



# Construct a Beautiful Tomorrow with Power and Love



Laos Sustainability Report of Power Construction Corporation of China



Power Construction  
Corporation of China  
Laos Sustainability Report



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# Listen to the voice of stakeholders



PowerChina has put much effort in developing the Laotian market for over 20 years, and has successfully built an international business operations pattern of "a big market in a small state". The company's accumulative contract amount in Laos is **USD5.2 billion**, and its accumulative investment reaches **USD3 billion**, involving areas like hydropower development, municipal construction, roads, railways, construction materials and mineral products. In September 2017, commissioned by the General Bureau of State-owned Assets Supervision and Administration

Commission of the State Council, the survey of Research on Overseas Social Responsibility of Central Enterprises organized by the Corporate Social Responsibility Research Center under China Academy of Social Sciences was conducted for PowerChina's engineering projects in Laos. Field interviews were carried out to listen to the true voice of stakeholders. In the survey, to the question "Please score PowerChina's performance of social responsibility", almost all the interviewees spoke highly of the company's performance of social responsibility.



**Very good**

**Sysonphon Phinneuang**  
Director of VangVieng Department of Transportation



**Excellent**

**Saysamon Khomthavong**  
Deputy Party Secretary of Luang Prabang Province and Parliament Chairman of No.6 District



**90** scores

**Vilaphorn Visounnarath**  
Assistant General Manager of Lao State Power Corporation



**95** scores

**Bounthanh Bolavong**  
Deputy Magistrate of Pak Ou County



**95** scores

**Bounchanh Malavong**  
Magistrate of VangVieng County



**99** scores

**Chanthavong Phonnachit**  
Director of Luang Prabang Provincial Department of Environment



**100** scores

**Boum Saleumsack**  
General manager of local supplier KKS



**100** scores

**On Pong**  
Local temple abbot in Laos





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## Message from the Chairman



Chairman and Party Secretary of the Group: Yan Zhiyong

With the proposal of the “Belt and Road” initiative, the ancient camel trail where the Eastern and the Western civilization integrated is now connecting China’s rapidly developing economy and the interests of countries along the Belt and Road, building the world into a community of shared interest, shared destiny and shared responsibility featuring mutual political trust, economic integration and cultural inclusiveness. As one of the first Chinese enterprises to develop the overseas market, PowerChina’s business in energy and infrastructure accounts for two thirds of its total revenue, tracking 1,469 projects in 57 out of the 65 countries along the Belt and Road, having 128 offices or subsidiaries in 42 countries, and implementing 350 engineering projects. Its business operations and coverage are highly aligned with the “Belt and Road” initiative.

With the precise international business positioning of “Being a leader in the global clean, low-carbon energy, water resources and environmental construction area, a key force in the global infrastructure connectivity, and a project constructor, investor and developer that provides domestic and overseas customers with complete supply chain integration and total solutions”, PowerChina fully utilizes our unique advantages in technical know-how, planning and design, construction, and investment and operations, develops a three-step international development strategy of “collectivization of international business, localization of international business, and globalization of the Group”, forms a diversified market structure of balanced development in “grand civil engineering and grand construction” focusing on water conservancy and electric power construction and involving areas like roads and rail transit, municipal engineering, house building and water treatment, develops a diversified business network of premium markets centering on Asia and African and covering America, Oceania and Eastern Europe, and builds a marketing network across the world.

The company has put much effort in developing in the Laotian market for many years, and has successfully built an international business operations pattern of “a big market in a small state”. Total investment of the projects under construction or operation of Overseas Investment Co., Ltd., a subsidiary of PowerChina, exceeds USD3

billion, with installed capacity of 660,000 kilowatts and 730,000 kilowatts of completed projects and projects under construction respectively. In 2020, total installed capacity will reach 1.4 million kilowatts, with an average annual power generation of 5.5 billion kilowatt-hours. While developing its own business, PowerChina never forgets to perform corporate social responsibility (CSR), acting as a pioneer role model for Chinese enterprises “going global”. The company has established a “three-full” CSR management model in the Laotian market, that is, full employee participation, full coverage and full integration, and actively built a “six-pattern” enterprise, that is, being credible, green, safe, vibrant, responsible and win-win, hence integrating CSR management awareness into every cell of the company. Over the years, PowerChina’s CSR management and practice in Laos has won recognition from various parties. In 2016, Laos’ Nam Ngum 5 Hydropower Station won the top award of China construction project, Luban Award (Overseas Projects); the cement factory the company invested locally has paid accumulative tax of close to USD40 million, and won the “Outstanding SME Development Award” and “Special Contribution Award” granted by the Laotian government; Nam Ngum 5 Power Company has donated 130 million Kips (local currency) for the forest conservation project, and bought 90,000 fries for release back to the rivers. As a result, it won the “Social and Environmental Special Contribution Award” granted by the Laotian government; and Nam Ou River Project (Phase II) in Laos has set a precedence of overseas hydropower project safe production and management in the “safety experience hall” built in the level-7 Hydropower Station .

Laos Sustainability Report of Power Construction Corporation of China is our third sustainability report by country following that of Zambia and Indonesia. Through this report, we hope to summarize in all respects our social responsibility fulfillment practices and achievements in Laos, and build an open platform for communication with stakeholders. Moving forward, PowerChina will keep up its efforts in the overseas responsibility performance of central enterprises, and jointly make new achievements together with our stakeholders.

January 2018

# Responsibility focus: Endeavor to pursue our dream along the Silk Road

In September and October 2013, during his visit to Central Asia and Southeastern Asia, President Xi Jinping proposed the strategic initiative of jointly building the "Silk Road Economic Belt" and the "21<sup>st</sup> Century Maritime Silk Road", attracting high level attention from the international community. In March 2015, the Chinese government released Vision and Actions on Jointly Building Silk Road

Economic Belt and 21<sup>st</sup>-Century Maritime Silk Road, stating that the "Belt and Road" construction is open and inclusive that welcomes the active participation of various countries and international, regional organizations, which has won extensive recognition of and active response from the international community.

## Silk Road Economic Belt

- Oct.31, 2013** The 230KV power transmission line from Hin Heup to Luang Prabang constructed by the company was completed half a year ahead of schedule and started trial operation, and Luang Prabang II transformer substation and line construction was successfully completed.
- Dec.29, 2013** PowerChina's first BOT project Nam Ngum 5 Hydropower Station completed the year's power generation task three days earlier than the original schedule, and the on-grid electricity generated was 500.6811 million kilowatt-hours.
- Jun.25, 2014** The first resettlement village of Nam Ou Level-2 Hydropower Station was officially completed, providing guarantee for the successful completion of water storage and power generation of the hydropower station constructed by the company.
- Jul.23, 2014** The company released Enterprise Standard of Nam Ngum 5 (Laos) Power Generation Company. This is a valuable achievement of PowerChina's first standardized construction for operating a hydropower.
- Nov. 6, 2015** The company's Lao Nam Tha No.1 Hydropower Station completed river closure one year ahead of schedule, indicating that the project had entered the construction phase of the main project.

As one of the earliest Chinese enterprises to develop the overseas market, PowerChina's growth strategy is in line with the "Belt and Road" initiative. The company has put much effort in developing the overseas market, and established the priority strategy of developing the international business. Over the years of operating in the international market, the company has set up six regional

headquarters globally and 259 overseas offices in 104 countries; it has substantive business in 115 countries and regions, and executes contracts in 89 countries involving 1,207 EPC general contracting or contracted construction projects, accumulating rich experience in international marketing and project implementation.

## 21st-Century Maritime Silk Road

- Nov. 28, 2015** The company's Nam Khan 2 Hydropower Station was officially completed and handed over for operation, starting to provide electricity support for the several provinces in Northern Laos.
- May.12, 2016** All the units of the Nam Ou River Project (Phase I) hydropower stations invested and developed for a whole basin overseas by the company were put into operation for power generation.
- Nov.25, 2016** The Lao Nam Ngum 5 water conservancy and hydropower engineering project constructed by the company won 2016 China Construction Project Luban Award (Overseas Projects).
- Nov.8, 2017** The level-1 and level-7 Hydropower stations of Lao Nam Ou project (Phase II) invested and developed by the company for the whole basin overseas completed river closure at the same time, achieving the first node target that was of milestone significance ahead of schedule.
- Nov.14,2017** Chinese President Xi Jinping published a signed article in the Laotian media titled China and Laos: Working Together for a Community of Shared Future with Strategic Significance. In the article, President Xi spoke highly of the Lao Nam Leuk hydropower station project undertaken by the Company, saying that "The Nam Leuk hydropower station undertaken by Chinese companies is operating well, and playing an important role in the economic and social development of Laos."



## Sustainable development management

### Sustainable development concept

PowerChina has adhered to the sustainable development concept of "behaving in the way that benefits people, operating in the way that benefits the society", and upheld our corporate mission of "constructing clean energy, creating a green environment, and serving smart cities" and our international cooperation concept of "mutually beneficial cooperation and mutual development". In the development of the overseas market, we strive to make sure that "every project we develop will facilitate local economy, benefit the local community, enable us to make friends, and set up a monument", and dedicate to making our dream of "building a world-class enterprise and creating an outstanding global brand" come true.



