.2. To develop policies and recommendations for attracting high-end talents and teams in the field of hydrogen energy and retaining the faculty for Hydrogen Economy Vocational College	Provide a series of recommendation for attracting and retaining high-end talents	Research Report	0	2020	-	1	1	2	Research Report
	4.3. To establish a world-class faculty in hydrogen economy with international experts in fuel cells, hydrogen production, infrastructure, hydrogen economy and other fields	Number of international teachers Number of Chinese teachers Number of special consultants Education level and qualification, gender ratio, refer to the ratio of men and women in existing technical schools (To be confirmed by Activity 1.3)	Annual Project Report	0	2020	TBC	TBC	TBC	TBC	Annual Project Report

Output 5: To build a world-class faculty through the platform of UNDP	5.1. To organise workshops discussing the feasibility and policy recommendations for hydrogen vocational training, through the liaison with line ministries and departments, in collaboration with the Task Force of Foshan Nanhai-UNDP Hydrogen Economy Vocational College (hereinafter referred to as the Task Force)	Hold Two workshops	Annual Project Report	0	2020	-	1	1	2	Annual Project Report

	5.2.To apply for the necessary approvals for establishing the Hydrogen Economy Vocational College, through which students will be awarded diplomas upon successful completion of studies, through liaison with national educational departments to, through liaison with competent education authorities in collaboration with the Task Force, so that recognition for vocational training by the society will be improved.	Develop the application approval of establishing Hydrogen Vocational College with Hydrogen Energy Institute as the application subject.	Research Report	0	2020	-	-	1	1	Annual Project Report

	5.3. To apply for the necessary approvals for the Hydrogen Economy Vocational College to issue National Vocational Qualification (NVQ) certificates to students upon successful completion of studies, accrediting students' technical skills in accordance with national standards, through liaison with competent human resources and social security authorities, in collaboration with Task Force.	Develop the application approval for the Hydrogen Economy Vocational College to issue National Vocational Qualification (NVQ) certificates to students	Annual Project Report	0	2020	-	-	1	1	Annual Project Report
Output 6: To develop strategies for circulating information related to the Hydrogen Energy Institute for a variety of national and international forums, organisations, and other educational institutions	6.1 To design branding activities for the Hydrogen Economy Vocational College.	Develop the branding activity for the Hydrogen Economy Vocational College	Annual Project Report	0	2020	1	1	-	2	Annual Project Report
	6.2. To develop a student enrolment plan for the curriculums to attract national and international students.	Number of Chinese students, Number of international students (To be confirmed by Activity 1.2)	Annual Project Report	0	2020	TBC	TBC	TBC	TBC	Annual Project Report

Output 7: Forums, conferences and other activities organised to promote hydrogen economy for creating the academic environment needed for nurturing talents.	7.1. To organise and conduct a global hydrogen economy vocational education summit.	Conduct the global communication activities on hydrogen economy vocational training	Annual Project Report	0	2020	1	1	-	2	Annual Project Report
	7.2. To explore the cooperation opportunities with relevant institutions related to the hydrogen industry worldwide.	Communicate and cooperate with enterprises and carry out research and development projects between College and enterprise.	Annual Project Report	0	2020	-	1	-	1	Annual Project Report
	7.3. To establish a platform that facilitates exchanges between the Vocational College and enterprises to nurture talents for the hydrogen industry, promote coordinated development amongst production, learning and research.	Hold campus recruitment Number of enterprises invited	Annual Project Report	0	2020	-	-	8	8	Annual Project Report

	7.4. To organise academic forums and workshops to promote the sustainable development of hydrogen economy through UNDP Hydrogen Industry Conference and other academic platforms.	Hold academic forums、conference or meetings to promote hydrogen economy	Annual Project Report	0	2020	1	1	1	3	Annual Project Report
Output 8: Public perceptions on vocational education improved and the education and employment environment optimised.	8.1. To conduct a feasibility study on China's vocational education reform with regards to hydrogen economy, organise workshops with experts to compile reform proposals and developing policy recommendations for competent authorities such as the Ministry of Education.	Hold two workshops, and provide suggestions of vocational training reformation	Research Report	0	2020	-	1	1	2	Workshop

	8.2. To conduct a feasibility study on National Vocational Qualification (NVQ) certification system for students of Hydrogen Economy Vocational College, organise of workshops with experts for developing policy recommendations for the Ministry of Human Resources and Social Security.	Hold two workshops, and provide suggestions of Vocational Qualification certification	Annual Project Report	0	2020	-	1	1	2	Workshop
	8.3. To organise campaigns with media's support to increase public awareness of vocational colleges	Carry out campaigns with media's support to increase public awareness of vocational colleges	Annual Project Report	0	2020	1	1	1	3	Annual Project Report
Output 9: Hydrogen vocational training promoted through South-South Cooperation and the Belt and Road Initiative for supplying hydrogen talents to developing	9.1. To organise and conduct conferences through South-South Cooperation and the Belt and Road Initiative to promote cooperation on hydrogen economy vocational training	Organise two cooperation meetings	Annual Project Report	0	2020	-	1	1	2	Annual Project Report

countries	9.2 To promote the Hydrogen Economy Vocational College to other countries and discuss with other developing countries on the Hydrogen Economy industrial linkage mechanism.	Organise two workshops	Annual Project Report	0	2020	1	1	-	2	Annual Project Report
	9.3. To conduct a feasibility study of establishing Hydrogen Economy Vocational College in other developing countries.	Organise one workshop	Annual Project Report	0	2020	-	-	1	1	Annual Project Report
	9.4. To design the scholarship programmes for students from developing countries.	Establish scholarship programs for students abroad	Annual Project Report	0	2020	-	-	1	1	Annual Project Report

VI Monitoring and Evaluation

The project will carry out project monitoring and evaluation according to UNDP's standard procedures of monitoring, assessment and evaluation. Monitoring and evaluation are based on the expected results listed in the project results framework, the output indicators, and the multi-year work plan of the project, which are the basis for monitoring and evaluating the progress of project implementation and the achievement of project achievements.

During the project inception workshop, these indicators will be reviewed according to the changes of external environment of the project. Based on the review, it will be decided whether these indicators and the monitoring and evaluation plan need to be modified. The PMO is responsible for the daily monitoring.

6.1 Monitoring Plan

In order to ensure that the strategic direction of the project and the achievement of the expected results are in line with the design of the project, the PMO will regularly check the implementation. If the implementation of the project is off track or encounters resistance, the PMO should promptly report the situation to UNDP so that timely remedial measures can be taken.

Monitoring and Evaluation activities	Aims	Frequency	Expected actions	Partners
Monitoring project implementation process	To collect and analyze the progress data of outcome indicators listed in the results and resource frameworks to assess progress in achieving project outputs.	Quarterly	If the progress is slower than expected, the PCMO will take measures to accelerate the progress.	Project Management Office, M&E task force representative, and Chief Technical Advisor
M&E for risk	To use risk log and other tools to identify specific risks that may affect the achievement of expected results and monitor the implementation of risk management measures. Manage financial risk through auditing.	Update risk log annually	The PMO identifies the risks and takes action to manage the risks. The risk log is updated timely to track the identified risks and measures taken.	Project Management Office, M&E task force representative, and Chief Technical Advisor
Learning	Knowledge, good practices and lessons will be captured regularly, as well as actively sourced from other projects and partners and integrated back into the project.	Annually	Relevant lessons are captured by the project team and used to inform management decisions.	Project Management Office, M&E task force representative, and Chief Technical Advisor
Annual Project Quality Assurance	The quality of the project will be assessed against UNDP's quality standards to identify project strengths and weaknesses and to inform management decision making	Annually	Areas of strength and weakness will be reviewed by project management and used to inform decisions to	Project Management Office, M&E task force representative, and Chief Technical Advisor

Monitoring and Evaluation activities	Aims	Frequency	Expected actions	Partners
	to improve the project.		improve project performance.	
Baseline assessment and project progress report	The Project Office will submit a progress report in accordance with the requirements of UNDP, including 1) progress data reflecting the degree of realization of output indicators; 2) annual project quality assessment; 3) risk log update and risk management and control measures taken by the project, and 4) other assessments or review reports prepared during the reporting period.	Quarterly, half-yearly and annually		Project Management Office, Chief Technical Advisor
Project Review	The project will conduct regular performance evaluation and review the multi-year work plan to ensure that the project budget arrangement on track according to the actual situation. The project completion inspection (terminal evaluation) will be carried out in the final year of the project, summarizing the project's experience and lessons learned, and discussing the arrangements for the	Annually	For identified issues such as quality or delayed schedules, the project management group should develop solutions in a timely manner, determine the implementation plan, and effectively solve problems.	Project Management Office, Chief Technical Advisor

Monitoring and Evaluation activities	Aims	Frequency	Expected actions	Partners
	promotion of the project's results in order to maximize the project results.			
Field trips	Keep the overall implementation progress under control, investigate specific issues, help find ways to solve the problem, and understand the drafting progress of the progress report.	Biannually	UNDP’s participation in field trips twice a year.	Project Management Office, Chief Technical Advisor

6.2 Evaluation Plan

The terminal evaluation will be conducted three months before the end of the project. The final assessment will focus on the impact and sustainability of the project's outcomes. The terminal evaluation (completion inspection) will also provide suggestions for follow-up activities of the project. The outline (completion inspection) of the terminal evaluation is to be jointly prepared by UNDP China, the Project Management Office.

Project Evaluation Plan

Evaluation Activities	Time Planned	Institution/Experts Responsible
Project preparation and inception workshop	1st Quarter of 2021	Project Management Office, Consultants and Experts, M&E Task Force (Gender, Risks and M&E).
Completion of the information collection of the Results-oriented Annual Reporting (ROAR) from UNDP	Nov 30, 2021	Project Management Office
2021 Annual Project Report	Jan 15, 2022	Project Management Office, Consultants and Experts, M&E Task Force (Gender, Risks and M&E).
Completion of the information collection of the Results-oriented Annual Reporting (ROAR) from UNDP	Nov 30, 2022	Project Management Office
2022 Annual Project Report	Jan 15, 2023	Project Management Office, Consultants and Experts, M&E Task Force (Gender, Risks and M&E).
Completion of the information collection of the Results-oriented Annual Reporting (ROAR) from UNDP	Nov 30, 2023	Project Management Office
Terminal Evaluation	4th Quarter of 2023	Project Management Office, Consultants and Experts, M&E Task Force (Gender, Risks and M&E).

VII Annual Project Work Plan

The budget allocation in the annual work plan is calculated according to the natural year, and the three-year period is from January 2021 to December 2023.

Expected Outputs	Planned Activities	COA	Planned Budget by Year				Responsible Parties	Note	Planned Budget Allocation	
			2021	2022	2023	Sub-total			Nanhai District Government of Foshan City	Total Amount (USD)
Output 1: A detailed vocational training development programme formulated	1.1. To conduct international visits to draw from other countries' experiences on the formulation and implementation of vocational training programmes as such.	71600	0	100,000	60,000	**160,000**	Project Management Office	Funds of 2023 awaits to be allocated	**160,000**	**160,000**
	1.2. To design adequate training goals and strategies for the students and courses of the Hydrogen Economy Institute, integrating national	72100	15,800	63,200	10,000	**89,000**	Project Management Office		**89,000**	**89,000**
		71300	9,000	9,000	0	**18,000**	Project Management Office	Fund of 2022-2023 awaits to be allocated	**18,000**	**18,000**

	and international energy strategies and the development needs of the industry in China.									
	1.3. To design the Overall Institutional Development Plan and Curriculum Design Plan for the Vocational College, covering courses of science and engineering, economics, etc.	72100	17,800	71,200	0	**89,000**	Project Management Office		**89,000**	**89,000**
		75700	2,000	7,500	0	**9,500**	Project Management Office	Fund of 2022-2023 awaits to be allocated	**9,500**	**9,500**
	In total (output 1)		242,500	113,000	0	**365,500**			**365,500**	**365,500**
Output 2: A detailed guidance plan developed for setting up the teaching and learning areas for Hydrogen Economy Vocational College	2.1. To design teaching method of the vocational training programmes.	72100	15,840	63,360	39,800	**119,000**	Project Management Office		**119,000**	**119,000**
		71300	2,000	8,000	4,000	**14,000**	Project Management Office		**14,000**	**14,000**
	2.2. To develop a college infrastructure management plan, including the arrangement of laboratories, workshops and classrooms.	72100	13,840	55,360	39,800	**109,000**	Project Management Office		**109,000**	**109,000**

	2.3. To plan and design for necessary teaching facilities.	72100	14,240	56,960	37,800	**109,000**	Project Management Office		**109,000**	**109,000**
	2.4. To organise and conduct discussions with national and international companies related to the hydrogen industry in order to facilitate internship programmes that prepares students entering the job market.	72100	11,800	47,200	26,000	**85,000**	Project Management Office		**85,000**	**85,000**
		71600	5,000	20,000	25,000	**50,000**	Project Management Office		**50,000**	**50,000**
	2.5. To develop scientific research activities for the Hydrogen Economy Institute.	72100	20,000	24,500	38,000	**82,500**	Project Management Office		**82,500**	**82,500**
	In total (output 2)		**82,720**	**275,380**	**210,400**	**568,500**			**568,500**	**568,500**
Output 3: Evaluation procedures designed to monitor the performance of the Hydrogen Economy Vocational College at multiple levels	3.1. To design the evaluation criteria assessing student performance drawing from international best practices	75700	0	2,000	5,000	**7,000**	Project Management Office		**7,000**	**7,000**
	3.2. To design the evaluation criteria assessing faculty performance drawing	75700	0	2,000	5,000	**7,000**	Project Management Office		**7,000**	**7,000**

	from international best practices.									
	3.3. To design the criteria for evaluating the College's taught/research programmes drawing from international best practices.	71300	0	6,000	5,000	**11,000**	Project Management Office		**11,000**	**11,000**
		71600	0	10,000	6,000	**16,000**	Project Management Office		**16,000**	**16,000**
		72100	8,000	26,000	26,000	**60,000**	Project Management Office		**60,000**	**60,000**
	In total (output 3)		**8,000**	**46,000**	**47,000**	**101,000**			**101,000**	**101,000**
Output 4:A world-class faculty gathered for the hydrogen industry through UNDP's network	4.1. To map out the requirements of trainer qualifications of different courses and disciplines with reference to ongoing or completed research in other universities, colleges and institutions.	72100	13,840	55,360	29,800	**99,000**	Project Management Office		**99,000**	**99,000**
		75700	0	2,000	0	**2,000**	Project Management Office		**2,000**	**2,000**
	4.2. To develop policies and recommendations for attracting high-end talents and teams in the field of hydrogen	71200	6,000	15,000	15,000	**36,000**	Project Management Office		**36,000**	**36,000**
		71300	4,500	3,000	5,000	**12,500**	Project Management Office		**12,500**	**12,500**

	energy and retaining the faculty for Hydrogen Economy Vocational College	71600	10,000	10,000	10,000	**30,000**	Project Management Office		**30,000**	**30,000**
	4.3. To establish a world-class faculty in hydrogen economy with international experts in fuel cells, hydrogen production, infrastructure, hydrogen economy and other fields	71200	0	200,000	300,000	**500,000**	Project Management Office		**500,000**	**500,000**
		71600	0	30,000	30,000	**60,000**	Project Management Office		**60,000**	**60,000**
	In total (output 4)		**34,340**	**315,360**	**389,800**	**739,500**			**739,500**	**739,500**
Output 5: To build a world-class faculty through the platform of UNDP	5.1.To organise workshops discussing the feasibility and policy recommendations for hydrogen vocational training, through the liaison with line ministries and departments, in collaboration with the Task Force of Foshan Nanhai-UNDP Hydrogen Economy Vocational College	75700	10,000	10,000	10,000	30,000	Project Management Office		**30,000**	**30,000**

