



中国三峡南亚投资有限公司  
China Three Gorges South Asia Investment Ltd

# ESG Performance Report 2023



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## MESSAGE FROM BOARD CHAIRMAN CSAIL



Dear Stakeholders,

It is my pleasure to present to you the 2023 CSAIL ESG Report, which showcases our achievements and challenges in the areas of Environmental, Social and Governance (ESG) performance. As a leading investor and developer of renewable energy projects in the region along the One Belt One Road (OBOR) initiative, we are committed to creating long-term value for our shareholders, customers, employees, partners and communities, while minimizing our environmental footprint and maximizing our positive social impact.

In 2023, we made significant progress in advancing our ESG agenda, despite the unprecedented challenges posed by the COVID-19 pandemic. We successfully completed the construction, operation and acquisition of several hydropower, wind and solar power projects in Pakistan, Egypt and Jordan, adding around 1,400 MW of clean energy capacity to the region. We also invested in new technologies and innovations to enhance the efficiency, reliability and resilience of our assets.

We also strengthened our social performance by engaging with our stakeholders, respecting human rights, promoting diversity and inclusion, and supporting local development. We conducted regular consultations and dialogues with the communities affected by our projects, and implemented various social and environmental mitigation measures to address their concerns and expectations. We provided employment opportunities, skills training, education, health care and infrastructure development to more than 100,000 people in our project areas. We also fostered a culture of diversity and inclusion within our organization, with local staff representing 70% of our workforce and 40% of our senior management.

Moreover, we enhanced our governance performance by adhering to the highest standards of ethics, transparency and accountability. We adopted and implemented a comprehensive ESG policy framework, which covers topics such as anti-corruption, human rights, health and safety, environmental management, stakeholder engagement, and disclosure. We also established an ESG committee, which oversees and monitors our ESG performance and strategy. We conducted regular audits and assessments to ensure compliance with our policies and applicable laws and regulations. We also engaged with various ESG rating agencies and platforms, and received positive recognition for our ESG performance.

We are proud of our achievements in 2023, but we also recognize that we have more work to do to achieve our ESG vision and goals. We will continue to pursue excellence in ESG performance, and seek to create shared value for all our stakeholders. We will also align our ESG strategy with the United Nations Sustainable Development Goals, and contribute to the global efforts to combat climate change and promote sustainable development.

We thank you for your continued trust and support, and we invite you to read this report to learn more about our ESG performance and initiatives. We welcome your feedback and suggestions, and we look forward to working with you to create a greener, brighter and better future for the region along the OBOR initiative and the world.

**QIN GUOBIN**  
Chairman CSAIL



## MESSAGE FROM CEO CSAIL



CSAIL is currently investing in the construction of "China-Pakistan Economic Corridor (CPEC)", which is an important part of "One Belt One Road (OBOR)" Initiative of the Government of China. Four (04) of CSAIL's projects are part of CPEC framework of cooperation, which include 720 MW Karot Hydropower Project (already operational since June 2022), 1124 MW Kohala Hydropower Project (under development) and 99 MW Wind Power Projects (operational since June 2018).

Presently, the cumulative capacity of our portfolio of six (06) renewable power projects in Pakistan is over 2,600 MW. These projects include (i) 1124 MW Kohala Hydropower Project in AJK, (ii) 720 MW Karot Hydropower Project in Punjab, (iii) 640 MW Mahl Hydropower Project in AJK, and (iv, v and vi) Three Gorges First, Three Gorges Second and Three Gorges Third Wind Power Projects (each having a power generation capacity of 49.5 MW), in Jhimpir, Sindh.

On Aug 19, 2021, CSAIL, with the guidance of CTG and CTGI, successfully completed the acquisition of Alcazar Energy Partners, marking that Three Gorges Group has expanded its overseas clean energy investment business to the Middle East and North Africa region, laying a solid foundation for further expansion of the Asian and African markets. Alcazar Energy Partners has established seven renewable energy projects, which includes 5 photovoltaic power stations and 2 wind power stations in Egypt and Jordan, with a total installed capacity of 411 MW.