Our business will shine people's life and benefit society

"Shine" expresses the vision of "bright and beautiful"

Our "business" involves infrastructure construction improvement and impacts people's life

"Benefit" contains the implied meaning of "reward and favor"

Our "business" involves green, clean energy development and impacts social development

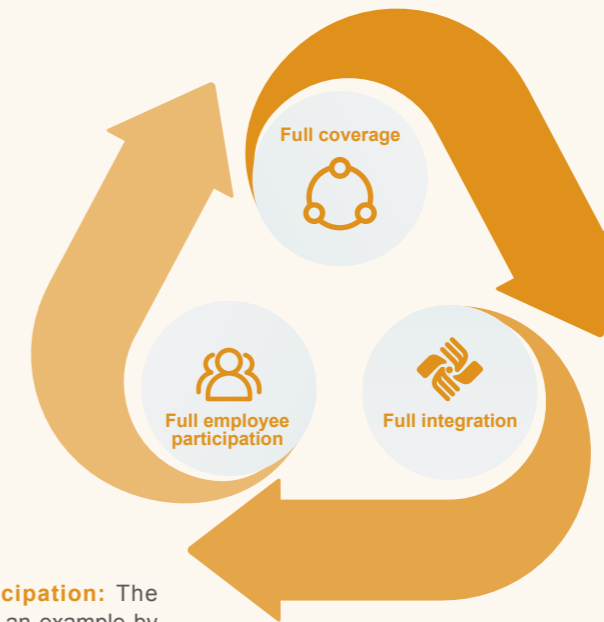
### Sustainable development governance

In order to effectively promote the company's sustainable development and the CSR work, PowerChina has set up a CSR work leadership team. The general manager of the Group and the competent vice general manager have been appointed as the team leader and assistant team leader respectively, responsible for the leadership, decision making and overall planning of the Group's CSR work.

The general office of the Group is responsible for the overall planning, coordination and daily management of CSR work, including formulating the CSR plan and annual development plan, conducting CSR study, training and exchange, and compiling and releasing the company's annual CSR reports.

Specific to the Laotian market, the Company innovatively implemented a "three-full" CSR management model of "full employee participation, full coverage and full integration", integrating CSR management awareness into every cell of the company.

**Full coverage:** Fully consider long-term local environmental and economic development in the project's feasibility design study, design solution, design standard and design grade; in the construction period, stick to safe construction, civilized construction, care for life, environmental protection and pollution eradication for every project; in the operation period, pursue harmony between people and nature and build the project into a tourist attraction, a famous scenic spot to stimulate the development of the local tourism industry and increase the income of residents.



**Full employee participation:** The company's leaders set an example by taking part in active promotion of and strong support for CSR performance, integrate CSR management into the company's development strategy and operations, and utilize business trips to Laos for extensive communication.

**Full integration:** Actively utilize the role of the property owner, ensure resources input, enhance CSR work in all the processes including planning and design, construction, and operations and management together with brother companies, actively build a CSR management system integrating the entire industry chain, and create a good image of PowerChina in CSR performance overseas.

## Sustainable development topics

The company's CSR topics cover international CSR standards like ISO26000 and GRI4.0, national policy requirements, concern points of public opinion, corporate topics of the same industry, and the company's development plan, hence forming a topic pool.

Firstly, form general topics by referencing national policy requirements and concern points of public opinion;

Secondly, form industrial topics by analyzing topics of companies from the same industry;

Thirdly, form PowerChina CSR topics considering the company's development plan and operation practice.

Create a topic selection matrix based on two dimensions of "importance to PowerChina" and "importance to external stakeholders", and prioritize topics in the topic pool to generate the following matrix:



## Sustainable development communication

Based on the company's actual operations situation, PowerChina has established an extensive stakeholder communication system, studied in-depth issues that stakeholders are concerned about, and turned the demands of stakeholders into CSR actions and solutions. Furthermore, through various channels, the company communicates CSR concepts and performance status to stakeholders, makes efforts to win the understanding and support of stakeholders, and improves the satisfaction level of stakeholders.

Stakeholders	Expectations for the Company	Company's Response
Chinese government	Responding to the "Belt and Road" initiative Enhancing connectivity	Regular reports, special reports, Attendance of relevant conferences and forums
Laotian government	Conducting operations with integrity Paying taxes according to the law Boosting local employment Protecting local environment	Complying with international conventions and local laws and regulations Paying taxes on time and according to the law Localized employee management Acceptance of supervision and appraisal
Shareholders	Increasing or maintaining the value of assets Avoiding economic risks Maintaining information communication	Enhancing economic benefits Strengthening risk control Communicating in writing regularly
Customers	Guaranteeing project quality Improving customer service Innovating engineering technology	Constructing a quality management system Following up with the property owner's feedback in a timely manner Encouraging employee innovation
Laotian employees	Respecting religious belief and ethnic culture Guaranteeing employees' rights and interests Ensuring employees' career development Helping employees in need Caring for employees	Respecting employees' religious belief and activities Purchasing medical and social insurance Conducting training and appraisal in career development Making donation for employees in need Conducting employee activities
Chinese employees	Guaranteeing basic rights and interests Increasing salary and benefits Guaranteeing physical safety Ensuring employees' career development Balancing work and life	Purchasing medical and social insurance Increasing the frequency and length of annual leave Enhancing production safety management Guaranteeing career development channel Organizing celebration activities for major holidays
Community	Supporting community education and cultural development Respecting local ethnic customs Ensuring residential environment Maintaining smooth communication	Carrying out community public welfare activities Sponsoring local major holidays and activities Aiding the construction of resettlement villages Establishing a community communication mechanism
Supply chain	Complying with business ethics Open, fair and equitable purchase Mutual benefits and win-win	Implementing sunshine purchase Publicizing purchasing information Building a strategic cooperation platform
Environment	Abiding by local environmental protection laws and regulations Conducting energy conservation and emission reduction Protecting ecological environment	Establishing and improving environmental management system Strictly implementing energy conservation and emission reduction measures in production Carrying out environmental protection public welfare activities

# Innovating and building masterpiece projects



Nam Ou River Cascade  
Hydropower Stations Project

PowerChina has been operating in the Laotian market for over 20 years. We have persisted in building brand projects painstakingly, innovating engineering technologies, guaranteeing project quality, delivering our contractual commitment with our actual actions, and pioneering and innovating with craftsmanship, contributing to local economic and social development.

14·Innovating engineering technology  
16·Guaranteeing project quality



## Innovating engineering technology

### © Strategy of “integrated industry chain”

The Nam Ou River cascade hydropower stations project is developed by Overseas Investment Co., Ltd. under PowerChina, and other key companies undertake the design, construction, supervision, manufacturing and operation of the project. In this project, all participating companies fully leverage their advantages in technology, management and construction, and generate an innovative model of “integrated industry chain” with the characteristics of Nam Ou River. The core of the model is the “Quadriad integration” of investment & development, design & supervision, construction, and operation & maintenance, which aims to connect the entire industry chain from investment, financing, construction management to asset operation, and realize the control of the project’s full life cycle as well as the entire industry chain. The unique advantages of the “integrated industry chain” model of the Nam Ou River project make the construction and

development process controllable and help the overall improvement of operational performance. Thanks to the model, the Nam Ou River project has achieved a solid progress in localized operations, ecological and environmental protection, project resettlement, and charity and public welfare, realizing significant social benefits. Meanwhile, the model has expanded the international market development channel. All participating parties of the project turn their respective advantages into integrated advantages, improving value creation, innovation and international competitiveness. In the “2016 Energy Annual Conference and the 2nd Energy Development and Innovation Forum” organized by China Reform Daily, PowerChina’s overseas investment “integrated industry chain” management model won the “2016 Overseas Energy Project Innovation Award”.



“Integrated Industry Chain”



“In 2016, determined to overcome whatever difficulty it may encounter, PowerChina started the Nam Ou River cascade hydropower development project in Laos. The Nam Ou River project involves unprecedented large scale, huge construction span, severe technological difficulties, tough resettlement project and complicated external environment. However, with the innovative strategy of “integrated industry chain”, PowerChina fully leverages the professional capabilities of the investment subject in project financing, capital operation and construction management, and demonstrates the strengths of the leading enterprise of China’s hydropower industry that is undoubtedly the No.1 brand in the international hydropower construction!”

—Organization Committee of 2016 Energy Annual Conference and the 2<sup>nd</sup> Energy Development and Innovation Forum

### © Design plan of a “seven-level reservoir”

The Nam Ou River project innovatively adopts the design plan of a “seven-level reservoir”. The plan involves small amount of earthwork and can minimize environmental impact caused by the project’s construction. Furthermore, the operation and adjustment mode of “seven-level connectivity” can maintain the ecological system balance of the river basin to the largest extent.

The Nam Ou River “seven-level reservoir” is developed in two phases, with a total installed capacity of 1.272 million kilowatts.

After completion, it will be an important clean energy base for Northern Laos, providing reliable power supply for the construction of the China-Laos Railway and Laos’ “Southeast Asia Battery”. The first phase of the Nam Ou River hydropower stations has been put into operation; total installed capacity of the second phase hydropower stations is 732,000 kilowatts, and the construction of the main project started in April 2016, which is expected to start power generation in 2019.

A total installed capacity of **1.272** million kilowatts

Expected to **start power** generation in 2019



In November 2017, river closure was simultaneously completed for Nam Ou River level-1 and level-7 Hydropower Stations. Deputy Prime Minister of Laos Zonse Siphandone attended the river closure ceremony and struck the brass gong for blessings.

The “seven-level reservoir” highlights the benefits of the whole basin, plays the connection and adjustment role of the basin cascade hydropower stations, and generates significant comprehensive economic and social benefits of the cascade hydropower stations. With minimum people relocation, minimum flooding loss of arable land and woodland, and minimum environmental impact, the development solution obtains maximum comprehensive

benefits and achieves sustainable development. The completed hydropower stations have played a positive role in adjusting seasonal drought and flood within the basin, improving the flood control capacity of the lower reaches, improving river shipping, reducing water loss and soil erosion, and protecting ecological balance, and have gained recognition from the Laotian government and international environmental organizations.