	(hereinafter referred to as the Task Force)									
	5.2. To apply for the necessary approvals for establishing the Hydrogen Economy Vocational College, through which students will be awarded diplomas upon successful completion of studies, through liaison with national educational departments to, through liaison with competent education authorities in collaboration with the Task Force, so that recognition for vocational training by the society will be improved.	71300	5,000	20,000	10,000	**35,000**	Project Management Office		**35,000**	**35,000**
		75700	1,000	1,000	1,000	**3,000**	Project Management Office		**3,000**	**3,000**
		71600	20,000	20,000	20,000	**60,000**	Project Management Office		**60,000**	**60,000**
		72100	20,000	49,200	29,800	**99,000**	Project Management Office		**99,000**	**99,000**
	5.3. To apply for the necessary approvals for the Hydrogen Economy Vocational College to issue National Vocational	71300	5,000	20,000	10,000	**35,000**	Project Management Office		**35,000**	**35,000**
		75700	1,000	1,000	1,000	**3,000**	Project Management Office		**3,000**	**3,000**

	Qualification (NVQ) certificates to students upon successful completion of studies, accrediting students' technical skills in accordance with national standards, through liaison with competent human resources and social security authorities, in collaboration with Task Force.	71600	20,000	20,000	20,000	**60,000**	Project Management Office		**60,000**	**60,000**
		72100	20,000	49,200	29,800	**99,000**	Project Management Office		**99,000**	**99,000**
	In total (output 5)		**102,000**	**190,400**	**131,600**	**424,000**			**424,000**	**424,000**
Output 6: To develop strategies for circulating information related to the Hydrogen Energy Institute for a variety of national and international forums, organisations, and other educational institutions	6.1. To design branding activities for the Hydrogen Economy Vocational College.	72100	0	60,000	50,000	**110,000**	Project Management Office		**110,000**	**110,000**
		71600	0	10,000	10,000	**20,000**	Project Management Office		**20,000**	**20,000**
		74200	0	5,000	5,000	**10,000**	Project Management Office		**10,000**	**10,000**
	6.2. To develop a student enrolment plan for the curriculums to	71300	1,200	4,800	2,000	**8,000**	Project Management Office		**8,000**	**8,000**

	attract national and international students.	75700	3,000	9,000	8,000	**20,000**	Project Management Office		**20,000**	**20,000**
	In total (output 6)		**4,200**	**88,800**	**75,000**	**168,000**			**168,000**	**168,000**
	7.1. To organise and conduct a global hydrogen economy vocational education summit.	75700	0	5,000	5,000	**10,000**	Project Management Office		**10,000**	**10,000**
		71600	0	5,000	5,000	**10,000**	Project Management Office		**10,000**	**10,000**
Output 7: Forums, conferences and other activities organised to promote hydrogen economy for creating the academic environment needed for nurturing talents.	7.2. To explore the cooperation opportunities with relevant institutions related to the hydrogen industry worldwide.	75700	0	5,000	5,000	**10,000**	Project Management Office		**10,000**	**10,000**
	7.3. To establish a platform that facilitates exchanges between the Vocational College and enterprises to nurture talents for the hydrogen industry, promote coordinated development amongst production, learning and research.	75700	0	5,000	5,000	**10,000**	Project Management Office		**10,000**	**10,000**

	7.4. To organise academic forums and workshops to promote the sustainable development of hydrogen economy through UNDP Hydrogen Industry Conference and other academic platforms.	71600	0	5,000	5,000	**10,000**	Project Management Office		**10,000**	**10,000**
		75700	0	5,000	5,000	**10,000**	Project Management Office		**10,000**	**10,000**
	In total (output 7)		**0**	**30,000**	**30,000**	**60,000**			**60,000**	**60,000**
Output 8: Public perceptions on vocational education improved and the education and employment environment optimised.	8.1. To conduct a feasibility study on China's vocational education reform with regards to hydrogen economy, organise workshops with experts to compile reform proposals and developing policy recommendations for competent authorities such as the Ministry of Education	72100	0	0	30,000	**30,000**	Project Management Office		**30,000**	**30,000**
		71300	0	0	0	**0**	Project Management Office	Fund of 2022-2023 awaits to be allocated	**0**	**0**
		71600	0	0	0	**0**	Project Management Office	Fund of 2022-2023 awaits to be allocated	**0**	**0**
		75700	0	0	5,000	**5,000**	Project Management Office		**5,000**	**5,000**
	8.2. To conduct a feasibility study on National Vocational	71600	0	0	0	**0**	Project Management Office	Fund of 2022-2023 awaits to be allocated	**0**	**0**

	Qualification (NVQ) certification system for students of Hydrogen Economy Vocational College, organise of workshops with experts for developing policy recommendations for the Ministry of Human Resources and Social Security.	75700	0	0	3,000	**3,000**	Project Management Office		**3,000**	**3,000**
		71300	0	0	0	**0**	Project Management Office	Fund of 2022-2023 awaits to be allocated	**0**	**0**
	8.3. To organise campaigns with media's support to increase public awareness of vocational colleges	74200	0	4,500	4,500	**9,000**	Project Management Office		**9,000**	**9,000**
		72100	0	0	0	**0**	Project Management Office	Fund of 2022-2023 awaits to be allocated	**0**	**0**
		71600	0	0	3,000	**3,000**	Project Management Office		**3,000**	**3,000**
	In total (output 8)		**0**	**4,500**	**45,500**	**50,000**			**50,000**	**50,000**
Output 9: Hydrogen vocational training promoted through South-South Cooperation and the Belt and Road Initiative for	9.1. To organise and conduct conferences through South-South Cooperation and the Belt and Road Initiative to promote cooperation on	75700	0	0	5,000	**5,000**	Project Management Office		**5,000**	**5,000**
		74200	0	0	7,000	**7,000**	Project Management Office		**7,000**	**7,000**

supplying hydrogen talents to developing countries	hydrogen economy vocational training									
	9.2. To promote the Hydrogen Economy Vocational College to other countries and discuss with other developing countries on the Hydrogen Economy industrial linkage mechanism.	71600	0	0	0	**0**	Project Management Office	Fund of 2022-2023 awaits to be allocated	**0**	**0**
		74200	0	0	0	**0**	Project Management Office	Fund of 2022-2023 awaits to be allocated	**0**	**0**
	9.3. To conduct a feasibility study of establishing Hydrogen Economy Vocational College in other developing countries.	71600	0	0	5,000	**5,000**	Project Management Office		**5,000**	**5,000**
	9.4. To design the scholarship programmes for students from developing countries.	72100	0	0	30,000	**30,000**	Project Management Office		**30,000**	**30,000**
	In total (output 9)		**0**	**0**	**47,000**	**47,000**			**47,000**	**47,000**
Management expense										
	Miscellaneous	74500	6,000	5,000	5,000	**16,000**	UNDP		**16,000**	**16,000**
	Project Inception	75700	3,000	0	0	**3,000**	UNDP		**3,000**	**3,000**

	Annual Review	75700	3,000	3,000	3,000	**9,000**	UNDP		**9,000**	**9,000**
	Terminal Evaluation	71200	0	0	20,000	**20,000**	UNDP		**20,000**	**20,000**
		71300	0	0	10,000	**10,000**	UNDP		**10,000**	**10,000**
		71600	0	0	20,000	**20,000**	UNDP		**20,000**	**20,000**
		75700	0	0	5,000	**5,000**	UNDP		**5,000**	**5,000**
	UNDP GMS	75100	30,000	30,000	22,000	**82,000**	UNDP		**82,000**	**82,000**
	UNDP DPC	71400	18,000	13,000	13,000	**44,000**	UNDP		**44,000**	**44,000**
	Management Expenses	71400	30,000	30,000	30,000	**90,000**	UNDP		**90,000**	**90,000**
	IP DPC	71400	22,995	16,000	5,005	**44,000**	UNDP		**44,000**	**44,000**
	Audit	74100	7,500	5,000	2,500	**15,000**	UNDP		**15,000**	**15,000**
	UNV	71500	39,500	39,500	39,500	**118,500**	UNDP		**118,500**	**118,500**
Sub-total			159,995	141,500	175,005	**476,500**			**476,500**	**476,500**
Project development costs (This part of the funds is used as project expenditure for the preparation work before the start of the project)		74500				**100,000**	UNDP		**100,000**	**100,000**
Total			**435,855**	**1,342,840**	**1,221,305**	**3,100,000**			**3,100,000**	**3,100,000**

Budget Codes:

71200 for International Consultants, 71300 for National Consultants, 71500 for UNV, 71600 for Travel, 72100 for Sub-contractors, 74200 for Audio Visual & Print, 74500 for Miscellaneous, 75700 for Trainings, conferences and workshops

VIII Governance and Management Arrangements

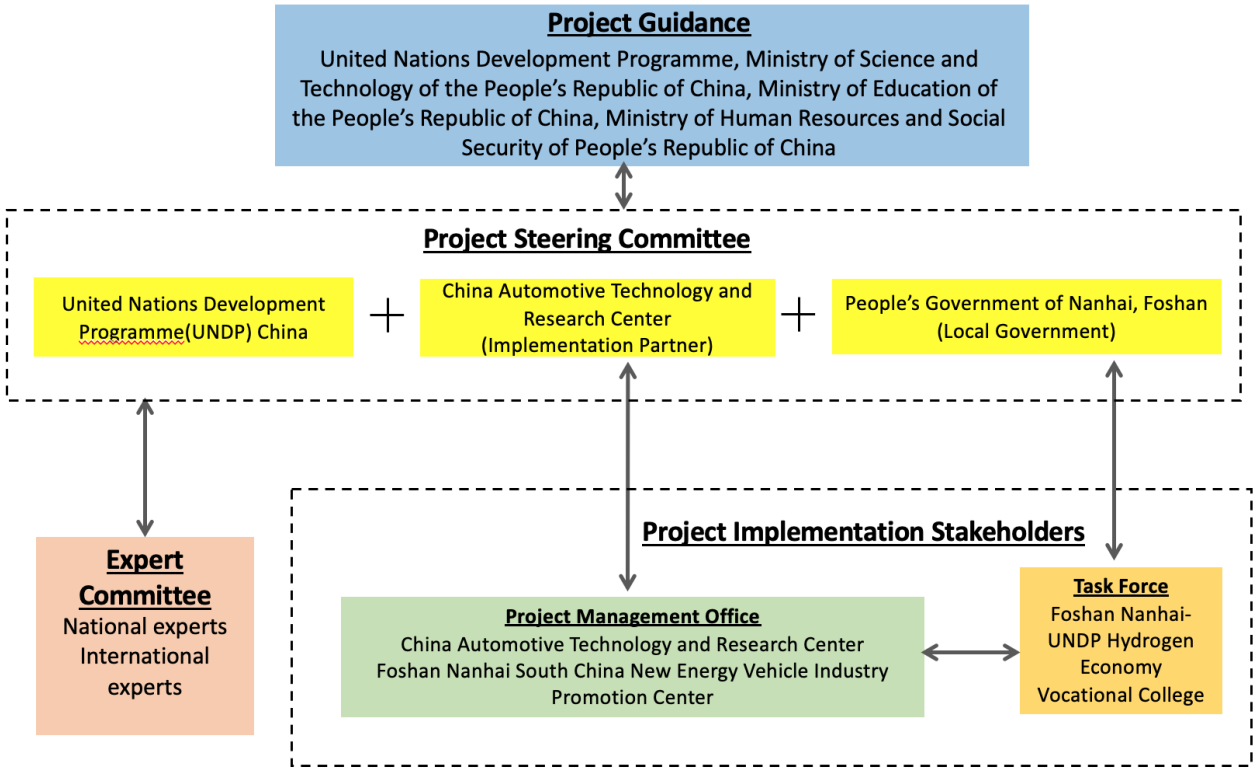
8.1 Implementation Modality

The implementation and management modality of this project is National Implementation Modality (NIM).

8.2 Project Management Framework

In order to ensure project compliance and effective implementation, the following management, supervision and coordination agencies are established: 1) Project Guidance, responsible for providing policy and strategic guidance; 2) Project Steering Committee, responsible for providing the opinions and guidance of project implementation; 3) Project Management Office, responsible for guiding, supervising and coordinating the project implementation; and 4) Experts Committee, responsible for providing technical guidance, evaluation and review of the project.

Project Management Arrangements



8.3 Responsibilities of Key Stakeholders

8.3.1 Project Guidance

To provide policy and strategic guidance for the implementation of the project, it is proposed to invite UNDP, Ministry of Science and Technology of the People's Republic of China, Ministry of Education of the People's Republic of China and Ministry of Human Resources and Social Security of the People's Republic of China to give project guidance.

8.3.2 Project Steering Committee

To provide opinions and guidance for the implementation of the project, the Project Steering Committee (PSC) is established by the lead of UNDP China. The Project Steering Committee includes UNDP China, CATARC and People’s Government of Nanhai, Foshan.

The responsibilities of the Project Steering Committee include: 1) To discuss and approve the Annual Work Plan; 2) To investigate and approve the Annual Project Report; 3) To ensure policies, human resources and funding resources to support the implementation of the project; 4) To ensure the coordination and collaboration of all project partners; 5) To conduct comprehensive assessment and quality control of the project final results; 6) To establish expert committee.

The Project Steering Committee will meet annually at least, and to add frequency or to convene on short notice when necessary. UNDP, CATARC, People’s Government of Nanhai, Foshan and other relevant participating partners attended the annual meeting to review the project progress, approve the annual work plan and budget, and discuss and solve major issues. Discussion opinions and decisions need to be recorded on a bilingual memo that should be signed and archived for project management purpose.

8.3.2.1 UNDP China

The main responsibilities of UNDP China Office are: 1) Lead the project designing and planning at the feasibility study stage; 2) Provide macro and technical guidance at the stage of project implementation, responsible for project monitor, management and coordination; 3) Provide resources of international experts, international exchange and investigation opportunities using the network of United Nations; 4) Provide financial support to the project, including manage project funds, set up Annual Work Plan, and approve the annual budgets, etc.; 5) Ensure that all activities including procurement and financial services are strictly in accordance with the procedures of UNDP; 6) Review and approve Project Progress Report; 7) Organise the third party audit on the project, etc.