The brass gong for blessings

### © Computer network management

After completing the construction of the first hydropower investment BOT project in Laos, Nam Ngum 5 Hydropower Station, No. 10 Bureau of SINOHYDRO under PowerChina has taken up the responsibility of the hydropower station’s operation and maintenance. From construction management to operation and maintenance management, lackage of talent has become the biggest issue. However, PowerChina employees are bold in practice and innovation. Informatization management has been introduced, realizing computer network management covering decision makers and production operations of various

departments and workshops (teams and groups) of the grassroots hydropower station, and creating good internal and external environment for the hydropower station’s safe and economic operation. Since the hydropower station was put into operation, equipment has been in a sound condition, and operation and maintenance has been in order. There has been stable and safe operation for over 1,200 days, and electricity generated accumulatively is more than 200 million kilowatt-hours, bringing tangible benefits for the Laotian government and people.

There has been stable and safe operation for over **1,200** days

Electricity generated accumulatively is more than **200** million kilowatt-hours

## Guaranteeing project quality

### ◎ Quality management system

PowerChina adopts the “1+2+3” management model in the Nam Ou River hydropower stations project in Laos, meaning that centering on the priority of onsite control, the basin company monthly control and supervision, as well as the daily control of supervision, design and construction units are incorporated; importance is attached to “the three links” of visits of the construction site, communication with all participating

construction units, and dialogue with employees of the project department; onsite control is enhanced and refined management is implemented for the project, achieving overall streamlining and control of the construction of level-2, level-5 and level-6 hydropower stations of the Phase I project, thus effectively ensuring the smooth attainment of various node targets.

#### Onsite quality control of Nam Ou River Level-3 Hydropower Station

In the construction of Nam Ou River Level-3 Hydropower Station, the principle of total quality control was followed to fully strengthen onsite quality control. Participating units established their respective quality assurance system and quality management system, and specified quality responsibility and quality management requirements for their respective departments and positions. Monthly quality check was organized for all participating units which resulted in monthly quality inspection bulletin. In a period of one year, 489 units of the main project were inspected and accepted, with an acceptance rate of 100%; among them 440 units were rated “excellent”, accounting for 90%. There was always solid quality management and onsite quality control.

Acceptance rate of **100%**

Rated “excellent”,  
accounting for **90%**

### ◎ Projects of ingenuity

Since it entered the Laotian market more than 20 years ago, from constructing roads to the site of Nam Leuk Hydropower Station by No. 15 Bureau of SINOHYDRO under PowerChina to helping the Laotian government build the “Southeast Asia Battery”, the company has contracted over 30 projects, involving construction of water conservancy, roads, railways, bridges and municipal engineering construction.

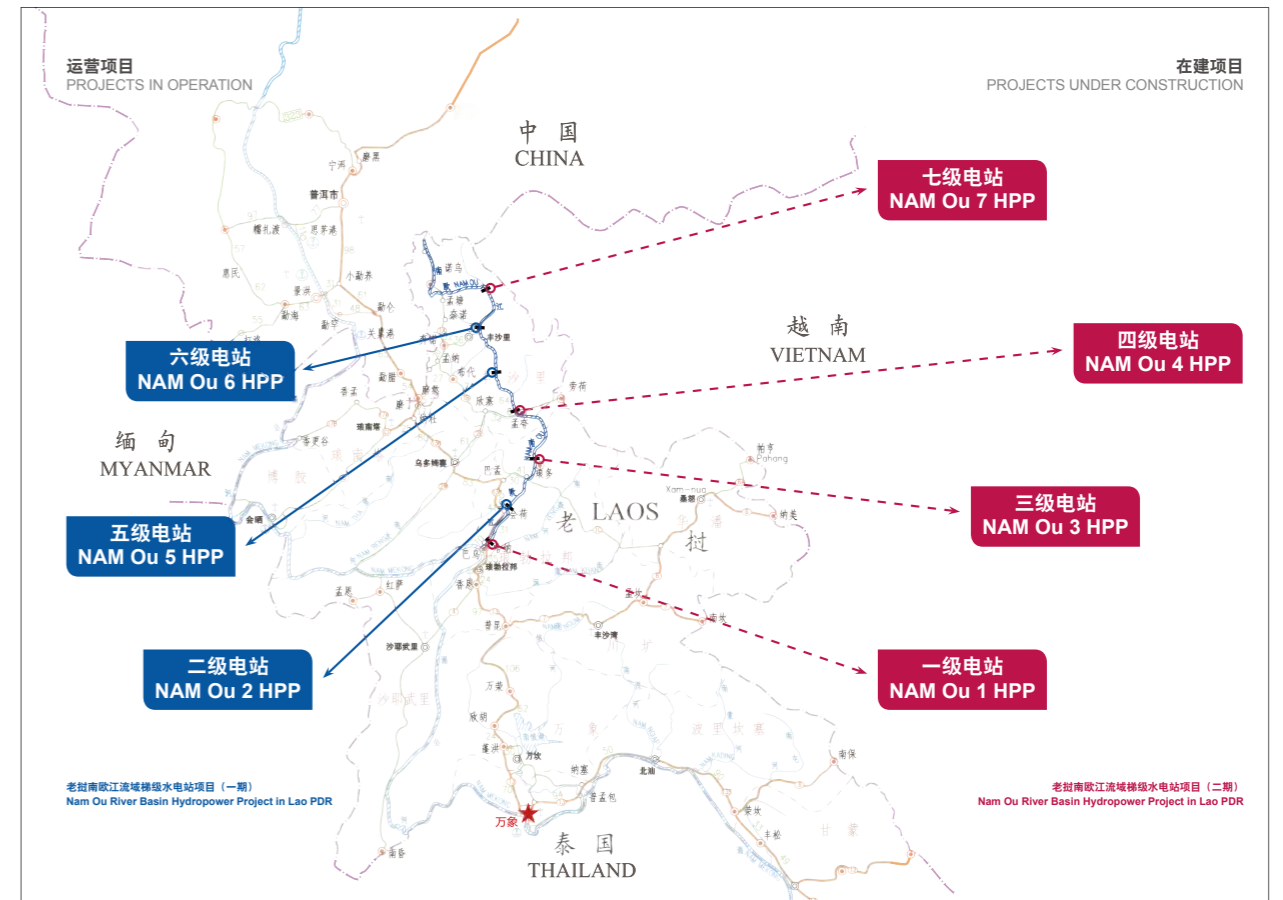
The Nam Ou River cascade hydropower stations project in Laos is the project for which a Chinese company has the development right of the basin of an entire river overseas for the first time. It is also the first investment project implemented by PowerChina in executing its strategy of integrating the entire industry chain overseas by actively “going global” under the guidance of the “Belt and Road” initiative. The project consists of 7 cascade hydropower stations with a total installed capacity of 1.272 million kilowatts, average annual power generating capacity of 5 billion kilowatt-hours for years, and a total investment of USD2.733 billion. Level-2, level-5 and level-6 Hydropower Stations of the first phase have been completed and put into operation, and level-1, level-3, level-4

and level-7 Hydropower Stations of the second phase were started to construct in April 2016 and all are expected to be completed and to start power generation in August 2020. As the key power source of the power grid for Northern Laos, since its operation started, the Nam Ou River cascade hydropower stations project has relieved local power shortage, and provided stable and reliable

power support for local infrastructure improvement and industrial development. The Nam Ou River cascade hydropower stations still under construction will further facilitate Laos’ infrastructure upgrade and transformation, boost the industrial development of surrounding areas, and create a large number of employment opportunities.



Nam Ou River Level-2 Hydropower Station



Plane position of Nam Ou River cascade hydropower stations (7 levels)

“PowerChina is a central enterprise with a great tradition and capable of fighting tough battles. It is the spirit of the iron army that creates such an excellent team, which is a key enterprise in serving the ‘Belt and Road’ construction.”

-- Meng Jianmin, Vice Director of State-owned Assets Supervision and Administration Commission of the State Council

“The Nam Ou River project plays a critical role in promoting local economic and social development. It has become a star project and important livelihood project in Northern Laos boasting significant influence and popularity, setting a good example for other external investment projects.”

--Zonse Siphandone, Deputy Prime Minister of Laos



**Construct an excellent project, create a shiny pearl of Nam Ou**

Located within Phongsali province of Laos, Nam Ou River Level-4 Hydropower Station is classified as a Class II (2) large project. The project was jointly built by a strong “Quadriad integration” team consisting of PowerChina Overseas Investment Co., Ltd., PowerChina Kunming Survey and Design Institute, SINOHYDRO Construction Consulting Company and No. 10 Bureau of SINOHYDRO, which progressively executed the construction of the main project in an orderly manner centering on the goal of “implementing an excellent project through refined management”.

Before the flood season arrived, in order to address the road issues that would occur in the construction during the flood season, the hydropower station stored a large amount of the sandstone and aggregate in the sandstone system, and ensured supply to satisfy construction needs during the flood season when road condition was poor and building stones produced by local material yard could not be transported. In the construction process of the level-4 Hydropower Station, construction units strictly followed the quality standard, supervision units conducted comprehensive supervision, design units implemented careful check and provided service, and the project department of the property owner of the level-4 hydropower station effected full supervision, hence forming an effective quality guarantee mechanism; moreover, during the “quality month”, quality control practice activities were vigorously carried out, and inspection items including concrete slump test, concrete pouring temperature measurement, concrete (or concrete form) unevenness examination, bar splice sampling and drawing test, and quality inspection were conducted, comprehensively increasing the quality awareness and quality control capability of the level-4 Hydropower Station project.