In addition, in view of the fact that People's Government of Nanhai, Foshan is the donor of project funds and provides support for various related audits, assessments, inspections and supervisions, the UNDP China shall provide the last year annual project progress report, including financial report (see Annex 6 for the template) at the first quarter of the year.

8.3.2.2 China Automotive Technology and Research Center (CATARC)

As the implementation stakeholder of the project, the main responsibility of CATARC are: 1) Support UNDP on project designing and planning at the feasibility study stage; 2) Provide industry and technical guidance at the stage of project implementation, responsible for project monitor, management and coordination; 3) Provide resources of national experts and partnerships using the network of industry experts; 4) Organise and establish the Project Management Office.

According to the project management requirement of UNDP NIM modality, to follow the project management framework of GEF FCV project, a project director would be appointed by CATARC GEF FCV Project Management Office.

8.3.2.3 People's Government of Nanhai, Foshan

As the donor of the project fund and local government, the main responsibility of Nanhai government are: 1) Mobilize core funds, matching funds and personnel for the project; 2) Communicate with superior government to promote and coordinate project implementation on policy breakthrough and demonstration; 3) Solicit opinions and suggestions from superior local government and various departments in local government, report to Project Steering Committee about the exact needs of vocational college; 4) Coordinate the task force of Foshan Nanhai-UNDP Hydrogen Economy Vocational College, support PMO to implement all project activities.

According to the project management requirement of UNDP NIM modality, to follow the project management framework of GEF FCV project, a project implementation director appointed by Nanhai government would lead the implementation of the project.

8.3.3 Project Implementation Stakeholders

8.3.3.1 Project Management Office

The Project Management Office (PMO) is established by China Automotive Technology and Research Center and relevant departments and bureaus of People's Government of Nanhai, Foshan, together with Foshan Nanhai South China New Energy Vehicle Industry Promotion Center (hereinafter referred to as the Promotion Center). CATARC is responsible for project design, guidance, monitor and management, while the Promotion Center is responsible for planning, coordination, implementation

and other promotion works. A project director would be appointed by CATARC and an executive director appointed by Foshan Nanhai South China New Energy Vehicle Industry Promotion Center, to set up a communication mechanism and to promote the implementation of the project.

The main responsibilitie of the Project Management Office is to promote the successful implementation of the project activities, specifically include: 1) Organise and coordinate experts to carry out the evaluation of each implementation plan and related deliverables of the project; 2) According to the Project Document and local needs, formulate the preliminary annual work plan and budget of the project, complete project progress report and submit these documents to UNDP China; 3) Implement specified project activities; 4) Report project implementation status to the Project Steering Committee, coordinate and execute guidance from PSC; 5) Apply for partial funds of the project, review and approve specific expenditures on the project activities, assist UNDP China on regular check of financial accounting, and to support UNDP China and third party organisation on work of audit; 6) Establish a project contact mechanism, contacting with Task Force of Foshan Nanhai-UNDP Hydrogen Economy Vocational College, coordinating the government departments, Hydrogen Energy Institute, research institutes, enterprises and other relevant institutions, under the guidance of PSC, in charge of the project implementation.

8.3.3.2 Task Force of Foshan Nanhai-UNDP Hydrogen Economy Vocational College (*the Task Force*)

The Task Force is set up by the Leading Group Office of Hydrogen Energy Industry Development in Nanhai District of Foshan City, and its duty is to coordinate and give guidance to the establishment and promotion of Hydrogen Energy Vocational College in Nanhai District. The Task Force will set up an office in Educational Bureau of Nanhai to undertake specific daily works.

Its specific division of labor includes: 1) Educational Bureau of Nanhai District is responsible for the specific work of the Task Force, taking the lead in undertaking the establishment of the Hydrogen Economy Vocational College, the design of curriculum and courses, and centralized management under specific departments; 2) Development and Reform Commission of Nanhai District is responsible for coordinating the cooperation with UNDP, promoting the development planning research of Hydrogen Economy Vocational College, and coordinating the preparation for establishing Hydrogen Economy Vocational College; 3) Organisation Department of Nanhai District is responsible for coordinating and promoting the talent matching of Hydrogen Economy Vocational College; 4) The Institutional Organisation Commission of Nanhai District is responsible for obtaining the necessary headcounts for the faculty of the Hydrogen Economy Vocational College; 5) The Human Resources and Social Security Bureau of Nanhai District is responsible for assisting the courses of Hydrogen Economy Vocational College to be included in the National Vocational Qualification (NVQ) certificates, and assisting the Educational Bureau of Nanhai District to promote for the approval of the establishment of Hydrogen Economy Vocational College; 6) People's Government of Danzao Town is responsible for

the site selection of Hydrogen Economy Vocational College, and assists the planning and construction of Hydrogen Economy Vocational College; 7) Housing and Urban-Rural Development and Water Resources Bureau, Emergency Management Bureau, Nanhai Branch of Foshan Natural Resources Bureau and Nanhai Branch of Foshan Ecology and Environment Bureau are responsible for coordinating the administrative inspection and approval of the site construction of Hydrogen Economy Vocational College; 8) The university that houses the project,, implemented by Nanhai district is responsible for the specific work of launching and operation the Hydrogen Economy Vocational College; 9) Other units of the Task Force shall carry out relevant work according to their respective responsibilities.

8.3.4 Experts Committee

The Experts Committee will be established by the Project Steering Committee, to organise experts from various industries, such as hydrogen energy, fuel cell, automobile, education, human resources and social security. The responsibilities are to provide technical guidance for the project, evaluate the implementation plan and review the project deliverables, so as to ensure the quality of the project results. The director of the Experts Committee will be selected from the experts committee, to ensure the implementation, management and coordination of the project and the achievement of the project results.

8.4 Other Arrangements

During the implementation of the project, the project will seek to cooperate with other similar projects with UNDP China and others as relevant, jointly implement the activities specified in the project documents and achieve deliverable technical results in areas where policy and technology products can be generated.

During implementation, the project will be open to cooperation with stakeholders including the private sector, academia, charitable foundations, and other civil society groups. With new partners, new project activities will be initiated, designed and approved in accordance with the requirements of the project cycle management of UNDP while relevant agreement procedures will be followed.

IX Legal Context

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of (country) and UNDP, signed on (date). All references in the SBAA to “Executing Agency” shall be deemed to refer to “Implementing Partner.”

This project will be implemented by the United Nations Development Programme – China (“Implementing Partner”) in accordance with its financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. Where the financial governance of an Implementing Partner does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, the financial governance of UNDP shall apply.

X Risk Management

1. UNDP as the Implementing Partner will comply with the policies, procedures and practices of the United Nations Security Management System (UNSMS.)
2. UNDP as the Implementing Partner will undertake all reasonable efforts to ensure that none of the [project funds] [UNDP funds received pursuant to the Project Document] are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.
3. Social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (http://www.undp.org/ses) and related Accountability Mechanism (http://www.undp.org/secu-srm).
4. UNDP as the Implementing Partner will: (a) conduct project and programme-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or programme to comply with such standards, and (c) engage in a constructive and timely manner to address any concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.
5. All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.
6. UNDP as the Implementing Partner will ensure that the following obligations are binding on each responsible party, subcontractor and sub-recipient:
    a) Consistent with the Article III of the SBAA [or the Supplemental Provisions to the Project Document], the responsibility for the safety and security of each responsible party, subcontractor and sub-recipient and its personnel and property, and of UNDP's property in such responsible party's, subcontractor's and sub-recipient's custody, rests with such responsible party, subcontractor and sub-recipient. To this end, each responsible party, subcontractor and sub-recipient shall:
        i. put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
        ii. assume all risks and liabilities related to such responsible party's, subcontractor's and sub-recipient's security, and the full implementation of the security plan.
    b) UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the responsible party's, subcontractor's and sub-recipient's obligations under this Project Document.

c) Each responsible party, subcontractor and sub-recipient will take appropriate steps to prevent misuse of funds, fraud or corruption, by its officials, consultants, subcontractors and sub-recipients in implementing the project or programme or using the UNDP funds. It will ensure that its financial management, anti-corruption and anti-fraud policies are in place and enforced for all funding received from or through UNDP.

d) The requirements of the following documents, then in force at the time of signature of the Project Document, apply to each responsible party, subcontractor and sub-recipient: (a) UNDP Policy on Fraud and other Corrupt Practices and (b) UNDP Office of Audit and Investigations Investigation Guidelines. Each responsible party, subcontractor and sub-recipient agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at www.undp.org.

e) In the event that an investigation is required, UNDP will conduct investigations relating to any aspect of UNDP programmes and projects. Each responsible party, subcontractor and sub-recipient will provide its full cooperation, including making available personnel, relevant documentation, and granting access to its (and its consultants', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with it to find a solution.

f) Each responsible party, subcontractor and sub-recipient will promptly inform UNDP as the Implementing Partner in case of any incidence of inappropriate use of funds, or credible allegation of fraud or corruption with due confidentiality. Where it becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, each responsible party, subcontractor and sub-recipient will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). It will provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

g) UNDP will be entitled to a refund from the responsible party, subcontractor or sub-recipient of any funds provided that have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of this Project Document. Such amount may be deducted by UNDP from any payment due to the responsible party, subcontractor or sub-recipient under this or any other agreement. Recovery of such amount by UNDP shall not diminish or curtail any responsible party's, subcontractor's or sub-recipient's obligations under this Project Document.

   Note: The term "Project Document" as used in this clause shall be deemed to include any relevant subsidiary agreement further to the Project Document, including those with responsible parties, subcontractors and sub-recipients.

h) Each contract issued by the responsible party, subcontractor or sub-recipient in connection with this Project Document shall include a provision representing that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from it shall cooperate with any and all investigations and post-payment audits.

i) Should UNDP refer to the relevant national authorities for appropriate legal action any alleged wrongdoing relating to the project or programme, the Government will ensure that the relevant national authorities shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.

j) Each responsible party, subcontractor and sub-recipient shall ensure that all of its obligations set forth under this section entitled "Risk Management" are passed on to its subcontractors and sub-recipients and that all the clauses under this section entitled "Risk Management Standard Clauses" are adequately reflected, mutatis mutandis, in all its sub-contracts or sub-agreements entered into further to this Project Document.

XI List of Annexes

Annex 1: Project Quality Assurance Report

Project QA Assessment: Design and Appraisal				
Project Overall				
EXEMPLARY (5) ◎◎◎◎◎	**HIGHLY SATISFACTORY (4)** ◎◎◎◎○	**SATISFACTORY (3)** ◎◎◎○○	**NEEDS IMPROVEMENT (2)** ◎◎○○○	**INADEQUATE (1)** ◎○○○○
At least four criteria are rated Exemplary, and all criteria are rated High or Exemplary.	All criteria are rated Satisfactory or higher, and at least four criteria are rated High or Exemplary.	At least six criteria are rated Satisfactory or higher, and only one may be rated Needs Improvement. The SES criterion must be rated Satisfactory or above.	At least three criteria are rated Satisfactory or higher, and only four criteria may be rated Needs Improvement.	One or more criteria are rated Inadequate, or five or more criteria are rated Needs Improvement.
DECISION				
• **APPROVE** – the project is of sufficient quality to continue as planned**.** Any management actions must be addressed in a timely manner. • **APPROVE WITH QUALIFICATIONS** – the project has issues that must be addressed before the project document can be approved. Any management actions must be addressed in a timely manner. • **DISAPPROVE** – the project has significant issues that should prevent the project from being approved as drafted.				
RATING CRITERIA				
STRATEGIC				
1. Does the project's Theory of Change specify how it will contribute to higher level change? (Select the option from 1-3 that best reflects the project): 1. 3: The project has a theory of change with explicit assumptions and clear change pathway describing how the project will contribute to outcome level change as specified in the programme/CPD, backed by credible evidence of what works effectively in this context. The project document clearly describes why the project's strategy is the best approach at this point in time. 2. 2: The project has a theory of change. It has an explicit change pathway that explains how the project intends to contribute to outcome-level change and why the project strategy is the best approach at this point in time but is backed by limited evidence.			3 √	2 1 **Evidence**

3. 1: The project does not have a theory of change, but the project document may describe in generic terms how the project will contribute to development results, without specifying the key assumptions. It does not make an explicit link to the programme/CPD's theory of change. *Note: Management Action or strong management justification must be given for a score of 1	

Evidence

The project strategy and objectives are in line with national, provincial and municipal priorities for economic transformation and environment protection in China. The project design reflects primary priorities of a number of government agencies in Nanhai District, which were identified and agreed during the consultations organised during the project preparation. The document precisely analyses development challenges, the assumptions, strategic objectives, the expected outcome, the planned output/activities to achieve the project results. The project preparation also conducted risk assessment and proposed corresponding mitigation measures.

2. Is the project aligned with the thematic focus of the UNDP Strategic Plan? (select the option from 1-3 that best reflects the project): • 3: The project responds to one of the three areas of development work as specified in the Strategic Plan; it addresses at least one of the proposed new and emerging areas; an issues-based analysis has been incorporated into the project design; and the project's RRF includes all the relevant SP output indicators. (all must be true to select this option) • 2: The project responds to one of the three areas of development work1 as specified in the Strategic Plan. The project's RRF includes at least one SP output indicator, if relevant. (both must be true to select this option) • 1: While the project may respond to one of the three areas of development work1 as specified in the Strategic Plan, it is based on a sectoral approach without addressing the complexity of the development issue. None of the relevant SP indicators are included in the RRF. This answer is also selected if the project does not respond to any of the three areas of development work in the Strategic Plan.	3 √	2
	1	
	Evidence	

Evidence

The project contributes directly to the following SDGs: Goal 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all), Goal 5 (Achieve gender equality and empower all women and girls), Goal 7 (Ensure access to affordable, reliable, sustainable and modern energy for all), Goal 8 (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all), Goal 11 (Make cities and human settlements inclusive, safe, resilient and sustainable), Goal 13 (Take urgent action to combat climate change and its impacts). The project seeks to promote the vision of the 2030 Agenda for Sustainable Development, and its firm commitment to "leave no one behind" and "endeavor to reach the furthest behind first". The project directly contributes to outcome 2 of the UNDP Strategic Plan 2018-2022 to "accelerate structural transformations for sustainable development". It also contributes to the United Nations Development Assistance Framework (UNDAF) from 2016 to 2020 for the People's Republic of China, in Outcome 2 (More people enjoy a cleaner, healthier and safer environment as a result of improved environmental protection and sustainable green growth) and Outcome 3 (The effectiveness of China's engagement in international cooperation is enhanced for the mutual benefit of China and the world). Finally, this project directly contributes to the realization of the UNDP Country Programme Document (CPD) for China (2016-2020) - Outcome 2 (More people enjoy a cleaner, healthier environment as a result of improved environmental protection and sustainable green growth) - Output 2.1 (China's actions on climate change mitigation, biodiversity and chemicals across sectors are scaled up, funded and implemented).