**A strong “Quadriad integration” team**



**Implementing an excellent project through refined management**

“Nam Ou River winds its way from the north to the south, along which level-5 and level-6 Hydropower Stations have been built within Phongsali province, generating significant economic and social benefits. Currently level-4 and level-7 Hydropower Stations of the 2<sup>nd</sup> phase are being built within the province. Considering the actual local situation, the choice of the site for level-4 Hydropower Station avoided Muang Khua county in the lower reaches, reducing the submerged area and installed capacity; but it is not far away from the county, and road and bridge construction has brought the most direct changes to the local community. Witnessing the construction of the level-4 Hydropower Station and its positive impact on the surrounding area thanks to the many efforts of PowerChina to bring about a series of contributions, I am happy and people in Phongsali will also remember this. I believe level-4 Hydropower Station will become another shiny pearl along Nam Ou River”.

—Camden Ombohi, Party Secretary and Governor of Phongsali Province

Nam Ngum 5 Hydropower Station is located along Nam Ting River, a branch in the upper reaches of Nam Ngum River in the mountainous area of Northern Laos, which consists of three parts including the head hub, the diversion works and the plant area hub. This is the first BOT hydropower station project invested in Laos by PowerChina. Two mixed-flow water turbine-generator units each with a capacity of 60 megawatts are installed in the hydropower station with a total installed capacity of 120 megawatts. The project was started on October 1, 2008, and was officially put

into commercial operation on December 2, 2012. The hydropower station project has been designed and constructed according to China's project construction standard, with its quality among the best of similar projects. Green construction, design optimization and technological innovation are adopted for the project, which have won many awards including SINOHYDRO and PowerChina Group excellent project award, and national excellent project design award, survey award, technological progress award, and achievement innovation award as well as those of Yunnan province. The

project has generated two province-level and ministry-level engineering methods, three national patents, and more than 30 scientific and technological theses. In 2016, Nam Ngum 5 water conservancy and hydropower engineering project won China Construction Project Luban Award (Overseas Projects), the highest honor of China's construction industry that is acclaimed as the “Oscar of China's Construction Industry”. China-Laos Railway is an important part of the middle passage of the Trans-Asian Railway and is over 400 kilometers in total. PowerChina undertakes the

construction of the IV segment and V segment of China-Laos Railway, which is 74.99 kilometers and 90.03 kilometers respectively. The total construction period is 5 years. China and Laos jointly invest in the project (70% and 30% shares respectively) with a total investment of USD5.8 billion. Over 60% of the

railway are bridges and tunnels, and the designed speed per hour is 160 kilometer. The railway is expected to be completed and put into operation around 2020. The China-Laos Railway project effectively connects the “Belt and Road” initiative with Laos' development strategy. After completion, Yumo Railway and Nong

Khai – Bangkok Railway will comprise a China-Laos-Thailand great channel, which will enhance China's economic and trade cooperation with Laos and Thailand, facilitate the construction of the China-ASEAN free trade zone, and help Laos to transform itself from a landlocked to a land-linked country.



“The China-Laos Railway project is a strategic project for both countries. It is a project that will bring convenience for people of both of our countries, promote the connectivity between the two countries, and facilitate China's connectivity with Southeast Asia; it is also an important project of the “Belt and Road” initiative. Favorable factors in implementing this project include that all our participating construction units support the construction of this project, and people in Laos understand very much the importance of this project.”

--Latanamani, Deputy Minister of Public Engineering and Transportation of Laos



## Adhering to integrity, boosting economic development



A local cement factory invested  
by PowerChina in Laos

In its business operations and service activities, PowerChina always adheres to conscientious contract performance and compliant operations, actively builds a legal enterprise, and establishes a good company image. The company actively integrates into local development of Laos, boosts employment in the neighboring areas, enhances local cooperation, strictly complies with local laws and regulations, and pays taxes on time, contributing to local economic development.

22·Legal and compliant operations  
23·Integrating into local development




## Legal and compliant operations

### Compliant management

In the development and construction of projects, the company attaches great importance to the compliance training of Chinese employees working overseas, organizing employees to study documents such as Project Concession Agreement (CA Agreement), and to conscientiously perform clauses of the agreement. The company strictly abides by laws and regulations including Laos Investment Law, Labor Law, Customs Duty Law, Environmental

Protection Law, Social Security Law, Foreign Exchange Law and Administration Law on Import and Export. We engage local renowned lawyers and financing risk consultants, accounting firms, taxation firms and relevant consulting institutions to provide technical guidance and intelligent support for our business operations to ensure that our operations are legal and compliant.

 The Nam Ou River project successfully passed relevant compliant operations inspection of the Laotian government

In July 2017, 22 people from the Department of Energy and Business (DEB) under the Ministry of Mines and Energy of Laos and other relevant government authorities involving the Master List and labor administration conducted special inspection regarding the construction progress, labor employment and imported materials and equipment of level-1 and level-3 Hydropower Stations of the second phase of the Nam Ou River project, and the project successfully passed the inspection.



“As an important hydropower project in Northern Laos, the Nam Ou River project is of representative and exemplary significance. The project is constructed strictly following the agreement and has a high level of compliance. We hope that the project will progress smoothly to contribute more to local development.”

—Official of the Ministry of Mines and Energy of Laos

### Tax payment according to law

PowerChina strictly complies with various local laws and policies of Laos. We support the inspection of taxation authorities, pay taxes on time and in full, and ensure legal and compliant operations. For the second phase of the Nam Ou River project, the company discussed with Laos' State Administration of Taxation regarding taxation issues, specified the taxation obligation of contractors and subcontractors of various levels of the Nam Ou River phase II project, standardized taxation

work flow such as registration and declaration, and effectively avoided the taxation risk of EPC contractors and subcontractors of the Nam Ou River phase II project. This has created a new way of working in the prevention of taxation risk, that is, aligning with, reporting to and communicating with taxation authorities when the project starts, and laid a solid ground for the company to conduct legal and compliant business operations.



In May 2017, PowerChina was granted “Commendation of Taxation Work” by the Tax Department of the Ministry of Finance of Laos.

## Integrating into local development

### Cooperate with local companies

In project development, PowerChina pays attention to having good cooperation with local enterprises, and allocates projects like reservoir area resettlement, reservoir area cleaning, and environmental monitoring to local companies for execution. By providing fund support, technical aid and

joint development, PowerChina facilitates the growth and development of local construction and relevant enterprises, and boosts rapid development of multiple industries like transportation, packaging, building materials, and import trade.

### Train local talent

Sticking to the principle of localized development, PowerChina actively hires local human resources and solves the local employment issue. Nam Ou River Basin Hydropower Co., Ltd. under PowerChina provides over 1,600 employment opportunities for the local community, including such positions as driver, translator, copy writer, logistics personnel, cleaner and security guard. In addition, the company's resettlement village construction project offers more than 12,000 employment opportunities for local people, increasing their income. Considering the characteristics of local Laotian employees, the company has established a talent management mechanism of “selection, use, growth,

retention” that satisfies the engineering construction needs and suits the local characteristics, and created a unique new model of “personnel localization”. During the construction period of the Nam Ou River project, employee localization rate is as high as over 50%, satisfying the requirement of the Laotian government for labor usage, and the rate is even higher during the period of operation. The company attaches importance to the professional progress of Laotian employees, and improves their work skills and work competence level through methods like training and apprenticeship, training a large number of professional and technical personnel for Laos.



Personnel localization

PowerChina provides over **1,600** employment opportunities for the local community

 Sponsoring Laotian students to study in China

The Nam Ou River project maintains active and close communication with the Laotian Embassy in China, hires returned students who studied abroad, and sponsors local outstanding Laotian students to study in higher institutions of education in China, nurturing local engineering and management talent for the company's projects. Through training and development, many local outstanding employees of the projects have assumed positions of supervisors and assistant managers, becoming part of the company's high-end management talent. In September 2017, the first group of six selected Laotian students went to Wuhan University in China for further studies.



**6** selected Laotian students went to Wuhan University in China for further studies



Further studies



## Green responsibility, protecting ecological environment



Actual ecological environment around Nam Ou River

In its operations, PowerChina has been adhering to the concept of “green development and ecological development” and performing enterprise environmental responsibility. The company actively improves the construction of environmental management system, takes multiple measures for energy conservation, emission reduction and ecological protection, and spares no effort in creating “green and ecological” brand engineering projects.

- 26.Improving environment management
- 27.Implementing clean production
- 28.Implementing ecological protection
- 29.Carrying out environmental protection communication



## Improving environment management

PowerChina incorporates environment management into daily check and annual appraisal and assessment. The Group conducts strict entire-process supervision and control over the environment management status of subsidiary companies. If any irregularity is found, maximum fine can be up to USD100,000. The company benchmarked the environmental and social norms of World Bank and international financial companies, and signed the CA Agreement and Its Supplementary Environmental and Social Standard Responsibility Agreement with the Laotian government, expressly specifying that the Nam Ou River project would follow the principle of "adopting the highest standard" in performing environmental and social responsibility. According to the CA agreement, the company formulates the Specific Location Environmental Monitor Plan considering the onsite situation during the construction period, and identifies factors impacting the environment in different phases by reviewing all the places, sites and processes during the construction period; for pollutants that cannot be recycled or reclaimed, the company formulates protection and control measures, and conducts real-time tracking and monitor to solidly protect the environment around the project.

PowerChina Overseas Investment Co., Ltd. actively constructs the environment

management system, and pertinently develops and executes a series of environmental protection measures including Sandstone Plant and Concrete Mixing System Waste Water Treatment Measures, Sealing Measures for Dry Process of Stone Material Production and Measures on Central Treatment of Solid Waste, achieving environmental protection targets like zero discharge of construction waste water, zero dust in the air, and zero pollution of construction garbage.

In order to strengthen environmental protection management, Nam Ou River Basin Hydropower Co., Ltd. under PowerChina sets up a "Environmental Protection and Water Protection Committee", releases the Charter of Hydropower Station Environmental

Protection and Water Protection Committee, strictly performs the agreement and follows international environmental protection standards, and invites the government and local people to participate in the supervision to ensure that environmental protection is solidly implemented.

During period of the project feasibility study, PowerChina fully identifies environmental regulations of the Laotian government and relevant requirements, and engages third party institutions with environmental protection monitor qualification to conduct extensive monitor of the environmental protection work and assist the project to carry out environmental protection work.



### Nam Ou River Phase II Project attaches importance to environmental management

Nam Ou River Phase II Project has set up an environmental protection work leadership team led by the general manager, appointed the HSE management office as the responsible department, and designated dedicated personnel to be responsible for the environmental protection work. The company printed and distributed Nam Ou River Phase II Project Environmental Protection Management System, explicitly specifying the responsibility and work content of all participating units, fully identifying the handling process for waste water, sewage, solid waste, dust and noise; it compiled Environmental Protection Facility Standardization Manual, absorbing the environmental protection management experience of construction projects in China, specifying construction site handling processes during the construction period, and unifying environmental work standards.



Environmental Protection Facility Standardization Manual

"Emphasizing ecological and environmental protection is both the starting point and the foothold for implementing projects. Starting from the design, we consider environmental protection in advance. On the basis of complying with international standards and Laos' local environmental requirements, we design a perfect environmental protection work plan, obtain the approved environmental evaluation report, and implement the ecological protection management of the Nam Ou River project systematically in a standardized manner.

--Sheng Yuming, Chairman of PowerChina Overseas Investment Co., Ltd.

### Laos' State Environment Ministry inspected the environmental protection work of Nam Ou River Phase I Project

In June 2017, led by the Director of the Energy Project Environment Assessment Center of Laos' State Environment Ministry, a natural and social environment inspection team consisting of 24 people from Phongsali Provincial Environment Department, Muang Khua County Environment Bureau and Muang Mai County Environment Bureau conducted a comprehensive inspection of the environmental work of Nam Ou River Level-4 Hydropower Station. The inspection team checked in detail construction areas including the level-4 Hydropower Station mixing system, the mechanical repair factory, the lab, the aggregate field and the No.2 slag disposal pit, as well as the treatment of production and domestic sewage, treatment of solid waste, and dust prevention and noise reduction of the site's living area, and gave a high affirmation of the environmental protection work of the Nam Ou River project.



The environmental protection work

## Implementing clean production

**Waste water treatment:** PowerChina has set up multiple water quality monitor points in the upper and lower reaches of the construction site and conducts regular check of the quality of river water. The largest 3-stage sedimentation tank in Laos is used to treat waste water, which can be recycled after it is fully precipitated, thus achieving the target of energy conservation and emission reduction.

### Nam Ou River Level-3 Hydropower Station strengthens industrial waste water treatment

Nam Ou River Level-3 Hydropower Station makes the sandstone and aggregate processing system a control priority for waste water discharge, and carried out rational renovation according to actual conditions. When the sedimentation tank did not work out well, the drainage was rationally remodeled by adding a submerged pump to pump water for re-precipitation; by installing multiple advection-type aggregate filter pools, there is zero waste water discharge in the dry season, and the discharge in the rainy season meets the standard.



Industrial waste water treatment

**Waste residue treatment:** Central waste treatment pools have been set up in the construction sites of the Nam Ou River cascade hydropower stations project, and professional domestic waste collection vehicles regularly collect domestic waste of the sites for central incineration and burial; waste tires and waste oil are piled and treated centrally; and factors impacting the environment are regularly monitored to ensure that the environmental protection work satisfies the requirements.

**Dust treatment:** In the production system of Nam Ou River Level-1 Hydropower Station, special dust removal equipment is adopted to mitigate the impact on environment of the dry production process; production machines are completely enclosed to minimize dust. In the level-2 Hydropower Station, six sprinklers operate at fixed time and location; the mixing station is upgraded to a mixing building as the aggregate production equipment, dust removal facilities are added, and a 3-stage sedimentation tank is installed, which is regularly cleaned every one or two days. PowerChina Cement Co., Ltd. carried out a large scale transformation of the dust removal equipment, changed the skeleton of the dust removal bag and the polar line and polar plate of the electrostatic precipitator of the kiln head, cleaned the dust in the porcelain bottle of the electrostatic precipitator of the kiln inlet, replaced the soft connection of the bulk cement discharge skeleton, and implemented clean transportation and planted trees.

## Implementing ecological protection

PowerChina Overseas Investment Co., Ltd. emphasizes protecting the ecological capabilities of the Nam Ou water system, and ensures the long-term sustainable development of the aquatic organism and the river ecological system. During the construction period and the operation period of the project, the company took

multiple environmental protection measures including protecting the fishery industry and putting fry and shrimp seeds into the reservoir, laying a strong foundation for the reservoir's future preservation and maintenance of sufficient aquatic organism in the future.

### Support Laos' National Fry Launch Day

July 13 of every year is Laos' National Fry Launch Day. As a builder along Nam Ou River, the company actively responds to the government's call, supported the government on July 13, 2016 to organize the fry launch event, and donated 2 million Kips (local currency) for the purchase, transportation and launch of fry, making contribution to facilitating the sound development of the Nam Ou River ecological system.



Organize the fry launch event, and donated **2** million Kips

Local residents in Laos have poor awareness of environmental protection; it is common for people to damage forests to reclaim land, and excessive deforestation is widespread. Consequently, there is serious soil erosion and forest sharp decline, which is a severe hidden risk for the conservation of water and soil as well as the sustainable utilization of the

water resources in the reservoir area. PowerChina Overseas Investment Co., Ltd. actively participates in the local social and environmental construction, carries out forest protection activities, and has won recognition and appreciation of competent authorities of Laos, creating a harmonious external environment for the sustainable operations of the hydropower stations.

### Nam Ngum 5 Power Generation Co., Ltd. organized and carried out forest protection activities

In September 2016, in response to the call of the Ministry of Mines and Energy of Laos, Ministry of Culture, Ministry of Tourism and Ministry of Natural Resources and Environment, the company invested 130 million Kips (local currency) in carrying out the campaign of "protecting forest resources, constructing a green home", disseminating Laos' forest and river protection laws among local residents, and organizing local residents to carry out activities like forest planting and river protection, and was granted by the Laotian government the "Special Social and Environmental Contribution Award".



Be granted by the the Laotian government the **"Special Social and Environmental Contribution Award"**

### Nam Ou River cascade hydropower stations attach importance to water and soil conservation

The Nam Ou River cascade hydropower stations project requires that the low cut slope excavation cannot exceed 50 meters to prevent landslide to the largest extent and protect the ecological environment. The company designs fixed grids on the slopes on the two sides of the hydropower station, and plants grass and trees inside the grids. Furthermore, the company grows a large number of green plants in the construction area, such as banana, teak and bougainvillea trees, for the restoration of vegetation protection, truly realizing the synchronization of "development and restoration".



The synchronization of **"development and restoration"**

## Carrying out environmental protection communication

PowerChina actively carries out environmental protection communication in Laos. Overseas Investment Co., Ltd. came up with a campaign slogan of "increasing environmental protection awareness, jointly creating green development", and

guided employees to respect the nature, conform to the nature and protect the nature, to conscientiously lead a green life, and to jointly build a sound ecological environment.

### Themed publicity event on World Environment Day

On June 5, 2017, Nam Ou River Level-1 Hydropower Station organized the 2017 World Environment Day publicity event themed on "increasing environmental protection awareness, jointly creating green development". Through QQ groups and the WeChat platform, the company disseminated among participating construction units environmental protection publicity materials like the Environmental Protection Law and Regulations on Administration of Construction Project Environmental Protection of both China and Laos, and organized all the employees to learn about environmental protection, watch the micro video Xi Jinping Looks Forward to Clear Water and Green Mountains released by People's Daily and CCTV's serial ecological security warning film Red Line, read Environmental Protection Proposal of Nam Ou River Level-3 Hydropower Station Project Department, and sign their names on the proposal.



Increasing environmental protection awareness, jointly creating green development





## Joining hands for mutual benefits and creating a better future



The resettlement village built by the company for local residents

PowerChina actively integrates into local development in Laos, and pays attention to the mutual growth of internal and external stakeholders. Internally, the company cares for employees, supports employees' career development, and ensures production safety; externally, the company improves infrastructure construction, builds resettlement villages, and supports public welfare activities such as education and medical care, sincerely contributing to society.

- 32·Caring for employees' growth
- 35·Ensuring safe production
- 37·Building a harmonious communities



## Caring for employees' growth

### ◎ Protecting employees' rights and interests

PowerChina always adheres to people-orientation and considers employees the most valuable assets of the company. The company complies with the Labor Law of the People's Republic of Laos, engages Laotian lawyers to review local employment contracts, and protects the legal rights and interests of local employees. The company upholds the concept of "Chinese and Laotian people are one family", provides special respect and care to employees based on their ethnicities and religions, carries out rich and colorful cultural and recreational activities, and organizes well

performing Laotian employees to go to the headquarters in China for short study tours. The company attaches much importance to employees' health, disseminates and implements in-depth the Law on Prevention and Control of Occupational Diseases, conducts employee physical examination, spreads the knowledge of prevention and control of occupational diseases, and organizes a series of activities like special lectures on health knowledge, presentation on the knowledge of infectious diseases and free medical check-up.

#### Organizing special lectures on health knowledge

In July 2017, Nam Ou level-3 Hydropower Station Project Department invited doctors from the Chinese Hospital of Luang Prabang to give special lectures to disseminate medical and health knowledge among employees of all participating construction units and to guarantee medical care and health for employees in remote power stations.



Give special lectures to disseminate medical and health knowledge

#### Presentation on infectious disease knowledge and free medical check-up

Considering the high occurrence and increasing trend of diseases like dengue fever and hepatitis A in Laos, in July 2017, the company's Nam Ou River level-4 Hydropower Station Project Department, together with the Phongsali Provincial Department of Mines and Energy, the Provincial Labor Union and the Provincial Disease Control and Prevention Center, gave presentation on infectious disease knowledge and provided free medical check-up for the participating construction units of the level-4 Hydropower Stations, especially foreign employees. This was actively responded and enthusiastically supported by participating construction units.