RELEVANT

3. Does the project have strategies to effectively identify, engage and ensure the meaningful participation of targeted groups/geographic areas with a priority focus on the excluded and marginalized? (select the option from 1-3 that best reflects this project): a) 3: The target groups/geographic areas are appropriately specified, prioritising the excluded and/or marginalised. Beneficiaries will be identified through a rigorous process based on evidence (if applicable). The project has an explicit strategy to identify, engage and ensure the meaningful participation of specified target groups/geographic areas throughout the project, including through monitoring and decision-making (such as representation on the project board) (all must be true to select this option) b) 2: The target groups/geographic areas are appropriately specified, prioritising the excluded and/or marginalised. The project document states how beneficiaries will be identified, engaged and how meaningful participation will be ensured throughout the project. (both must be true to select this option) c) 1: The target groups/geographic areas are not specified, or do not prioritize excluded and/or marginalised populations. The project does not have a written strategy to identify or engage or ensure the meaningful participation of the target groups/geographic areas throughout the project. *Note: Management Action must be taken for a score of 1 or select not applicable.	3 √	2 1 *Select (all) targeted groups: (drop-down)* **Evidence**
Evidence The project intends to promote the benefits of the Hydrogen Economy, by establishing a Hydrogen Economy Vocational College, which will contribute to a better educational system to help to develop the industrialization in these new technologies, which are an opportunity for the region and the country. While key stakeholders, including government agencies, private sectors and local communities, were consulted during the project preparation, the project will continue engagement with them during the project implementation, monitoring and evaluation. Representatives of the key stakeholders will also participate in the Project Steering Committee to provide policy guidance and advices to ensure the direction of project implementation and substantive stakeholders' participation in the project implementation.		
4. Have knowledge, good practices, and past lessons learned from UNDP and others informed the project design? (select the option from 1-3 that best reflects this project): 1. 3: Knowledge and lessons learned (gained e.g. through peer assist sessions) backed by credible evidence from evaluation, corporate policies/strategies, and monitoring have been explicitly used, with appropriate referencing, to develop the project's theory of change and justify the approach used by the project over alternatives. 2. 2: The project design mentions knowledge and lessons learned backed by evidence/sources, which inform the project's theory of change but have not been used/are not sufficient to justify the approach selected over alternatives. 3. 1: There is only scant, or no mention of knowledge and lessons learned informing the project design. Any references that are made are not backed by evidence. *Note: Management Action or strong management justification must be given for a score of 1	3 √	2 1 **Evidence**
Evidence The project design was carried out by taking into consideration of experiences and lessons learned from UNDP and others, e.g. UNDP China Rugao Hydrogen Economy Pilot Project in China, EU China Environment Governance Program, UN Partnership Towards Green Economy (China). The proposed project modalities and approaches have been implemented by UNDP China, which have been proved effective and efficient project modality.		

5. Does the project use gender analysis in the project design and does the project respond to this gender analysis with concrete measures to address gender inequities and empower women? (select the option from 1-3 that best reflects this project): 1. 3: A participatory gender analysis on the project has been conducted. This analysis reflects on the different needs, roles and access to/control over resources of women and men, and it is fully integrated into the project document. The project establishes concrete priorities to address gender inequalities in its strategy. The results framework includes outputs and activities that specifically respond to this gender analysis, with indicators that measure and monitor results contributing to gender equality. (all must be true to select this option) 2. 2: A gender analysis in the project has been conducted. This analysis reflects on the different needs, roles and access to/control over resources of women and men. Gender concerns are integrated into the development challenge and strategy sections of the project document. The results framework includes outputs and activities that specifically respond to this gender analysis, with indicators that measure and monitor results contributing to gender equality. (all must be true to select this option) 3. 1: The project design may or may not mention information and/or data on the differential impact of the project's development situation on gender relations, women and men, but the constraints have not been clearly identified and interventions have not been considered. *Note: Management Action or strong management justification must be given for a score of 1	3	2 √
	1	
	Evidence	
Evidence The project conducted gender analysis at instructional and community level by using semi-structured interview techniques. Gender consideration has been mainstreamed into design of outcomes, outputs, detailed activities and project implementation management arrangement. Gender analysis and expected results have been described in the section of theory of change and the results framework.		
6. Does UNDP have a clear advantage to engage in the role envisioned by the project vis-à-vis national partners, other development partners, and other actors? (select from options 1-3 that best reflects this project): 1. 3: An analysis has been conducted on the role of other partners in the area where the project intends to work, and credible evidence supports the proposed engagement of UNDP and partners through the project. It is clear how results achieved by relevant partners will contribute to outcome level change complementing the project's intended results. If relevant, options for south-south and triangular cooperation have been considered, as appropriate. (all must be true to select this option) 2. 2: Some analysis has been conducted on the role of other partners where the project intends to work, and relatively limited evidence supports the proposed engagement of and division of labour between UNDP and partners through the project. Options for south-south and triangular cooperation may have not been fully developed during project design, even if relevant opportunities have been identified. 3. 1: No clear analysis has been conducted on the role of other partners in the area that the project intends to work, and relatively limited evidence supports the proposed engagement of UNDP and partners through the project. There is a risk that the project overlaps and/or does not coordinate with partners' interventions in this area. Options for south-south and triangular cooperation have not been considered, despite its potential relevance. *Note: Management Action or strong management justification must be given for a score of 1	3 √	2
	1	
	Evidence	
Evidence This project has a clear advantage for UNDP to engage the relevant stakeholders in the fields of vocational colleges, Hydrogen Economy		

and sustainable development to promote sustainable development of Nanhai District, including advancing its environment sustainability, transformation of economic structure, accelerating climate and sustainable development progress. It is critical for project implementation with intended results and it will also ensure project outcome and impacts at global level. UNDP can also help Nanhai District to consolidate its best practice and promote them among development partners at national, regional and international levels, the convening power and global reach-out of the project results is also the unique advantage of UNDP.

SOCIAL & ENVIRONMENTAL STANDARDS

7. Does the project seek to further the realization of human rights using a human rights-based approach? (select from options 1-3 that best reflects this project):

1. 3: Credible evidence that the project aims to further the realization of human rights, upholding the relevant international and national laws and standards in the area of the project. Any potential adverse impacts on the enjoyment of human rights were rigorously identified and assessed as relevant with appropriate mitigation and management measures incorporated into project design and budget. (all must be true to select this option)
2. 2: Some evidence that the project aims to further the realization of human rights. Potential adverse impacts on enjoyment of human rights were identified and assessed as relevant, and appropriate mitigation and management measures incorporated into the project design and budget.
3. 1: No evidence that the project aims to further the realization of human rights. Limited or no evidence that potential adverse impacts on enjoyment of human rights were considered.

*Note: Management action or strong management justification must be given for a score of 1

3	2 √
1	

N/A skip

Evidence

Evidence

The project has a strong focus on contributions to further the realization of human rights, reflected by the consideration of improving policy making and enforcement in environmental sustainability, promoting decent employment, and improving education and training of local communities in Nanhai District. The implementation of new jobs focused on Hydrogen Energy will contribute to develop economic structure that will embed appropriate interventions to address potential adverse impacts on human rights.

8. Did the project consider potential environmental opportunities and adverse impacts, applying a precautionary approach? (select from options 1-3 that best reflects this project):

1. 3: Credible evidence that opportunities to enhance environmental sustainability and integrate poverty-environment linkages were fully considered as relevant and integrated in project strategy and design. Credible evidence that potential adverse environmental impacts have been identified and rigorously assessed with appropriate management and mitigation measures incorporated into project design and budget. (all must be true to select this option).
2. 2: No evidence that opportunities to strengthen environmental sustainability and poverty-environment linkages were considered. Credible evidence that potential adverse environmental impacts have been identified and assessed, if relevant, and appropriate management and mitigation measures incorporated into project design and budget.
3. 1: No evidence that opportunities to strengthen environmental sustainability and poverty-environment linkages were considered. Limited or no evidence that potential adverse environmental impacts were adequately considered.

*Note: Management action or strong management justification must be given for a score of 1

3 √	2
1	

Evidence

Evidence

Improved environment governance, education and training, new jobs on clean technologies, environmental sustainability and climate change are the primary objectives of the project. Project activities designed will specifically advance such progress, including interventions on renewable energy, clean fuels, alternative sources of energy, new clean and sustainable technologies, training and education on Hydrogen Energy, R&D on clean technologies, etc.

9. Has the Social and Environmental Screening Procedure (SESP) been conducted to identify potential social and environmental impacts and risks? The SESP 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 and/or communication materials and information dissemination. [if yes, upload the completed checklist. If SESP is not required, provide the reason for the exemption in the evidence section.]	Yes √	No
	SESP Not Required	

Evidence

A thorough Social and Environmental Standards and Screening was conducted at the project design stage (Annex 2). The assessment shows that social and environment impacts of the project are positive. Potential risks have been estimated and can be seen on the risk log in Annex 3 of the project document.

MANAGEMENT & MONITORING

10. Does the project have a strong results framework? (select from options 1-3 that best reflects this project): • **3:** The project's selection of outputs and activities are at an appropriate level and relate in a clear way to the project's theory of change. Outputs are accompanied by SMART, results-oriented indicators that measure all of the key expected changes identified in the theory of change, each with credible data sources, and populated baselines and targets, including gender sensitive, sex-disaggregated indicators where appropriate. *(all must be true to select this option)* • **2:** The project's selection of outputs and activities are at an appropriate level but may not cover all aspects of the project's theory of change. Outputs are accompanied by SMART, results-oriented indicators, but baselines, targets and data sources may not yet be fully specified. Some use of gender sensitive, sex-disaggregated indicators, as appropriate. *(all must be true to select this option)* • **1:** The results framework does not meet all of the conditions specified in selection "2" above. This includes: the project's selection of outputs and activities are not at an appropriate level and do not relate in a clear way to the project's theory of change; outputs are not accompanied by SMART, results-oriented indicators that measure the expected change, and have not been populated with baselines and targets; data sources are not specified, and/or no gender sensitive, sex-disaggregation of indicators. *Note: Management Action or strong management justification must be given for a score of 1	3 √	2
	1	
	Evidence	

Evidence

This project's results framework and the planned outputs are accompanied by SMART indicators.

11. Is there a comprehensive and costed M&E plan in place with specified data collection sources and methods to support evidence-based management, monitoring and evaluation of the project?	Yes (3) √	No (1)

Evidence

The M&E plan in this project document covers the specified data collection sources and methods, with a comprehensive and costed design.

12. Is the project's governance mechanism clearly defined in the project document, including a planned composition of the project board? (select from options 1-3 that best reflects this project): 1. 3: The project's governance mechanism is fully defined in the project composition. Individuals have been specified for each position in the governance mechanism (especially all members of the project board.) Project Board members have agreed on their roles and responsibilities as specified in the terms of reference. The ToR of the project board has been attached to the project document. (all must be true to select this option). 2. 2: The project's governance mechanism is defined in the project document; specific institutions are noted as holding key governance roles, but individuals may not have been specified yet. The ProDoc lists the most important responsibilities of the project board, project director/manager and quality assurance roles. (all must be true to select this option) 3. 1: The project's governance mechanism is loosely defined in the project document, only mentioning key roles that will need to be filled at a later date. No information on the responsibilities of key positions in the governance mechanism is provided. *Note: Management Action or strong management justification must be given for a score of 1	3 √	2 1 **Evidence**

Evidence

This project's governance structure is clearly indicated in the project document, with specific details on the governance roles and responsibilities of each stakeholder in the project. The organisational structure is indicated in both graph and narrative forms.

13. Have the project risks been identified with clear plans stated to manage and mitigate each risk? (select from options 1-3 that best reflects this project): 1. 3: Project risks related to the achievement of results are fully described in the project risk log, based on comprehensive analysis drawing on the theory of change, Social and Environmental Standards and screening, situation analysis, capacity assessments and other analysis. Clear and complete plan in place to manage and mitigate each risk. (both must be true to select this option) 2. 2: Project risks related to the achievement of results identified in the initial project risk log with mitigation measures identified for each risk. 3. 1: Some risks may be identified in the initial project risk log, but no evidence of analysis and no clear risk mitigation measures identified. This option is also selected if risks are not clearly identified and no initial risk log is included in the project document. *Note: Management Action must be taken for a score of 1	3 √	2 1 **Evidence** **3**

Evidence

A thorough Social and Environmental Standards and Screening was conducted at the project design stage (Annex 2). The assessment shows that social and environment impacts of the project are positive. Potential risks have been estimated and can be seen on the risk log in Annex 3 of the project document.

EFFICIENT

14. Have specific measures for ensuring cost-efficient use of resources been explicitly mentioned as part of the project design? This can include: i) using the theory of change analysis to explore different options of achieving the maximum results with the resources available; ii) using a portfolio management approach to improve cost effectiveness through synergies with other interventions; iii) through joint operations (e.g., monitoring or procurement) with other partners.	Yes (3) √	No (1)
15. Are explicit plans in place to ensure the project links up with other relevant on-going projects and initiatives, whether led by UNDP, national or other partners, to achieve more efficient results (including, for example, through sharing resources or coordinating delivery?)	Yes (3) √	No (1)

16. Is the budget justified and supported by valid estimates?	3 √	2
1. 3: The project's budget is at the activity level with funding sources and is specified for the duration of the project period in a multi-year budget. Costs are supported by valid estimates using benchmarks from similar projects or activities. Cost implications from inflation and foreign exchange exposure have been estimated and incorporated in the budget. 2. 2: The project's budget is at the activity level with funding sources, when possible, and is specified for the duration of the project in a multi-year budget. Costs are supported by valid estimates based on prevailing rates. 3. 1: The project's budget is not specified at the activity level, and/or may not be captured in a multi-year budget.	1	
	Evidence	

Evidence

This project budget is specified in a multi-year work plan that provides valid estimates from funding, including the confirmed resources from Nanhai District. Confirmed resources constitute 100% of the total budget. The project will be open for participation and financial contribution from other interested entities to magnify the project scope and its impacts.