Presentation on infectious disease knowledge and free medical check-up

### ◎ Attaching importance to employee training

PowerChina always makes talent training its top priority. Based on the orientation training, apprenticeship and onsite guidance are also adopted. The project construction is leveraged to train talent,

who will then contribute to the project construction, creating a virtuous circle and mutual benefits between the project and the talent.

#### "Ensuring the 5.31 Target" flood control labor contest



In March 2017, the Nam Ou River project started the "Ensuring the 5.31 Target" flood control labor contest, which consisted of three phases including communication and mobilization, implementation, and summary and recognition. The "5.31 flood control target" was the first node target of Nam Ou River Level-1 Hydropower Station in 2017, which attracted high level of attention from all walks of life. More than 100 people from participating construction units attended the kick-off mobilization meeting.

### ◎ Caring for employees' life

PowerChina actively builds a communication platform to facilitate cultural exchange between employees of China and Laos. The company organizes Chinese employees to participate in special Lao holidays like the Water-Sprinkling Festival and Bun Pha That Luang, and invites Laotian employees to make dumplings and paste spring festival couplets so that they can appreciate Chinese traditional culture. In addition, the company organizes activities like Home of Employees and football games, significantly enriching employees' after-hour life.

The company leaders care about the life of Laotian employees. A garden camp has been built, ensuring the quality of employees' life; special care is given to Laotian employees in need, and "delivery of warmth" activities are carried out irregularly; and Laotian employees are included into commendation activities such as "Star Employee" and "Excellent Employee", enhancing employees' sense of belonging.



Local Dragon Boat Festival in Laos



Employee friendship-promoting activities



Home of Employees



Garden camp



Employee football game



**Heart of Ocean Program cares for employees' health**

"Heart of Ocean Program" is an innovative measure of Overseas Investment Co., Ltd. for introducing the EAP (Employee Assistance Program) service. As a professional platform for market development, project construction, project operation and investment risk management for the overseas investment business, and considering the characteristics of the company that there is a high percentage of numerous young employees who work overseas for long periods of time, the company introduces the EAP service and launches the "Heart of Ocean Program" Of Overseas Investment Co., Ltd., providing young employees with a platform for emotion management and psychological counseling engaging professional psychological consulting institutions.



"Heart of Ocean Program"

"Thanks to the EAP service provided by the company, employees working in overseas projects have benefited a lot. We also appreciate the fantastic lectures delivered by the experts, which is of great help to our life and work."

—Sang Wenlin, Employee of the Nam Ou River Project

**Heart-warming donation in the case of serious illness**

Ahsan is a Laotian driver of the Operation and Maintenance Department of Nam Ou River Level-5 Hydropower Station of SINOHYDRO No. 10 Bureau. In early 2017, his wife suffered from facial paralysis. They went to many local hospitals but the effect was very limited, and the doctor suggested that his wife seek treatment in the Chinese hospital. When the company heard about this, it decided to give a hand to this family. A donation proposal was made to raise money for the subsequent treatment for Ahsan's wife. More than 12 million Kips (local currency) was raised within only one day.



A donation for Ahsan's wife is more than **12** million Kips

"I have been working in the level-5 Hydropower Station and have received much help from the station. Today's donation enhanced my understanding of PowerChina Overseas Investment Co., Ltd. Moving forward, I will work harder to make more money for my wife's treatment, and to make my best contribution to the hydropower career of PowerChina Overseas Investment Co., Ltd."

—Ahsan, Employee of Nam Ou River Level-5 Hydropower Station

**Working happily, welcoming the New Year**

In order to welcome the New Year of 2017, enrich the after-hour cultural life of employees, and create a happy and peaceful festival atmosphere, from December 30, 2016 to January 1, 2017, the company organized a series of recreational activities themed on "working happily, welcoming the New Year".



Working happily, welcoming the New Year

## Ensuring safe production

### Safe production training

PowerChina upholds the cultural concept of "Safety First", and continuously organizes safe production training in Laos. As there is language barrier between Chinese and Laotian employees, the company encourages the employees of the project department to study the Lao language so as to enhance safety communication. The company persists in pre-job safety orientation, on-the-job safety monitor and after-job safety review, establishes mechanisms like "apprenticeship" and "divided responsibility for Laotian employees", and strengthens and implements the management model of "transfer, help and guidance" in safe production.

The company requires that Laotian employees who work in the project must receive the site-entry safety training and education, understand and get familiar with the safety management system and safety management culture of Chinese companies, fully understand the unsafe factors they may encounter at work and relevant identification methods and countermeasures, gradually change their normal awareness, and comprehensively increase their safety awareness. They will be put on the job after they pass the appraisal.

In order for Laotian employees to understand in a visual way the safe and civilized construction standardization management requirements of Chinese enterprises, the company has built a safe and civilized construction standardization demonstration area in the construction site, demonstrating things like how operators should wear work protection device, and how steel wire rope should be used; in the centralized operation area, a safety communication stage and an accident warning picture display area are set up; and in the dangerous positions of all operation areas, cartoon version warning and warning signs are placed to convert the abstract words into objects and pictures easy for Laotian employees to understand. All these have achieved good results.



In September 2017, Nam Ou River Level-7 Hydropower Station Project Department organized safety training for 9 Laotian employees.



**Production safety training for special operations personnel**

In order to comprehensively improve the professional safety skills of the local employees of the company's projects and to satisfy the training, appraisal and certification requirements for special operations personnel for areas including electrical engineering, welding and thermal cutting, after repeated communication and coordination, the Nam Ou River Phase II Project engages the training center of SINOHYDRO No. 8 Bureau as the technical support unit for its overseas training platform, which went overseas to provide the one-stop-shop professional service covering "training + appraisal + certification" for local employees of the Nam Ou River project in Laos. The entire training lasted for 16 days of 160 class hours accumulatively. More than 240 local employees in total passed the training appraisal and obtained the PowerChina Training Certificate.



**The one-stop-shop professional service covering "training+appraisal+certification"**



"This reflects Chinese enterprises' assumption of responsibility for the life and health of employees."

—Employee of Nam Ou River Level-7 Hydropower Station Project Department

**Production safety drill**

In implementing safe production, PowerChina pays attention not only to the theoretical training, but also to practice and exercises. The company has built a safety experience hall, and organizes employees to get the experience

personally so as to strengthen safety awareness; furthermore, it organizes emergency response drills from time to time, enabling employees to acquire safety knowledge in practice.

**Safety experience hall – enhancing employees' safety awareness**

Considering the actual situation of the project scale and the participating construction personnel, the company has built a comprehensive safety experience hall in the site of Nam Ou River Phase II Level-7 Hydropower Station. The experience hall covers an area of 2,000 square meters, and contains 14 experience items such as "comprehensive bent experience, safety helmet impact, and use of safety belt". It provides safety experience integrating theoretical knowledge, protective skills and live practice, improving the self-rescue and mutual aid capabilities of frontline operators especially local employees in the event of emergency through practice and exercises.

In June 2017, as one of the overall activities of the "Safe Production Month", Nam Ou River Level-7 Hydropower Station Project Department organized all the employees for personal experience in the safety experience hall. Since the experience hall was officially put into use, close to 1,000 people have experienced practice and exercise with good results.



**"Safe Production Month"**



In May 2017, PowerChina Laos Nam Ngum 5 Co., Ltd. carried out emergency drills in flood control and rescue, geological disaster prevention and elevator accident control, and formulated emergency drill plans taking the actual situation into consideration.



**Jointly building harmonious communities**

While ensuring the company's business operations, PowerChina attaches importance to paying back stakeholders, constantly improves the local living standard in Laos, and helps local economic and social development through donations. In 2013, PowerChina Basin Hydropower Co., Ltd. donated to, funded and sponsored departments including the Ministry of Mines and Energy of Laos, Luang Prabang provincial government, provincial

department of mines and energy and provincial department of natural resources and environment in an accumulative amount 25.10 million Kips (local currency); in 2014, it donated to, funded and sponsored the Laotian government at various levels and local communities in a total amount of 500 million Kips (local currency).



## ◎ Improving living environment

PowerChina adheres to the “localization strategy”, and builds uniform spacious and bright resettlement villages with complete facilities for relocated residents in the reservoir area, notably improving their living environment. The Phase 1<sup>st</sup>

and 2<sup>nd</sup> Nam Ou River projects will build about 23 centralized resettlement villages involving over 10,000 people of about 2,200 households in 2 provinces and 10 counties.

- **In April 2014**  
Construction of roads within the resettlement village of Nam Ou River Level-2 Hydropower Station was completed
- **In June 2014**  
The resettlement village of Nam Ou River Level-2 Hydropower Station was unveiled
- **In July 2014**  
Restoration of relocated residents' livelihood was started for Nam Ou River Level-6 Hydropower Station
- **In November 2014**  
Construction of the resettlement village for Nam Ou River Level-5 Hydropower Station was officially started
- **In May 2015**  
Resettlement for Nam Ou River Level-2 Hydropower Station was completed, relocating 242 households in two centralized resettlement sites
- **In June 2015**  
42 households moved into the relocation site of Hago resettlement village in the reservoir area of Nam Ou River Level-5 Hydropower Station, indicating that the resettlement of all relocated residents was completed 4 months ahead of the original schedule
- **In June 2015**  
Construction of NamHun resettlement village for Nam Ou River Level-5 Hydropower Station was completed
- **In October 2015**  
Construction of HatAy relocation site of Nam Ou River Level-4 Hydropower Station was officially started
- **In April 2016**  
Moving into ChaLoen resettlement village of Nam Ou River Level-7 Hydropower Station official started
- **In April 2016**  
Moving into the resettlement village of the hub area of Nam Ou Phase II Level-4 Hydropower Station officially started
- **In May 2017**  
Resettlement work of Nam Ou River Phase I Project was ceremoniously commended by the local government
- **In September 2017**  
The resettlement village of Nam Ou River Level-1 Hydropower Station was handed over



Nam Ou River Level-1 Hydropower Station Resettlement Village



Nam Ou River Level-2 Hydropower Station Resettlement Village



Nam Ou River Level-4 Hydropower Station Resettlement Village



Nam Ou River Level-5 Hydropower Station Resettlement Village



Nam Ou River Level-6 Hydropower Station Resettlement Village



Nam Ou River Level-7 Hydropower Station Resettlement Village



Handover ceremony of Nam Ou River Level-1 Hydropower Station Resettlement Village





## ◎ Aiding infrastructure construction

PowerChina actively integrates into local communities, aids infrastructure construction, and puts forth effort in improving local living conditions. While building resettlement villages, the company builds for local communities 460 kilometers of various types of roads and 23 bridges, as well as temples, village administrative offices and trading markets. In Nam Ting

village, the company builds facilities like primary schools, meeting rooms and health centers, improving local education and conditions of health and villager autonomy. It also builds highways, drains, water channels and bridges, providing convenience for the life of local villagers, and significantly facilitating local economic development.



A road within the resettlement village of Level-2 Hydropower Station



The 8km hardened road of Level-2 Hydropower Station



China-Laos Friendship Highway of Level-2 Hydropower Station



A road within Kormanmai village of Level-6 Hydropower Station

“The contribution made by PowerChina Basin Hydropower Co., Ltd. to the resettlement of Nam Ou River level-5 and level-6 Hydropower Stations is obvious to all. People in the mountainous areas in Northern Laos are poor and live in a hard situation. PowerChina Basin Hydropower Co., Ltd. has properly handled resettlement, and at the same time has made a great amount of investment in improving infrastructure, providing better guarantee for the relocated people to get rid of poverty and become better off, as well as guarantee for regional social and economic development.

—Director of the Department of Home Affairs of the Phongsali Provincial Government



Clean water supply point of Level-2 Hydropower Station



Garbage collection points are installed in all hydropower stations



Hat Sa bridge of Level-6 Hydropower Station



Sop Kinh village administrative office and health center of Level-2 Hydropower Station

“The construction of hydropower stations has demonstrated the capabilities of PowerChina. The investment in and construction of hydropower stations by Chinese companies here has significantly driven economic and social development, and improved public service conditions like education and medical care in the villages.”

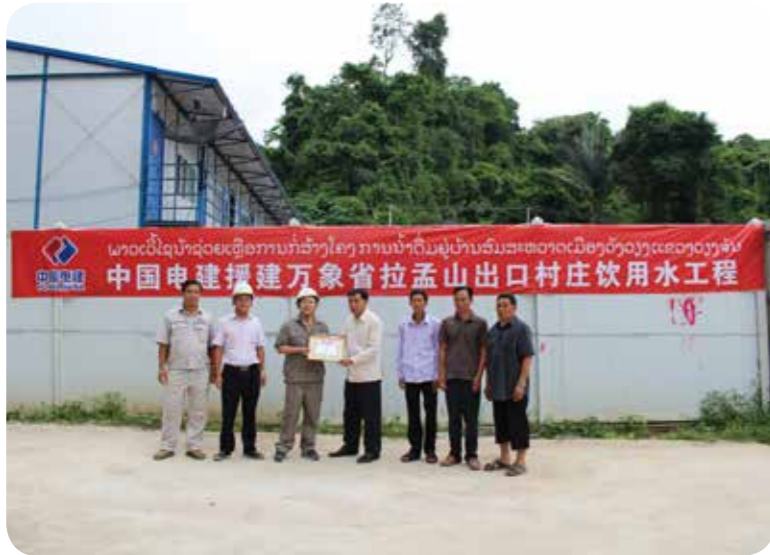
—Thongloun Sisoulith, Prime Minister of Laos



### Songshawa village drinking water project

In the Songshawa village drinking water project aided and constructed by PowerChina China-Laos railway project department, 1,500 meters of pipeline has been laid, solving the drinking water safety problem for 1,225 villagers of 245 households and the teachers and students of one village school, significantly improving the condition of drinking water.

Deputy magistrate and Director of Transportation Bureau of VangVieng county of Vientiane province in Laos specially came to the 3<sup>rd</sup> division of Segment V of Boten-Vientiane Railway to express their hearty thanks for PowerChina's aid in the construction of the Songshawa village drinking water project in VangVieng county. They also brought a Letter of Appreciation and a Certificate of Honor. VangVieng county government indicated that the project would be recorded in the county annals.



Local government presented the Certificate of Honor to the company



Certificate of Honor



Solving the drinking water safety problem for **1,225** villagers of **245** households and the teachers and students of **1** village school

"I hope that both parties can enhance cooperation and exchange for mutual benefits, and that we can make the 'dream of train' come true at an early date."

—Deputy Magistrate of VangVieng County

### Carrying out public welfare activities

PowerChina always adheres to the internationalization concept of mutual benefits and harmonious development with an open mind. We strengthen communication and exchange with the

Laotian government, people and all walks of society, conscientiously care for local development, care for the disadvantaged group, and carry out public welfare activities in a variety of forms.

#### Caring for deaf-mute students and rendering an umbrella of love

In September 2017, Nam Ou River Power Generation Co., Ltd. launched the public welfare activity of "Caring for deaf-mute students and rendering an umbrella of love", bringing consolation gifts to the children of the deaf-mute school in Luang Prabang.



#### Volunteer teaching

In September 2017, the united party branch of Nam Ou River Level-4 Hydropower Station, together with county government, the Muang Khua county's education bureau and Muang Khua county middle school, started the volunteer teaching program.





## OUTLOOK

With the proposal of the “Belt and Road” initiative, in the process of building a world first-class quality-benefit enterprise with international competitiveness, PowerChina will continue remaining the in-depth relationship of “jointly consulting, building together, and sharing” with countries along the routes in such fields as power, infrastructure, etc., hence transferring the capacity of Chinese engineering construction to the world.

We will continue keeping on guaranteeing the engineering quality, attach great importance to the development of engineering technology, and promote advancement by innovation, constantly give impetus to the progress of power construction technology, and earnestly build more high quality engineering, hence enhancing the international competitiveness of our brand.

We will continuously stick to the important objective of achieving corporate growth in harmony with boosting the development of local economy, operate business in conformity with law, adopt compliance management, and actively contribute to the economic development of Laos.

We will continuously adhere to the principle of “green development, ecological development”, improve and perfect the environmental protection management system, endeavor to reduce the impact of production and operation on environment, energetically promote the sustainable development of ecological environment in Laos.

We will continuously persist in the basic concept of “human orientation”. In the process of business operation, we will ensure safe production, and care for employees' life, hence realizing the employees' growing up with enterprise; and we will give assistance to constructing local infrastructure and building resettlement villages, and enthusiastically support social public welfare, striving to achieve harmonious development between enterprise and local community.

In the future, PowerChina will continuously participate in the “Belt and Road” construction. Sailing off with endeavors to go ahead, we will make even greater efforts in promoting the green, healthy and sustainable development of world power energy, and make concerted efforts to realize PowerChina Dream and China Dream.

## Appendices

### About Us

#### Group Profile

Approved by the State Council, Power Construction Corporation of China (hereinafter referred to as PowerChina) is a wholly state-owned company established at the end of 2011, incorporating 14 provincial (municipal and regional) enterprises engaged in power prospecting and designing, engineering and equipment manufacturing under Sinohydro Corporation, Sinohydro Engineering Consulting Group Corporation, State Grid Corporation and China Southern Power Grid Company Limited.

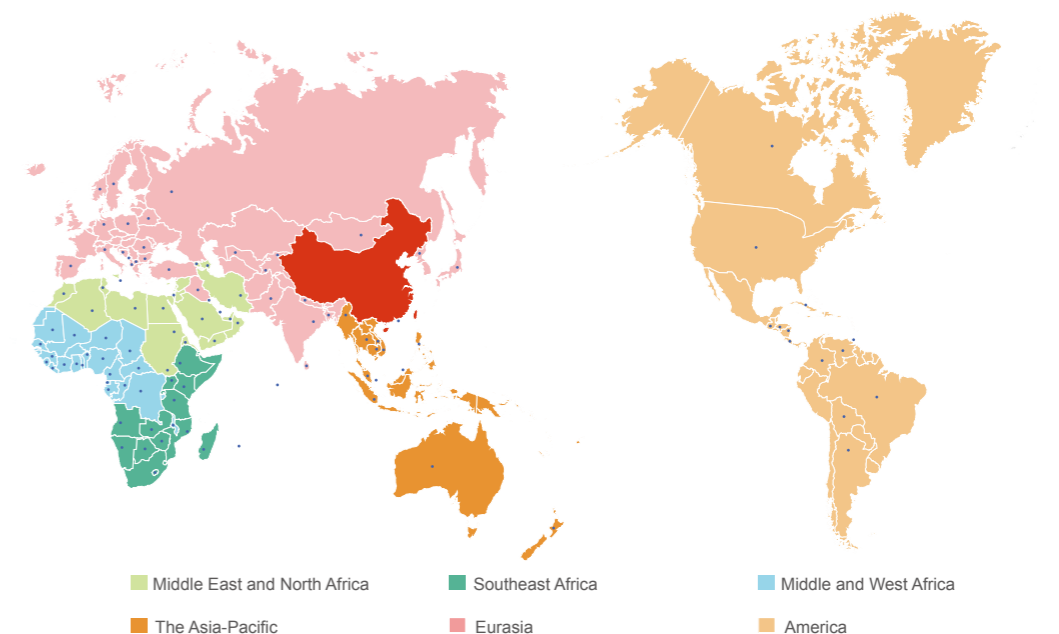
PowerChina is a comprehensive construction group, integrating investment and financing, planning and design, engineering construction, equipment manufacturing and operations management in hydropower projects and infrastructure. Its mainline businesses cover construction projects (including prospecting, planning, designing and project contracting); development and operations of power, water conservancy (water engineering) and other resources; and development and operation of real estate, and manufacturing and leasing of relevant equipment. In addition, entrusted by state ministries and commissions, the Company undertakes the state planning and reviewing functions for such clean energy and new energy as hydropower, wind power and solar energy. The power construction (planning, design and construction) capability and performance of the Group ranks No.1 in the global industry.