17. Is the Country Office fully recovering the costs involved with project implementation?	3	2
1. 3: The budget fully covers all project costs that are attributable to the project, including programme management and development effectiveness services related to strategic country programme planning, quality assurance, pipeline development, policy advocacy services, finance, procurement, human resources, administration, issuance of contracts, security, travel, assets, general services, information and communications based on full costing in accordance with prevailing UNDP policies (i.e., UPL, LPL.) 2. 2: The budget covers significant project costs that are attributable to the project based on prevailing UNDP policies (i.e., UPL, LPL) as relevant. 3. 1: The budget does not adequately cover project costs that are attributable to the project, and UNDP is cross subsidizing the project. *Note: Management Action must be given for a score of 1. The budget must be revised to fully reflect the costs of implementation before the project commences.	1	
	Evidence **N/A, skip**	

EFFECTIVE		
18. Is the chosen implementation modality most appropriate? (select from options 1-3 that best reflects this project): ➢ 3: The required implementing partner assessments (capacity assessment, HACT micro assessment) have been conducted, and there is evidence that options for implementation modalities have been thoroughly considered. There is a strong justification for choosing the selected modality, based on the development context. (both must be true to select this option) ➢ 2: The required implementing partner assessments (capacity assessment, HACT micro assessment) have been conducted and the implementation modality chosen is consistent with the results of the assessments. ➢ 1: The required assessments have not been conducted, but there may be evidence that options for implementation modalities have been considered. *Note: Management Action or strong management justification must be given for a score of 1	3 √	2 1 **Evidence**
Evidence The implementation and management modality of this project is National Implementation Modality (NIM), a robust and proven way to implement this kind of projects. The presence and role of UNDP-China in the different bodies of the Project Management Structure, and the relationship with other stakeholders, as defined in the description of the governance will warrantee the success of the project.		
19. Have targeted groups, prioritizing marginalized and excluded populations that will be affected by the project, been engaged in the design of the project in a way that addresses any underlying causes of exclusion and discrimination? • 3: Credible evidence that all targeted groups, prioritising marginalized and excluded populations that will be involved in or affected by the project, have been actively engaged in the design of the project. Their views, rights and any constraints have been analysed and incorporated into the root cause analysis of the theory of change which seeks to address any underlying causes of exclusion and discrimination and the selection of project interventions. • 2: Some evidence that key targeted groups, prioritising marginalized and excluded populations that will be involved in the project, have been engaged in the design of the project. Some evidence that their views, rights and any constraints have been analysed and incorporated into the root cause analysis of the theory of change and the selection of project interventions. • 1: No evidence of engagement with marginalized and excluded populations that will be involved in the project during project design. No evidence that the views, rights and constraints of populations have been incorporated into the project.	3 √	2 1 **Evidence** **N/A Skip**
Evidence The project is designed with close consultation with the stakeholders at various levels. Through a series of interviews, consultations and high-level meetings with their high-level and insightful participation, their views, needs and constraints of them have been sufficiently reflected in the project design. The project will feature key activities to address the root causes to support their priorities in the fields of in the context of environment governance, environment sustainability, climate change and sustainable development.		
20. Does the project conduct regular monitoring activities, have explicit plans for evaluation, and include other lesson learning (e.g. through After-Action Reviews or Lessons Learned Workshops), timed to inform course	Yes	No

corrections if needed during project implementation?	(3) √	(1)
Evidence Section VI Project Monitoring and Evaluation.		
21. The gender marker for all project outputs is scored at GEN2 or GEN3, indicating that gender has been fully mainstreamed into all project outputs at a minimum.	Yes (3) √	No (1)
	Evidence	
Evidence Gender perspective is not the primary goal to be achieved by the project, so not all of the outputs would be scored accordingly. But gender perspective will be sufficiently adopted into all activities addressing environment, climate change, education and training, equal opportunities in job market, transformations of economics structure and livelihoods.		
22. Is there a realistic multi-year work plan and budget to ensure outputs are delivered on time and within allotted resources? (select from options 1-3 that best reflects this project) : ➢ 3: The project has a realistic work plan & budget covering the duration of the project at the activity level to ensure outputs are delivered on time and within the allotted resources. ➢ 2: The project has a work plan & budget covering the duration of the project at the output level. ➢ 1: The project does not yet have a work plan & budget covering the duration of the project.	3 √	2
	1	
	Evidence	
Evidence The project has a realistic multi-year work plan and budget with specific information organised by outcomes and outputs (Section III). The project contains a complete monitoring and evaluation plan, with detailed activities listed (Section VI), including modalities for tracking results, managing risk, ensuring quality assurance, drafting of regular project reports, conducting project reviews and field trips. The evaluation activities include annual project reports, as well as mid-term and final evaluations.		
SUSTAINABILITY & NATIONAL OWNERSHIP		
23. Have national partners led, or proactively engaged in, the design of the project? (select from options 1-3 that best reflects this project): • 3: National partners have full ownership of the project and led the process of the development of the project jointly with UNDP. • 2: The project has been developed by UNDP in close consultation with national partners. • 1: The project has been developed by UNDP with limited or no engagement with national partners.	3	2
	1√	
	Evidence	

Evidence

The project is a designed at local level under provincial level in line with national and provincial policy priorities at national levels. The project will enhance local capacity in enforcement of national and provincial policies and results of the project will inform national and provincial policy priorities.

24. Are key institutions and systems identified, and is there a strategy for strengthening specific/ comprehensive capacities based on capacity assessments conducted? (select from options 0-4 that best reflects this project): • 3: The project has a comprehensive strategy for strengthening specific capacities of national institutions based on a systematic and detailed capacity assessment that has been completed. This strategy includes an approach to regularly monitor national capacities using clear indicators and rigorous methods of data collection and adjust the strategy to strengthen national capacities accordingly. • 2.5: A capacity assessment has been completed. The project document has identified activities that will be undertaken to strengthen the capacity of national institutions, but these activities are not part of a comprehensive strategy to monitor and strengthen national capacities. • 2: A capacity assessment is planned after the start of the project. There are plans to develop a strategy to strengthen specific capacities of national institutions based on the results of the capacity assessment. • 1.5: There is mention in the project document of capacities of national institutions to be strengthened through the project, but no capacity assessments or specific strategy development are planned. • 1: Capacity assessments have not been carried out and are not foreseen. There is no strategy for strengthening specific capacities of national institutions.	3 √ 2 1	2.5 1.5

Evidence

The project has conducted stakeholders' analysis and identified strengthens and weakness of the primary stakeholders in the fields of clean technologies, hydrogen energy, vocational schools, and local authorities, who will be directly involved in the project implementation. These include government agencies, grass root organisation and private sector business. To supplement the institutional analysis, policy process assessment and capacity assessment were also conducted that resulted in a comprehensive capacity building needs assessment.

25. Is there a clear strategy embedded in the project specifying how the project will use national systems? (i.e., procurement, monitoring, evaluations, etc.,) to the extent possible?	Yes (3) √	No (1)

Evidence

The project is implemented by using the mode of National Implementation Modality (NIM) and will be directly implemented by UNDP. UNDP has decades of experience in the field of sustainable development in China and has established robust implementation modes as well as its corresponding rules and regulations. This will provide an effective institutional guarantee for the smooth, effective and compliant implementation of the project, and will referential experience for Nanhai District to implement international cooperation projects. Based

on the above analysis, the partnership of the project is solid and valid.		
26. Is there a clear transition arrangement/ phase-out plan developed with key stakeholders in order to sustain or scale up results (including resource mobilization strategy)?	Yes (3) √	No (1)
Evidence The project is strategically designed to institutionalize the introduced approach and experiences to be consolidated from the project implementation into the local policy making and development planning systems. Knowledge and best practice, sustainability and replication of project results, and project results dissemination are elaborated in Section 3.8, 3.9 and 3.10.		

Annex 2: Social and Environmental Screening

Project Information	
1. Project Title	United Nations Development Programme - People's Republic of China - Guangdong-Hongkong-Macao Greater Bay Area Hydrogen Economy Vocational College Demonstration Project
2. Project Number	115572
3. Location (Global/Region/Country)	Asia / China / Guangdong Province / Foshan City

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?
Briefly describe in the space below how the Project mainstreams the human-rights based approach
The project will in general terms ensure that activities are in line with the human rights-based approach. The project has a strong focus on contributions to further the realization of human rights, reflected by the consideration of improving policy making and enforcement in environmental sustainability, promoting decent employment, and improving livelihoods. The detailed design of all project activities, in particular education, vocational schools and Hydrogen Economy will embed appropriate interventions to address potential adverse impacts on human rights.
Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment
Gender has been as much as possible attempted to be mainstreamed into the design of outcomes, outputs, detailed activities and project implementation management arrangement. The project will develop a Hydrogen Economy Vocational College that will create equal opportunities and will promote the access of women to new technologies, qualified jobs and technical education. The Hydrogen Economy implementation will bring new opportunities for women, and this Hydrogen Economy Vocational College will help to develop them.
Briefly describe in the space below how the Project mainstreams environmental sustainability
The strategic objective of the project is to promote the creation of a Hydrogen Economy Vocational College which will help to incorporate the Hydrogen Economy in the local companies and infrastructures, helping this clean and sustainable energy carrier (the hydrogen) to be used as an alternative fuel for transportation, but also with the possibility to be used in residential and industrial applications. This will contribute to the decarbonization of the society and the country. The project will also help other countries to access to this new clean Energy.
Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the	**QUESTION 3: What is the level of significance of**	**QUESTION 6: What social and**

Potential Social and Environmental Risks? **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.**	**the potential social and environmental risks?** **Note: Respond to Questions 4 and 5 below before proceeding to Question 6**			**environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?**
Risk Description	Impact and Probability (1-5)	Significance (Low, Moderate, High)	Comments	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.
Risk 1: Elements of Project construction, operation, or decommissioning may pose potential safety risks to local communities	P = 1 I = 1	Low		No construction or civil work is considered in the project.
Risk 2: The Project may 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)	P = 1 I = 1	Low		No hazardous or dangerous materials are used in this project
Risk 3: The Project may pose potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction,	P = 1 I =1	Low		No construction, operation or decommissioning is considered in the project. The operation of the school will not imply any physical, chemical, biological, or radiological hazards

operation, or decommissioning				
	QUESTION 4: What is the overall Project risk categorization?			
	Select one (see SESP for guidance)		Comments	
	Low Risk	☑	Of 3 risks, three are rated “low”	
	Moderate Risk	☐		
	High Risk	☐		
	QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are relevant?			
	Principle 1: Human Rights	☐		
	Principle 2: Gender Equality and Women’s Empowerment	☐		
	1. Biodiversity Conservation and Natural Resource Management	☐		
	2. Climate Change Mitigation and Adaptation	☐		
	3. Community Health, Safety and Working Conditions	☐		
	4. Cultural Heritage	☐		
\	5. Displacement and Resettlement	☐		
	6. Indigenous people	☐		
	7. Pollution Prevention and Resource Efficiency	☐		

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.
Chair of PAC		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.

Annex 3: 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?	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	No

account different roles and positions of women and men in accessing environmental goods and services? 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.	
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? For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes	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
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? For example, construction of dams, reservoirs, river basin developments, groundwater extraction	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? For example, a new road through forested lands will generate direct environmental and social impacts (e.g.	No

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.	
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)? For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding	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?	No
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)?	No
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	No

decommissioning?	
3.8 Does the Project involve support for employment or livelihoods that may fail to comply with national and international labour 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?	No
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)?	No

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.	
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? For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Conventions on Persistent Organic Pollutants or the Montreal Protocol	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

Annex 4: ATLAS Risk Log

Project Title: United Nations Development Programme - People's Republic of China - Guangdong-Hongkong-Macao Greater Bay Area Hydrogen Economy Vocational College Demonstration Project						**Project Number: 115572**		**DATE: December 10th, 2020**	
#	**Description**	**Date identified**	**Type**	**Impact and Probability**	**Countermeasures/ Management Response**	**Owner**	**Submitted, updated by**	**Last Update**	**Status**
1	Project partners have some misunderstandings in the use of public funds in the form of projects to influence policy reforms and adjustments in the area of public policy.	30/JULY/ 2020	*Political risk*	P = 4 I = 2 P×I =8	- Make full use of the project start-up preparation and start-up seminars, explain the project strategy and partnership to all partners, deepen understanding and eliminate misunderstandings; - Observe the relevant principles of public policy, strengthen the monitoring of the use of funds and direction of the project, and publicize the positive role of public-private partnerships in promoting fair policies and private sector development.	Programme Manager	Programme Manager	Dec 10th, 2020	*Initial*
2	Insufficient project resources and reduced interest in industry sector involvement, which in turn affects the achievement of expected results.	30/JULY/ 2020	*Implementation risk*	P = 2 I = 5 P×I =10	- Explore expanded partnerships, promote project cooperation mechanisms to the municipal government level, ensure the inclusiveness and openness of the cooperation platform, and attract more resources, including from the private sector, foundations and other civil society groups. - Taking the strategic goals of the project as the guideline, gradually establish synergies with the main areas of the city's scientific and technological innovation funds and corporate R&D funds, integrate resources, and jointly promote the development of related fields.	Programme Manager	Programme Manager	Dec 10th, 2020	*Initial*

3	The industry involved in the project is wide and the policy process is slow, causing the project to have an expected delay.	30/JULY/ 2020	*Implementation risk*	P = 2 I = 5 P×I =10	- Optimize the functions of the Project Steering Committee and establish strong communication with the different departments and bureaus of the Government of Foshan District; - Organise policy consultation meetings with relevant industries and departments to inform about project results, to understand policy processes, and to strengthen coordination between project strategy and policy priorities and implementation.	Programme Manager	Programme Manager	Dec 10th, 2020	*Initial*
4	Project management capabilities are not adequate, resulting in lags in project implementation and expected achievement delay, even may not achieve expected results.	30/JULY/ 2020	*Implementation risk*	P = 2 I = 5 P×I =10	- Continuous project management capacity development for Project Management Office; - Optimize the functions of the Project Steering Committee, establish a project technical advisory committee, and strengthen the technical support for the project.	Programme Manager	Programme Manager	Dec 10th, 2020	*Initial*
5	Reputation risk to the UNDP due to partner misuse of the project brand for profit or other purposes	30/JULY/ 2020	*Other risk*	P = 3 I = 4 P×I =12	- Strictly execute UN due diligence and branding requirements to mitigate potential risks, including an updated risk matrix and a comprehensive communication package; - Maintain regular communication and engagement with partners to ensure project implementation complies with all UNDP rules and regulations.	Programme Manager	Programme Manager	Dec 10th, 2020	*Initial*
6	General reputational risks associated with engaging the educational and industrial sector.	30/JULY/ 2020	*Reputational/ partner risk*	P = 3 I = 4 P×I =12	- The programmatic focus of the project is on transformation to clean energy of different sectors. Furthermore, it adheres to the UNDP policies on working with them. These programmatic focus and implementation in itself is a big deterrence of any negative connotations of engaging with the mentioned sectors.			Dec 10th, 2020	*Initial*

7	Post-facto direct or indirect reputational issues that may be faced by the Vocational College in particular, or the Hydrogen Energy, both of which can harm UNDP reputation by association.	30/JULY/ 2020	*Reputational/ partner risk*	P = 3 I = 4 P×I =12	- Vocational Schools are well known in China; anyway, specific tasks will be implemented in the project with the idea of promoting these institutions and improving the overall perception of them. On the other hand, Hydrogen Economy and Hydrogen Energy are well known worldwide, and supported by the vast majority of governments.	Programme Manager	Programme Manager	Dec 10th, 2020	*Initial*
8	Agreed funding not received according to the Annual Work Plan	30/JULY/ 2020	*Financial Risk*	P = 4 I = 3 P×I =12	- The Annual Work Plan will be formulated jointly by UNDP and the Government of Foshan District, to ensure that the required funds will be received by specific deadlines. - The local government will maintain communication to ensure that the money will be provided in time and it will maintain communications with UNDP to report on any potential issues identified. - Annual Financial Report will be required to be provided to UNDP and Project Management Office to ensure the stable cash flow of the project.	Programme Manager	Programme Manager	Dec 10th, 2020	*Initial*
9	Inadequate coordination among agencies. The lack of coordination mechanisms among participating sectors limits the effectiveness of human and financial resources and reduces the efficiency of the policy process and the impact of project	30/JULY/ 2020	*Organisational Risk*	P = 2 I = 4 P×I =8	- The project will set up Project Management Office in PMO-UNDP-China. The Project Steering Committee is composed of representatives from relevant departments and representatives of UNDP, ministries and Governmental agencies. The committee is responsible for reviewing project progress, approving the Annual Work Plan, and reviewing quality of the project results. Once the Annual Work Plan and budget are formally approved, the Project Management Office shall ensure full coordination and cooperation among all units, smooth implementation of the project plan, timely discovering and handling problems of implementation. In the long run, the strategy, institutional setup and public awareness campaigns	Programme Manager	Programme Manager	Dec 10th, 2020	*Initial*

	outcomes.				adopted by the project will promote the sustainability of the project approach.				
10	The process of policy formulation and adoption could be slow. The adoption process of project-related policy recommendations is slow and may reduce the efficiency of policies and planning due to poor economic development planning.	30/JULY/ 2020	*Operational Risk*	P =3 I = 3 P×I =9	- This risk has been addressed in the project design. Specifically, through targeted design of policy interventions, alignment of relevant activities with policy priorities, and joint implementation of projects, project-related inputs' alliance with policies and plans of each department are ensured. In addition, the project targets at a large number of capacity building and public awareness campaigns for key policy makers and the public, with a particular focus on policy reforms including field trips, which will accelerate the adoption and implementation of policies. At the same time, the project will also support relevant research and activities, as well as follow-up analysis of relevant policy capacity enhancement activities and effects through corresponding capacity building tracking and evaluation tools.	Programme Manager	Programme Manager	Dec 10th, 2020	*Initial*

Annex 5: Capacity Assessments

The project conducted a rapid assessment on the knowledge, experience and training in hydrogen related technologies in Nanhai District.

Although the potential for the industrial sector, and the opportunity for the use of alternative fuels (hydrogen) is enormous, the lack of well-trained people was detected in the definition of the project. The project aims to strengthen capacity in related fields through the creation of a Hydrogen Economy Vocational College, which include R&D activities and a strong national and international cooperation. The project will also work with relevant companies to explore the role of public-private partnerships in promoting the education and training in the mentioned technologies.

During the start-up phase of the project, a systematic assessment of the capabilities of the relevant industries and sectors involved in the partnership will be processed.

Annex 6: Project Report Template

Project Progress Report

Name of Project:

Date of report: ***Click or tap to enter a date.***

General guidance *(please delete the guidance box on the final version submitted).*

- *The PPR template is developed according to* ***POPP*** *as well as guidance from BRH and OAI.*
- ***Scope of application****. The template of project progress report (PPR) is applicable to general project progress report of UNDP China, incl. those report on a quarterly basis (i.e. "QPR") and annual basis (i.e. "APR"). The template shall come into effect on Nov 18, 2020.*
- ***Frequency****. According to* ***POPP****, the project manager must submit project progress reports to the project board* ***at the agreed frequency stated in the project document, at least once per year*** *(i.e. APR). Additional donor, UN pooled fund or vertical fund reporting may be required, according to policies and guidance agreed with partners/funds.*
- ***Timeline. (1) If a project adopts both QPR and APR, please submit the completed QPRs by the end of the first month of the next quarter latest (i.e. by April 30 for Q1, July 31 for Q2, Oct 31 for Q3). Feedbacks will be given shortly after the submission. The final version of APR shall be submitted in Q1 next year. The project may set dedicated deadline of submission that is no later than the aforementioned dates. (2) If a project adopts APR only, please submit the draft APR by Nov 30 to capture progress till then for initial quality review by M&E team, following which, feedbacks will be given in Dec. The final version of APR shall be submitted in Q1 next year.***
- ***Language.*** *The PPR template is available in English and Chinese, of which the English version is a must, i.e. prog colleagues shall ensure at least the English report is available. The English version shall prevail in case of any discrepancies between the two versions.*
- ***Update.*** *The PPR template is subject to future update in response to the actual demands.*

A. PROJECT PROFILE AND FINANCIAL FIGURES

Award ID	
Output ID	
Project duration	
Reporting period	
Implementing partner	

Relevant CPD output	*Choose an item.*
Relevant SP output	*Choose an item.*

***Guidance**. Please ensure data below are in line with the Atlas.*

Annual budget	
Expenditure (to date)	
Delivery rate (to date)	

B. RESULTS AND PROGRESS TOWARDS THE ANNUAL WORK PLAN

Guidance.

- *On the "**Project output statement**", please stick to those project outputs and activities stated in the annual work plan.*
- *On the "**Result, backed up by evidence and segregated data**" columns, please focus on the results of the project (instead of the "process") and clearly communicate any results/changes the project has achieved using disaggregated data. Please describe the progress and achievements towards the workplan, as well as the relevant CPD/SP outputs. Please also **specify relevant and credible evidence** to back the result and data reported. The evidence could bez field visit report, meeting minutes, press release, etc. External evidences are encouraged.*
- *On the "**key lesson learned**" column, please describe the key lessons learned that can be fed into implementation for future years. It could be good (what worked well and what factors supported this success) as well as bad lessons (what not to do again or how things could have been done differently/better).*
- *On the "**Financial Updates**" column, please provide the key financial information, incl. budget and expense, for activities.*

Project output statement	Results, backed up by evidence and segregated data	Key lessons learned	Financial data (USD)		Status
			Annual Budget	Expense (to date)	
Output 1 [xxx] *[e.g. Investment activities Implementation]*	[xxx] *[e.g. In 2019, ISA manager conducted on site technical support and verification for the equipment install and trial production situation for **17** project enterprises. By the end of 2019, 17 beneficiaries have finished the trail production. 1 beneficiary (ABC Co.) finished trial production and documents that submitted has been approved by the government. The third payment of ABC Co. was disbursed in second quarter.]*	[xxx] *[e.g. Cooperation with related industrial association, academic institutes and enterprises is significant to the implementation of the Environmental Protection Plan.]*	[xxx] *[e.g. 2,682,652]*	[xxx] *[e.g. 681,114]*	[xxx] *[e.g. On track]*
Activities 1.1 [xxx] *[e.g. Signing conversion contracts of 247 tonnes with 2-5 enterprises]*					
Activities 1.2 [xxx] *[e.g. Contracts implementation for contribution to the 272.7 tonnes phasing out target of 20xx]*					
Output 2					*Choose an item.*
Activities 2.1					
Activities 2.2					
Output 3					
Activities 3.1					

Activities 3.2					*Choose an item.*
[+]					*Choose an item.*

C. RISK ENCOUNTERED

***Guidance**.*

- *Please populate the offline matrix with those risks as identified on the pro doc, and update the status. Please bring in or strike out a risk, if it's recently found or addressed.*
- *Following the finalization and submission of this report, please ensure the risks are updated in **Atlas**.*
- *The Risk Register should be maintained and updated as needed, but **at least once a year**.*
- *Please refer to the "Guidance" row below, for more technical guidance on populating the matrix.*

#	Category	Description	Risk Valid Period	Risk Level - Impact & Likelihood	Treatment(s)	Owner	Treatment Status
Guidance	**Primary Category:** *Social and Environmental Financial Operational Organisational Political Regulatory Strategic Other* *(In Atlas each **Primary Category** has its respective **Secondary Category,** please select the categories of risk from the list)*	Give a brief description of the risk *(In Atlas, enter in the **"Causes",** "**Event**", and **"Impacts"** fields.)*	When does this risk valid from and when does it valid to? e.g. from 01/01/2020 to 30/11/2024 *(In Atlas, select date.)*	Indicate the level of impact and likelihood of the risk Enter Impact (I) and Likelihood (L) on a scale from 1 (low) to 5 (high) e.g. I = 1; L = 3 *(In Atlas, select the **level of impact** and **likelihoo***	What actions have been taken/will be taken to counter this risk *(In Atlas, use the treatment box. This field can be modified at any time **unless the treatment status is "Completed"**. Create separate boxes as necessary using "+", for instance to record updates at different times)*	Who has been appointed to keep an eye on this risk? *(In Atlas, enter in **Risk Owner box**)*	e.g. Completed, Not Started, On-going *(In Atlas, select treatment status in treatment box.)*

				***d** from the list.)*			
1	*e.g. Operational*	*[e.g.* • ***Cause**: COVID-19 pandemic.* • ***Event**: Due to the COVID-19, two key outcomes planned in 2020 have been severely impacted, among which, the xxx International Forum was cancelled, and the xxx overseas visits were postponed to the next year. Meanwhile the pandemic also impeded effective communications with the local government.* • ***Impact**: xx% of the planned activities and yy% of overall delivery target was impacted.]*	*[e.g. from 01/01/2020 to 31/12/2020]*	*[e.g. I = 4; L = 4]*	*[e.g.* *Three actions were taken:* • *An urgent project board/PSC meeting was convened on dd/mm in an effort to mitigate the possible adverse impact caused by the COVID-19;* • *The annual work plan was adjusted based on the consensus by the PSC;* • *The project board/PSC agreed to adopt more flexible fashions for daily communications, such as virtual meetings via Zoom.]*	*[e.g. Project manager xxx]*	*[e.g. Ongoing]*
2	*Choose an item.*						*Choose an item.*

3	*Choose an item.*						*Choose an item.*
4	*Choose an item.*						*Choose an item.*
[+]	*Choose an item.*						*Choose an item.*

D. MONITORING AND OVERSIGHT ACTIVITIES

***Guidance**. Please describe actions taken/to be taken for project monitoring and oversight, including site visit, PSC meetings, evaluation, audit, spot check, third party M&E exercise, training & workshops and other types of M&E review, as applicable.*

#	Type of Activity	Date	Details	Key Findings / Recommendations	Responsible person with due date
1	*Choose an item.*				
2	*Choose an item.*				
[+]	*Choose an item.*				

E. GENDER MAINSTREAMING

***Guidance**. please provide **details** on incorporation of gender perspectives in various aspects of project management. Please provide quantitative data, qualitative case studies and success stories whenever necessary to illustrate the most significant contributions to gender equality.*

Please choose the Gender marker rating of this project: ☐**GEN-3;** ☒**GEN-2**: ☐**GEN-1**: ☐**GEN-0**

Implementation		
1	Whether this project directly, or indirectly resulted / would result in the promotion of gender equality, such as promoting women's advancement, strengthening women's decision-making role, assisting women with caring responsibilities in taking care of her families etc.?	
2	Whether part of the resources has been allocated in a manner that intentionally, or unintentionally addressed/ would address the identified needs of women and men?	
3	Have women and men been equally involved in programme/project activities? Please indicate the representation rate of women in each activities of the programme /projects; and also briefly explain if the project is taking measures to increase women participation.	
Human Resources		

4	Has gender expertise/knowledge been included in TORs for projects' consultancies, reviews, procurements, consultancy teams, etc.?	
5	Have all project staff (incl. project manager) responsible for the different stages of work (design, implementation, monitoring and evaluation) been briefed or given training on gender issues?	
Monitoring & Evaluation		
6	Have gender-disaggregated data and indicators (qualitative or quantitative) been collected or compiled to monitor the process and outcome of this project?	
7	Have relevant gender issues been raised at project meetings, ensuring discussion of the impact of the project on gender equality in the country?	
Communication		
8	Are both women and men represented and visible in the communication products? Are gender stereotypes avoided (avoid portraying childbearing as the sole responsibilities of mother), and women's needs are reflected, and voice supported?	

F. PARTNERSHIPS

***Guidance**. Please provide details of partnerships engagement during the reporting period. These partnerships can either be those from the original pro doc or workplan, or those newly emerged opportunities.*

#	Name of partner	Type	Role and contribution of such a partner
1	[xxx]	*Choose an item.*	
2		*Choose an item.*	
[+]		*Choose an item.*	

G. COMMUNICATION ACTIVITIES AND MEDIA EXPOSURE

***Guidance**. Please provide details of communications and advocacy activities, as well as external press releases, which shall corroborate the above sections.*

#	Details of communications activities	Date	Ex
1	[xxx]	*Click or tap to enter a date.*	
2		*Click or tap to enter a date.*	
[+]		*Click or tap to enter a date.*	

H. ANNEXES

***Guidance**. Include any detailed project information here, e.g. CDR, publication and knowledge products, meeting minutes, detailed action plan, agreement signed, etc. Chinese version is also acceptable.*

ANNEX 7: Letter of Agreement on Project Financial Service Support between China Automotive Technology and Research Center Co., Ltd. and United Nations Development Programme

附件七：项目财务服务协议书

In accordance with the UNDP Rules and Regulations, and relevant Chinese laws, regulations and policies, China Automotive Technology and Research Center Co., Ltd. (CATARC) (hereinafter referred to as "Party A") and United Nations Development Programme (UNDP) (hereinafter referred to as "Party B") will enter into an agreement on project financial services support regarding "United Nations Development Programme - People's Republic of China - Guangdong-Hongkong-Macao Greater Bay Area Hydrogen Economy Vocational College Demonstration Project" (hereinafter referred to as the "Hydrogen Vocational Training Project".

Party A and Party B hereby agree that UNDP country office may provide such support services in accordance with the "Hydrogen Vocational Training Project" Project Document (the ProDoc) and at the request of Party A through establishment of an independent Finance Management Unit (FMU). Party B will be responsible for recruitment and contract one staff, who will take the responsibilities of related project management tasks esp. the finance management support, following the authorization of National Project Director (NPD). Salary of the staff and related office cost will be covered by the "Hydrogen Vocational Training Project".

Description of functions and responsibilities of the parties involved are as follows:

依据联合国开发计划署有关规定以及中国相关的法律和政策，中国汽车技术研究中心有限公司（以下简称"甲方"）和联合国开发计划署（以下简称"乙方"）达成"UNDP-中国粤港澳大湾区氢能经济职业学院"项目（以下简称"项目"）财务管理服务协议。

甲乙双方同意，根据项目文件和甲方的要求，联合国开发计划署驻华代表处将成立单独的财务管理工作组承担项目的财务管理工作。财务管理工作组人员聘用程序和合同签署由乙方负责。该财务管理工作组成员经项目主任授权后，主要承担项目财务等相关工作。人员薪酬及办公等相关费用从项目经费中支付。

具体职责描述如下：

I. Financial management

1.1 Responsibility of Party A

1.1.1 Party A shall submit a multi-year work plan to Party B within 20 working days before the start of the Hydrogen Vocational Training Project. Besides, Party A shall submit a revised two year work plan to Party B within 20 working days after the finalization of Combined Delivery Report (CDR) every year.

1.1.2 Party A shall prepare annual budget revisions, regular budget revisions and final budget revisions. Annual budget revisions should be done according to final CDR of previous years and the revised annual work plan of the current year at the beginning of every year; regular budget

revisions should be done upon actual needs of the Hydrogen Vocational Training Project; final budget revisions should be done according to actual delivery of previous years prior to the financial closure of the Hydrogen Vocational Training Project.