As a leading enterprise in serving the state “Belt and Road” strategy and a pioneer in the areas of global clean low-carbon energy, water resources and environment construction, PowerChina is a backbone of interconnecting global infrastructure, as well as an engineering construction, investment and development provider that offers the complete industry chain integration and overall solutions for customers at home and abroad.

PowerChina has fully utilized its advantages of “core competences of hydropower and technical know-how along with an integrated industrial chain”, and leveraged both international and domestic markets. With focus on the three core fields of energy & power, water resource & environment, and infrastructure, and by implementing the five development concepts of “innovation, coordination, green, open, and sharing”, PowerChina strives to become worldwide first-class comprehensive construction investment quality-benefit group with international competitiveness in such fields as energy & power, water resource & environment, and infrastructure.

#### Business Sectors and Distribution

Specialized in developing overseas markets for decades, PowerChina has taken steps to form a diversified market structure of “grand civil engineering and grand construction” with focus on water conservancy and power construction and with comprehensive development in such fields as road & metro traffic, municipal engineering, house building, and water treatment. With focus on Asia and Africa, its overseas business also covers America, Oceania and Eastern Europe. As of June 30, 2017, PowerChina has 259 overseas offices in 104 countries, and has executed 2,281 contracts on prospecting & designing consultation, engineering contracting, equipment and trade supply in 115 countries.





## About This Report

This is the first sustainability report on Laos released by Power Construction Corporation of China, which is also the third report by country after those on Zambia and Indonesia. With theme on "Construct a Beautiful Tomorrow with Power and Love", the Report has systematically reviewed the practices and performances of PowerChina in fulfilling economic, environmental and social responsibilities in its investment, construction and operations in Laos, which reflects the sustainable concept of China-Laos joint development.

### Quality Assurance

Since all the data and contents contained in this Report have been reviewed by the management of the Company prior to release, PowerChina hereby undertakes that there are no false records or misleading statements in the content of this Report and it shall be responsible for the objectivity and truthfulness of the relevant data included in this Report.

### Basis for Preparation

This Report is prepared in accordance with the Guiding Opinions for Central Enterprises on Fulfilling Corporate Social Responsibility issued by the State-owned Assets Supervision and Administration Commission of the State Council, the United Nations Sustainable Development Goals (SDGS), the Guidelines for the Sustainable Development Report (G4) issued by Global Reporting Initiative (GRI), and the Guidelines for Social Responsibility: ISO26000 issued by the International Organization for Standardization.

### Scope of Report

This Report covers all the engineering projects undertaken by PowerChina in Laos. The period covered is from 1996 to December 2017, whilst parts of the contents referred to are beyond this time limit. For the convenience of expression in the Report, the Company is also referred to as "PowerChina", "We" or "Power Construction Corporation of China".

### Data Sources

The data used in this Report is from the official documents and statistical reports of the Company. Financial data in this Report is denominated in RMB, unless otherwise specified.

### Copies of This Report Available

The Report is published in both Chinese and English. Please contact Power Construction Corporation of China for hard copies of the Report. More information on sustainable development is available from the official website of PowerChina, and the electronic copy of this Report can also be downloaded.

Company website: <http://www.powerchina.cn>

### Report System

Annual information disclosure—Annual Social Responsibility Reports (2012-2016)



Overseas special information disclosure—Overseas Sustainable Development Reports.



## Assessment by Third Party

Chinese enterprises have met a great historic opportunity for "going global" since the 19th National Congress of the CPC has further clarified the strategic goal of the country for opening up the economy to the outside world. In the journey of constructing the "Belt and Road", how to deal with the risks and challenges arising from complex environments such as overseas politics, economy, law, finance, culture and religion, how to "go global" better, how to better fulfill the overseas social responsibility, how to cultivate a world first-class enterprise with global competitiveness have currently become an important subject to be studied and solved urgently.

Based on strategic thinking, new perspective and practical performance, the Laos Sustainability Report of the Power Construction Corporation of China has made an in-depth and innovative exploration, demonstrating that PowerChina has taken practical actions for responding to public concerns over the overseas social responsibilities of Chinese enterprises, as well as various concerns of all stakeholders at home and abroad.

This is the first sustainability report on Laos publicly released by Power Construction Corporation of China, which is also the third report by country after those on Zambia and on Indonesia. The Report has comprehensively arranged the path of the Company's development in Laos and reviewed its performance of responsibilities bit by bit, hence delivering the Chinese voice of social responsibility overseas, and doing a good job in telling a Chinese story of social responsibilities to the world.

Starting with responsibility focusing on "Endeavor to pursue our dream along the Silk Road", the Report vividly tells about major events concerning responsibilities performed by PowerChina in Laos, showing the leading practices of Chinese enterprises in performance of responsibilities overseas since China has put forward the Belt and Road initiative since September, 2013. With the mainline of corporate core values of Responsibility, Innovation, Integrity, Win-Win and divided in four main-body parts, namely, Building Masterpiece Projects, Boosting Economic Development, Protecting Ecological Environment, and Creating a Better Future, the Report has fully responded to the concerns and expectations of the internal and external stakeholders of PowerChina in full dimensions by taking the topics on technological innovation, compliance operations, energy saving and emission reduction, responsibilities of employees, and responsibilities on public welfare. The Report has cited a great amount of stakeholders' testimonies provided by interviewees, and with true statements by people from all walks of life including government, owners, employees, subcontractors and community residents, the Report has more comprehensively and completely demonstrated the overall view of the performance of responsibilities by PowerChina in its great effort in developing the Laotian market for decades, hence explaining the assumption of responsibilities overseas by central enterprises.

By reading this Report, we can see that PowerChina has attached great importance to the work of overseas social responsibilities. By virtue of innovation in engineering technology and guarantee of project quality, PowerChina has completed various tasks of construction projects on time, built Elaborate Masterpiece Projects, and casted a card of Chinese Speed in Craftsman Spirit. Meanwhile, PowerChina has stuck to performing compliant operations in accordance with law, respected the national beliefs of Laos, and integrated into local culture, hence boosting the development of local economy. It has also paid attention to protection of ecological environment, strictly implemented the measures for energy saving and emission reduction in the process of production, and strived to create green projects in harmony with the environment. PowerChina has also regarded employees as its valuable wealth, fully respected the living habits of employees of different nationalities, and built a broad growth platform for employees in order to promote their career development. In addition, PowerChina has carried out public welfare projects in various forms locally, hence supporting local infrastructure construction, helping local people improve the situation of lack of local educational resources and the backwardness of medical conditions, and contributing to the society diligently. In this way, it has obtained high praise from local government and people of Laos.

In short, with rich content and comprehensive topics on responsibilities, this Report is a work of sincerity, worthy of being deemed as model of social responsibility report for the power construction industry, since the content of responses therein has met the practical demands of stakeholders at home and abroad, built an open platform for the communication between the Company and its stakeholders, and highlighted the company's management model in the Laotian market featuring full employee participation, full coverage and full integration. At present, it is believed that PowerChina will have new achievements during the new journey in this new era. It will continuously integrate the consciousness of social responsibility management into every aspect, and promote sustainable development overseas. With broad international vision, big global foresight, and great China wisdom, it will realize self leap-forward upgrading, hence playing a vanguard and exemplary role and a practically leading role for Chinese enterprises in performing responsibilities overseas, and contributing Chinese energy and strength for the new development of world economy.

钟宏武

Director of the Research Center for Corporate Responsibility of the Chinese Academy of Social Sciences.



## Feedback

This is the first sustainability report on Laos publicly released by Power Construction Corporation of China, which is also the third report by country after those on Zambia and Indonesia. We would like to listen to your comments and suggestions for continuously improving the Company's sustainable development work and constantly developing its capability and level of sustainable development. Please help to answer the questions in the feedback form and give us feedback by the way below.

Telephone: 010-58368986/58368664

Mail: No.22 Chegongzhuang West Road, Haidian District, Beijing.

## Your Information

Name: \_\_\_\_\_ Employer: \_\_\_\_\_  
 Position: \_\_\_\_\_ Telephone: \_\_\_\_\_  
 E-mail: \_\_\_\_\_

## Choice question: Please tick the appropriate option

What is your overall assessment on the Laos Sustainability Report of the Power Construction Corporation of China (hereinafter referred to as the "Report")?

Very Good    Good    Average    Poor    Very Poor

In your opinion, whether may this Report reflect the significant impacts of the Company on the local economy, society and environment of Laos?

Very Good    Good    Average    Poor    Very Poor

In your opinion, are the information, data and indicators disclosed in the Report clear, accurate and complete?

Very Good    Good    Average    Poor    Very Poor

In your opinion, in which topics of social responsibilities has the Company behaved well?

Clients    Economy    Environment    Employees    Public welfare

Which part of the Report are you most satisfied with?

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What information would you like to know more about?

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What are your suggestions on our sustainability reports in the future?

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