1.1.3 All the financial management documentation, direct payment authorization letters and payment requests should be signed by the NPD of Party A.

1.1.4 Party A shall officially notify Party B any changes in the National Project Director.

1.2 Responsibility of Party B

1.2.1 Party B is responsible for making payments according to Party A's authorization and keeping the Hydrogen Vocational Training Project's financial records. Party B shall provide financial report of the previous quarter to Party A at the first month of each quarter.

1.2.2 When Party B receives the work plan signed by National Project Director of Party A, Party B shall record it into system and then print out annual work plan in the Atlas system and send back to Party A for review, approval and signature.

1.2.3 According to financial regulations of UNDP, Party B is responsible for the following budget revisions and shall provide all the generated documents in the Atlas system to Party A:

- ✓ Annual budget revisions;
- ✓ Regular budget revisions;
- ✓ Final budget revision.

I. 财务管理

1.1 甲方责任

1.1.1 甲方在项目启动前 20 个工作日内，向乙方提交项目周期内的分年度工作计划。此外，甲方应在上一年度财务支出报告完成后的 20 个工作日内，向乙方提交修改过的上一年度工作计划和本年度工作计划。

1.1.2 甲方编制预算包括年度预算、常规预算、最终预算。年度预算修改在每年年初根据上一年度财务支出报告和本年度工作计划修改；常规预算修改根据实际支出情况修改；最终预算修改将根据历年实际支出，并在项目关账前修改。

1.1.3 所有财务管理文件、直接支付授权书和付款申请应由项目主任签署。

1.1.4 如项目主任发生人员变更，甲方需书面通知乙方。

1.2 乙方责任

1.2.1 乙方根据甲方授权，进行付款并保留项目的财务记录。乙方应在每季度的第一个月内，向甲方提交上一季度财务报告。

1.2.2 乙方收到由项目主任签署的年度工作计划后，应将其录入到财务管理系统后生成、打印，并返给甲方，由项目主任审核、批准和签署。

1.2.3 按照乙方的财务规定，乙方向甲方提供系统生成的预算修改文件，包括年度预算修改、常规预算修改、最终预算修改。

II. Project management

2.1 Consultants Employment

2.1.1 Responsibility of Party A

2.1.1.1 Prepare job description (including the estimated budget and duration of the contract) and technical description.

2.1.1.2 Select candidates according to UNDP procurement guidelines.

2.1.1.3 Negotiate with the signatory about the technical part and the financial part of contract (Except in the case of mid-term and final-term evaluation consultants)

2.1.1.4 Sign the contract of the selected consultants (except in the case of mid-term and final-term evaluation consultants); in the event of authorizing Party B for contract signing, Party A shall provide authorization to Party B and carry out the implementation in accordance to Party A's regulations.

2.1.1.5 Authorize Party B to sign the contracts of mid-term and final-term evaluation consultants.

2.1.1.6 Arrange domestic travel of consultants who have signed contracts with Party A and/or Party B.

2.1.2 Responsibility of Party B

2.1.2.1 Assist Party A to provide a list of candidate consultants.

2.1.2.2 Procurement of mid-term and final-term evaluation consultants.

2.1.2.3 For the mid-term and final-term evaluation consultants, Party B shall negotiate with the signatory about job descriptions and the financial part of contract.

2.1.2.4 To prepare and sign consultant contracts upon the authorization of Party A for the mid-term and final-term evaluation consultants.

2.1.2.5Arrange international and domestic travel for the mid-term and final-term evaluation consultants upon the authorization of Party A according to the requirement of project.

2.1.2.6 Make the direct payment to the consultants upon the request of Party A with all of the relevant supporting documents including contracts, TORs, timesheet, certification of payment and payment request.

II. 项目管理

2.1 专家聘用

2.1.1 甲方责任

2.1.1.1 准备包括预算和合同期限在内的职位描述和任务描述。

2.1.1.2 按照乙方专家聘用程序，确定聘任专家人选。

2.1.1.3 与聘任专家协商合同任务、合同财务条款等内容（不包括聘用中期及终期项目评估专家）。

2.1.1.4 与专家签订合同（不包括聘用中期及终期项目评估专家）；当需要授权乙方签订合同时，甲方出具授权并按照乙方的管理规定执行。

2.1.1.5 授权乙方与中期及终期评估专家签订合同。

2.1.1.6 根据项目需求，为与甲方签约专家或乙方签约的中期和终期评估专家，安排国内出差事宜。

2.1.2 乙方责任

2.1.2.1 协助甲方提供专家候选人人选。

2.1.2.2 聘用中期及终期项目评估专家。

2.1.2.3 与聘任的中期及终期评估专家协商合同任务、合同财务条款等内容。

2.1.2.4 乙方与中期及终期评估专家签订合同。

2.1.2.5 根据项目需求，经甲方授权，为中期及终期评估专家安排国际及国内出差事宜。

2.1.2.6 乙方依据合同、任务书、工作进度、付款申请和付款确认书等在内的所有证明文件，按甲方要求向专家直接付款。

2.2 Trainings/Seminars/Research/Study tours abroad

2.2.1 Responsibility of Party A

2.2.1.1 Draw up agenda of trainings/seminars/research/study tours abroad. Make, review and approve the budget. All related procedures and standards shall be paid in accordance with Party B's policy and regulations.

2.2.2 Responsibility of Party B

2.2.2.1 Review and make the direct payment to the contractors on the authorization of Party A.

2.2 培训/会议/调研/境外考察

2.2.1 甲方责任

2.2.1.1 制定培训、会议、调研、境外考察等方案和预算；相关流程及标准依据乙方的管理规定执行。

2.2.2 乙方责任

2.2.2.1 在甲方授权下，乙方审核并支付相关费用。

2.3 Subcontracts and Equipment Procurement in General Terms

Subcontracts and equipment procurement contracts listed in present agreement are only restricted to the related contracts listed in the project document of the Hydrogen Vocational Training Project.

2.3.1 Responsibility of Party A

2.3.1.1 According to the UNDP rules and regulations and actual needs of the Hydrogen Vocational Training Project, if Party A requires Party B to do procurement of equipment or subcontracts, Party A shall provide the equipment procurement request or sub-contracts' TOR to Party B. Party B will act in according with UNDP procurement procedures. Meanwhile, Party A shall assist Party B in provision of necessary technical documentations and technical support.

2.3.1.2 According to actual needs of the Hydrogen Vocational Training Project, if Party A needs to conduct procurement by itself, it should be done in accordance with Law of People's Republic of China on Bid Invitation and Bidding and other related laws and regulations; Party A shall prepare and sign the contract in line with the TOR and the bidding evaluation reports. All related cost will be covered by the Project.

2.3.1.3 Since the equipment will be handed over to the Chinese government after the Hydrogen Vocational Training Project is completed, Party A shall prepare and update an equipment list and serial number for all the non-expendable-equipment and provide a copy to Party B in the beginning of each year.

2.3.2 Responsibility of Party B

2.3.2.1 Party B is responsible for publication of bidding notice and bidding results at websites upon the request of Party A according to the UNDP procedures and regulations.

2.3.2.2 After the signing of the contract, Party B shall assist Party A manage the contracts, and pay the contractors according to the payment terms upon invoice issued from the contractors and the request from Party A.

2.3.2.3 If the procurement is from abroad, Party B is responsible for the signing of the contracts with suppliers and will assist the process for obtaining import license, tax-free certificate and customs clearance, etc., if there is a need. The end user shall pay all fees directly to the relevant government departments.

2.3.2.4 Party B shall submit the non-expendable-equipment handover documents to Party A after the end of the project.

2.3 分包合同和设备采购的一般性条款

关于分包合同和设备采购的一般性条款仅限于项目文件所列的相关活动内容。

2.3.1 甲方责任

2.3.1.1 根据联合国开发计划署有关程序、规定和项目需求，如需委托乙方进行设备采购或招标，甲方应向乙方提供设备采购申请或采购任务书，乙方按联合国开发计划署的程序进行采购。同时，协助乙方提供项目所需要的技术文件和技术支持。

2.3.1.2 根据项目需求，甲方自行采购时，应依据《中华人民共和国招投标法》等进行；甲方根据采购任务书、评标结果等文件，起草合同并与中标方签署合同。相关费用由项目经费支付。

2.3.1.3 由于项目结束后乙方将向中国政府移交设备所有权，甲方应在每年年初向乙方提供最新的非消耗性设备清单及序列号。

2.3.2 乙方责任

2.3.2.1 根据甲方要求，乙方按照联合国开发计划署有关程序和规定，在乙方网站公布招标公告和招标结果。

2.3.2.2 合同签订后，根据甲方要求，乙方协助甲方管理合同。依据付款条件，在中标方出具发票后，乙方向中标方支付合同款项。

2.3.2.3 如果设备是从国外采购，乙方负责与供应商签订合同并根据需要协助办理进口许可证、免税证明书及报关等事宜。上述相关费用需由最终用户承担。

2.3.2.4 项目结束后，乙方应向甲方提交非消耗性设备移交文件。

III. Support to Monitoring and Evaluation

According to *UNDP rules*, Party B shall keep accurate and up-to-date records and documents in respect of all expenditures incurred with the funds made available under the project to ensure that all expenditures are in conformity with the provisions of the Project Work Plan and Project Budgets.

For each disbursement, proper supporting documentation shall be maintained, including original invoices, bills, and receipts pertinent to the transaction. Party B shall keep the records of all the

financial reports (including budget revisions, CDR and etc.) for the sake of internal and independent audits carried out by National Audit Office and other qualified audit firms.

Any dispute, controversy or claim arising out of or relating to the understanding and implementation of the present agreement shall be settled through friendly negotiations.

This agreement is written in both Chinese and English languages while both the Chinese and English versions have an equal legality. In case of discrepancy between the two versions, the English version prevails. Produced in just 2 copies, each Party has one copy signed by both parties.

The terms of the present agreement shall commence on the date when the FCV project is launched and terminate when it ends.

III. 监督评估的相关协助工作

根据联合国开发计划署有关规定，乙方应确保所有支出均符合项目工作计划和项目预算，并保证项目资金所有支出记录和文件的准确性及时效性。

对于每一笔支出，乙方应保留包括原始发票、账单和交易相关收据在内的文件证明。同时乙方应保存包括预算修订、财务支出报告等在内的所有财务报告。

乙方接受国家审计署或其他有资质的会计师事务所进行内部和独立审计。

其他未尽事宜，由甲乙双方本着友好协商的原则商定。

本合同中英文字具有同等效力。自签署之日起生效，项目结束后终止。

For CATARC （中国汽车技术研究中心有限公司）:		For UNDP （联合国开发计划署）:	
Signature: 签名：	Wu Zhixin	Signature: 签名：	Devanand Ramiah
Title: 职务： Date: 日期：	Deputy Director General 副总经理 March 30, 2021 2021 年 3 月 30 日	Title: 职务： Date: 日期：	Deputy Resident Representative 驻华副代表 March 30, 2021 2021 年 3 月 30 日

ANNEX 8: Gender Analysis and Mainstreaming Actions Guangdong-Hongkong-Macao Greater Bay Area Hydrogen Economy Vocational College Demonstration Project

UNDP Project ID: 115572

Gender Analysis and Mainstreaming Actions

Guangdong-Hongkong-Macao Greater Bay Area Hydrogen Economy Vocational College Demonstration Project

UNDP Project ID: 115572

Project rationale

The world emits around 50 billion tonnes of greenhouse gases each year [measured in carbon dioxide equivalents (CO2eq)][2]. Energy, including electricity, heat, and transport, accounts for 73.2% of the total emissions. As the world's largest energy consumer and producer, China is making effort to green its carbon-intensive and pollution-prone energy and transport landscape. In less than a decade, China's clean energy market size has grown from marginal to the largest in the world.

Hydrogen, which can be produced with zero to low-carbon footprint, if deployed at scale, could account for almost one-fifth of total final energy consumed by 2050 – this will reduce roughly 6 gigatons of CO2 emissions annually compared to today's levels, and contribute roughly 20% of the abatement required to limit global warming to two degrees Celsius.

Since 2010, hydrogen production has seen an annual growth of 6.8% in China, reaching 21 million tonnes in 2018, which accounts for 18% of the global total[3]. Such volumes were mainly consumed by the oil refining and chemical industry. Green hydrogen has huge potential to go beyond decarbonising China's energy, heat, and transport sector, but also to greening its industries. Noted by the State Council, for the next 15 years (2021 to 2035), China will keep focusing on building the fuel cell supply chain and promoting hydrogen-powered trucks and buses.[4]

The development of hydrogen economy will face several notable challenges, nevertheless. First, hydrogen can be very expensive depending on how it is produced and handled. Second, the complexities of hydrogen storage, transport, and refuelling require large investments and top-tier researchers and engineers to drive needed technological advancements. The heavy reliance on imported parts such as valves, pipes, and meters, had long been hindering the cost reduction in the hydrogen and fuel cell industry. Third, to support every stage of hydrogen development it requires many innovative, application-oriented, and skilled labour force.

To support scaling up the emerging fuel cell commercial vehicle market and green hydrogen production in China, this project emphasizes on developing and demonstrating training resources and a pool of skilled workers. As more jobs are created in green energy sector, it is necessary that the training and skills enhancement programmes are in place to prepare the future workforce. Since 2016, vocational

[2] https://ourworldindata.org/emissions-by-sector

[3] https://www.ifri.org/sites/default/files/atoms/files/tu_china_hydrogen_economy_2020_1.pdf

[4] http://english.www.gov.cn/policies/latestreleases/202011/02/content_WS5f9ff225c6d0f7257693ece2.html

education has been regarded as one of the key priorities in education system reform in China. In 2020, 4.84 million students were admitted to vocational colleges, representing 52.9% of the total students admitted to higher education institutions that year. [5] In modern manufacturing and emerging strategic industries, more than 70% of new frontline employees are graduates from vocational schools.[6]

Through setting up the Hydrogen Economy Institute (Hydrogen Economy Vocational Training College) in Guangdong-Hongkong-Macao Greater Bay Area, the project will develop a replicable solution for China with the increasing demand for qualified labour force within its hydrogen economy market. Increased hydrogen technical expertise will also facilitate the R&D process, thus accelerating domestic green hydrogen supply chain construction and driving down the total costs.

Promote gender equity 'with' energy transition

Globally, women have far fewer job opportunities than men in the labour market.[7] Women also earn 24 percent less than men and more often in informal employment.[8] Women aged 25-34 globally are 25 percent more likely than men to live in extreme poverty.[9] The global pandemic COVID-19 further worsen the situation. In 2021, it is expected there will be 118 women in poverty for every 100 poor men globally, and this could rise by 2030. [10]

In China, there are also large gaps in labour force participation as well as in terms of senior roles, where only 11.4% of board members are women and 16.7% of senior managers are women.[11] Women in China also earn 84 percent of what their male counterparts make.[12] Women with lower education attainment were engaged in low level occupation, who were faced with more discrimination in income.[13] In Guangdong Province, the average number of years of schooling for the female employed population is 9.50, which is 0.52 less than men.[14] The district of Nanhai has traditionally been an important focus for automotive industry, electronics manufacturing and nonferrous metal processing in China. Yet, women are disproportionately represented in the related sector.[15]

Sector	Women Employed (million)	Share of Women Employees in Total Employees
Scientific research and technical services	1.171	**30.2%**
Transport, storage, and post	2.19	**25.9%**

[5] http://en.moe.gov.cn/news/press_releases/202012/t20201230_508199.html

[6] http://en.moe.gov.cn/news/press_releases/202012/t20201230_508199.html

[7] Bohong Liu, etc. Gender Equality in China's Economic Transformation, a report, UN Women, 2014.

[8] UNDP. Gender and Climate Change: Overview of linkages between gender and climate change.

[9] https://www.un.org/en/un75/women_girls_closing_gender_gap

[10] https://data.undp.org/content/sdgs-x-covid-19-gender-equality/

[11] http://www3.weforum.org/docs/WEF_GGGR_2021.pdf

[12] https://www.adb.org/sites/default/files/publication/356926/gender-labor-prc.pdf

[13] Kaiming Guo and Se Yan: *Gender Gap in Labor Market and the Related Regulations*, Economics research Journal, 2015.7

[14] http://stats.gd.gov.cn/tjfx/content/post_1435110.html

[15] https://www.adb.org/sites/default/files/publication/356926/gender-labor-prc.pdf

Manufacturing	20.738	**39.4%**
Information transmission, software, and information technology	1.289	**39.4%**

Energy transition process will be "multi-dimensional, complex, non-linear, non-deterministic, and highly uncertain"[16]. Much of the literature cites job creation in renewable energy sector as a beneficial outcome. Such benefits of energy transition, however, do not necessarily contribute to inclusiveness, especially when implicitly shaped by existing power structures and social norms. This could result in complex forms of disadvantaged and privileged groups.[17] Several studies found that despite of the shortage of labour force, women still face multiple barriers in entering the job market and taking managerial and technical positions; and the social norms and gendered divisions of labour remains entrenched despite the introduction of new energy sources.[18] According to a survey conducted in 2019 by International Renewable Energy Association (IREA)[19] among close to 1500 respondents from 144 countries working in the renewable energy sector, which includes China, women only represent 32% of full time employees in the renewable energy sector, and the share of jobs held by women is higher for general administrative jobs (43%), but lower for jobs that require science, technology, engineering and math (STEM) training (31%). Among many key obstacles identified by the study, the perceptions and bias of gender roles, as well as limited access to education and technical training opportunities are considered as key impediments to women's hiring and advancement in the renewable energy industry[20].

Sustainable development of hydrogen economy requires a broader talent pool and a more inclusive workforce. In other words, when greening the energy system, gender-responsive and gender-sensitive responses must be included, which may help address some long existing gender asymmetries. If gender dimensions could be properly incorporated into the energy transition-related interventions, we may not only encourage more talented women to enter the renewable energy sector and close the skill gaps, and tap into the critical perspectives and innovative ideas offered by women, but more importantly, have the opportunity to make future energy system, as well as the society that hosts it, more inclusive and empowering than traditional ones.

The "Guangdong-Hongkong-Macao Greater Bay Area Hydrogen Economy Vocational College Demonstration Project" is a case in point. Through embedding gender responsive measures, this project has the potential to promote a balanced participation of both men and women, challenging the stereotyped division of labour, income differences and social norms.

Gender mainstreaming strategies

To ensure equal and sustained benefits for women and men during and after the green transition process, education, training, and vocational programs is recommended to take gender mainstreaming actions, including:

[16] https://www.oxfordenergy.org/

[17] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7028109/

[18] https://www.sciencedirect.com/science/article/pii/S2214629620303492

[19] https://irena.org/-/media/Files/IRENA/Agency/Publication/2019/Jan/IRENA_Gender_perspective_2019.pdf

[20] Baruah, B. (2017),"Renewable inequity? Women's employment in clean energy in industrialized, emerging and developing economies, Natural Resources Forum, Vol. 41/1, pp. 18 29

1. Gender inclusive consultation at all phases of project implementation.

   As the project will adopt a participatory approach, seeking to include views and experiences from diverse stakeholders, it is also essential to balance the participation of men and women in the process. Inclusive consultation process is critical to realizing the full potential of the project.

   Some studies pointed out that men might be more likely to benefit from vocational training than their female counterparts.[21] The project's consultation process, therefore, should aim at improving women's potential benefiting from such education, by giving voice to women students and lecturers, their understandings of gender-related barriers and potential solutions as well as that of the hiring companies. Differences in feedback from different gender identity should be identified and further analysed. This is expected to significantly improve the project's effectiveness, ensuring that both men and women's voices are heard, their perspectives are visible and sustained in the project.

2. Incorporating gender perspectives (i.e., indicator, data) into project process and deliverables, including monitoring, evaluation, reporting documents, course materials, etc.;

   With a set of quantitative and qualitative indicators/data, this project can measure and review the gender inclusiveness level of different phases. Linking project activities with gains in gender equality will also help increase the exposure of further project communication products.

   Equally important is to advocate gender-inclusive training programs and curricular content, designed in ways that no one would feel being excluded. Such programs will help change the public perception that technology/automobile industry is a male domain in which women do not belong. In other words, enacting this measure will not only empower women, in turn benefiting their families and society, but also making such industries more inclusive for the needs of both men and women. Gender-inclusive curricular content in vocational training will also help trigger a future gender-inclusive hydrogen industry development.

3. Enhancing project team's gender knowledge through specialized training and partnership;

   In creating gender-inclusive project environments, organizations tend to forget that project staff are members of society and can carry with them the stereotyped gender norms. Interventions as such tend to focus on strategies for promoting gender awareness of beneficiaries, missing a key opportunity to address the gender biases that project staff – who has the responsibility to catalyse wider gender norms change through implementing the project - may hold themselves. Through supporting gender-sensitization and gender-mainstreamed programme implementation training and building partnership with women organizations, taking on reflective practice, project team can become more aware of and take action on unconscious biases.

4. Promoting equal participation of women and men in project activities; aiming at no less than 30% of project direct beneficiaries are women;

   Women are disproportionately under-represented in the mechanic sector. Some studies show that vocational training increases formal employment for both men and women.[22] Increasing women's

[21] https://www.nber.org/system/files/working_papers/w27548/w27548.pdf

[22] https://www.nber.org/system/files/working_papers/w27548/w27548.pdf

participation in the project, therefore, is crucial. Equal seats for men and women will ensure gender-inclusive perspectives in the class and improve collaboration. For the long term, it would result in more productivity gains for future hydrogen industries and create mutual benefits and greater returns across the SDGs. The project location also holds a natural advantage in generating long term positive impacts to the society. Shown in the Seventh National Population Census, population growth in Guangdong is the highest among all provinces. Guangdong is also one of the 'youngest' provinces in China, 87.6% of the population is below 60.[23]

Above action points are not a zero-sum gap between male and female. Rather, it seeks to help maximize the project's impact in delivering a just green transition. Greater access to gender-sensitive green energy and technology knowledge for all identities will stimulate changes in social norms and attitudes toward gender roles in society, driving sustainable development forward.

The above strategies have been concretised into 10 specific actions. In the Annexes, a specific action plan is formulated with indicators, completion targets, baselines, responsible agencies, verification mechanisms and costs and budgets are specified to each action. During the project implementation, the project team is to carry out the required actions linked to each activity and report against the indicators under the project monitoring and evaluation framework i.e. quarterly and annual reports, UNDP Result-Oriented Annual Report inputs etc.

Annex

1. UNDP Gender Marker

UNDP Gender Marker	Coding Definition
0 (GEN0)	Outputs that are 'not expected to contribute noticeably' to gender equality
1 (GEN1)	Outputs that will contribute 'in some way' to gender equality, but not significantly
2 (GEN2)	**Outputs that have gender equality as a 'significant' objective**
3 (GEN3)	Projects/outputs that have gender equality as a 'principal' objective

[23] http://www.stats.gov.cn/tjsj/zxfb/202105/t20210510_1817181.html

2. Gender mainstreaming action framework

- **A Hydrogen Economy Institute established and the upgrading to a Hydrogen Economy Vocational College facilitated**

1: A detailed vocational training development programme formulated.

1.1 To conduct **international visits** to draw from other countries' experiences on the formulation and implementation of vocational training programmes as such.
1.2 To design **goals and strategies** for the students and courses.
1.3 To design the **Overall Institutional Development Plan** and **Curriculum Design Plan.**

2: A detailed guidance plan developed for setting up the teaching and learning areas for Hydrogen Economy Vocational College.

2.1 To design **teaching methods** of the vocational training programmes.
2.2 To develop **a college infrastructure management plan**.
2.3 To plan and design for necessary teaching facilities.
2.4 To organise and conduct discussions with national and international companies related to the hydrogen industry.
2.5 To develop scientific research activities for the Hydrogen Economy Institute.

3: Evaluation procedures designed to monitor the performance of the Hydrogen Economy Vocational College at multiple levels.

3.1 To design the evaluation criteria assessing student performance drawing from international best practices.
3.2 To design the evaluation criteria assessing faculty performance drawing from international best practices.
3.3 To design the criteria for evaluating the College's taught/research programmes drawing from international best practices.

4: A world-class faculty gathered for the hydrogen industry through UNDP's network.

4.1 To map out the requirements of trainer qualifications of different courses and disciplines with reference to ongoing or completed research in other universities, colleges and institutions.
4.2 To develop policies and recommendations for attracting high-end talents and teams in the field of hydrogen energy and retaining the faculty for Hydrogen Economy Vocational College.
4.3 To establish a world-class faculty in hydrogen economy with international experts in fuel cells, hydrogen production, infrastructure, hydrogen economy and other fields.

5: The establishment of a Hydrogen Economy Vocational College was facilitated.

5.1 To organise workshops discussing the feasibility and policy recommendations for hydrogen vocational training.
5.2 To apply for the necessary approvals for establishing the Hydrogen Economy Vocational College.
5.3 To apply for the necessary approvals for the Hydrogen Economy Vocational College to issue National Vocational Qualification (NVQ) certificates to students upon successful completion of studies.

6: A branding strategy and a student enrolment plan developed, and the Hydrogen Economy Vocational College introduced to international forums, organisations and other educational institutes.

6.1 To design branding activities for the Hydrogen Economy Vocational College.
6.2 To develop a student enrolment plan for the curriculums to attract national and international students.

- **Sustainable educational policies promoted for the hydrogen industry.**

7: Forums, conferences and other activities organised to promote hydrogen economy for creating the academic environment needed for nurturing talents.

7.1 To organise and conduct a global hydrogen economy vocational education **summit**.

7.2 To explore the cooperation opportunities with relevant institutions related to the hydrogen industry worldwide.

7.3 To establish a platform that facilitates exchanges between the Vocational College and enterprises to nurture talents for the hydrogen industry.

7.4 To organise academic forums and workshops to promote the sustainable development of hydrogen economy through UNDP Hydrogen Industry Conference and other academic platforms.

8: Public perceptions on vocational education improved and the education and employment environment optimised.

8.1 To conduct a **feasibility study** on China's vocational education reform with regards to hydrogen economy.

8.2 To conduct a feasibility study on National Vocational Qualification (NVQ) certification system for students.

8.3 To organise campaigns with media's support to increase public awareness of vocational colleges.

9: Hydrogen vocational training promoted through South-South Cooperation and the Belt and Road Initiative for supplying hydrogen talents to developing countries.

9.1 To organise and conduct conferences through South-South Cooperation and the Belt and Road Initiative to promote cooperation on hydrogen economy vocational training.

9.2 To promote the Hydrogen Economy Vocational College to other countries and discuss with other developing countries on the Hydrogen Economy industrial linkage mechanism.

9.3 To conduct a feasibility study of establishing Hydrogen Economy Vocational College in other developing countries.

9.4 To design the scholarship programmes for students from developing countries.

Actions	Indicators	Completion Targets	Baselines	Responsible agencies	Verification Mechanism	Cost and budget
(1). Ensure female's participation in project activities (Activity 1.1,4.3,5.1,6.1,6.2,7.1)	# of participants for activities # of faculty recruited # of total keynote speakers (disaggregated by gender) % of female engagement	At least 30% of female engagement	0	PMO; project gender focal point	Final report of subcontractors' deliverables; Gender section of quarterly and annual PPR	PMO staff time
(2). Project activity subcontract/expert TOR requires analysis (risks, impacts, and action needed if applicable) on the influence of subject matter to female. (Activity 1.2,1.3,2.1,2.2,3.1,3.2,3.3,4.1,4.2,6.2,8.1,8.2,9.3)	Whether the contents in the TOR	Yes	No	PMO; project gender focal point	TOR, Final report of subcontractors' deliverables	PMO staff time

(3). Ensure female's participation during information collection and evaluation. (Activity 1.2,1.3,2.1,2.2,3.1,3.2,3.3,4.1,4.2,6.2,8.1,8.2,9.3)	# of total participants (disaggregated by gender) % of female engagement	At least 30% of female engagement	0	PMO; project gender focal point	Final report of subcontractors' deliverables	PMO staff time
(4). Equal consultation with female and male on their suggestions and insights, to facilitate equal opportunities for women to express their perspectives, priorities, ideas, and opinions. (Activity 2.4,7.1,7.4,9.2)	# of total people consulted # of female consulted % of female engagement	At least 30% of female engagement	0	PMO; project gender focal point	Meeting summary with a list of participants attached.	PMO staff time
(5). Recruit a project gender specialist or designate one gender focal point to ensure all requirements mentioned in the gender mainstreaming action plan are well addressed.	Whether a gender specialist or a focal point designated	Yes	No	Head of PMO	Contract for gender specialist/TOR for focal point Gender section of quarterly and annual PPR, project audit	USD XX Individual contractor or PMO staff time
(6). Formulate a template for collecting gender disaggregated data, checklist for analyzing activity-specific gender risk and impact, design a dedicated gender section for the PMO's monthly reporting and archive.	Whether designed/ implemented	Yes	No	Project gender focal point	Documents archived.	Gender Specialist Inputs
(7). Provide training to the management staff and the gender focal points on gender equality.	# of training # of participant (disaggregated by gender) % of female engagement	1 At least 30% of female engagement	0	UNDP/Project gender focal point	Gender section of quarterly and annual PPR, project audit; Activity summary report	Gender Specialist Inputs
(8). Design; implement and report against gender sensitive indicators.	Whether included and implemented	Yes	No	Project gender focal point	AWP, Quarterly and Annual PPR	PMO staff time

(9). Provide technical support to the management staff to integrate gender into the project work plans.	# of documents reviewed and improved	4	0	Gender specialist, if applicable; UNDP in the absence of the Gender Specialist	Documents archived.	Gender Specialist Inputs
(10). Identify a women organization and establish partnership, to receive gender mainstreaming consultation and implement a gender specific project activity.	Whether a women organization is partnered and consulted	Yes	No	PMO; project gender focal point	MOU signed or report of gender specific activity archived.	PMO staff time; possibly project budget for event organisation