Under the strong leadership and with a professional team of the highest caliber, which is a blend of both local and Chinese professionals, the company is continuously improving its corporate governance structure and has already established the standards of office automation and information systems, which are playing their role in continuous enhancement of its proficiency of operations.

On Jun 8, 2023, Asia Africa Green Energy Investment Ltd (AAGE), a subsidiary of CTGI, successfully completed the equity delivery of the 109 MW Catalyst PV Projects, with one PV Farm located in Egypt and the remaining four farms in Jordan. The projects are being operated by CSAIL and producing around 230 million kWh of clean energy annually.

In line with its vision and strategic development plan, CSAIL is focusing on various new investment opportunities in the region. The company's objective is to diversify and to optimize its generation portfolio across the region.

Concerning the management of occupational health and safety, our primary value, we perfected technical and behavioral programs and training with the goal of preventing all types of accidents related to our industry, showing how much we care about our employees, contractors, communities and assets. In the recent years, CSAIL achieved, across business stream with improved KPI's of safety and sustainability, and a daunting task of Zero Fatalities across the project companies.

We are determined to simplify the way we do things to face a complex business environment, identify priorities, invest in the continuous improvement of our operations and in new ventures, connect all efforts and organize the way we manage our business in an objective and strategic manner, perfecting the relationship with all stakeholders. We are working towards breaking down strategic goals and performance indicators that will help us keep our priorities aligned and monitor our performance in a manner that is far-reaching and balanced.

**WANG MINSHENG**  
CEO CSAIL

# CSAIL's CORPORATE PROFILE

## CSAIL in Brief

China Three Gorges South Asia Investment Ltd (CSAIL) is an investment holding company formed by China Three Gorges Corporation (CTG) and the China Three Gorges International Corporation (CTGI) on September 30, 2011, on the Cayman Islands, to acquire, develop, build, own and operate renewable power generation projects. Its initial registered capital was US\$ 100,000, and its current registered paid-up capital is over US\$ 380 million.

The current portfolio of CSAIL projects in countries along Belt and Road Initiative has a cumulative capacity of over 3,000 MW with an investment of around US\$ 7 Billion. The registered office of CSAIL is located in Hong Kong, Special Administrative Region of China and a branch office of CSAIL is located in Islamabad, Pakistan.

CTG is a state-owned Chinese Power Company and one of the largest power companies in the World, which owns and operates multi-stage hydro, solar and wind power generation projects in China and globally, with the cumulative under construction and installed capacity of over 125 GW and an annual electricity generation of over 340 TWh. CTG also owns 22,500 MW Three Gorges Dam, the World's largest hydroelectric power plant and is currently developing many mega projects in Pakistan and other parts of the World. CTG's international operations cover Africa, Asia, Eurasia and the Americas.

In Pakistan, CSAIL's three (03) Wind Power Projects located at Jhimpir, Sindh i.e. 49.5 MW Three Gorges First Wind Power Project, 49.5 MW Three Gorges Second Wind Power Project, 49.5 MW Three Gorges Third Wind Power Project and its 720 MW Karot Hydropower Project located on Jhelum River in Punjab are already in operation, while its 1124 MW Kohala Hydropower Project located on Jhelum River in AJK is under Financial Close stage and 640 MW Mahl Hydropower Project also located on Jhelum River is under development phase.

With the acquisition of Alcazar Energy Partners in Aug 2021, the following seven operational renewable energy projects located in Egypt (4 Solar PV projects of 256 MW) and Jordan (1 Solar PV project and 2 Wind Farms of 155 MW) having a total installed capacity of 411 MW have been added in CSAIL's portfolio: (i) 64 MW Alcazar Energy Egypt Solar 1 (AEES1), (ii) 64 MW Delta for Renewable Energy, (iii) 64 MW Aten Solar Energy, (iv) 64 MW Horus Solar Energy, (v) 24 MW Ma'an Solar PV project, (vi) 86 MW Al Rajef Wind Farm and (vii) 45 MW Shobak Wind Farm.

Karot Power Company (Pvt) Ltd. ("KPCL"), a subsidiary of CSAIL, has developed 720 MW Karot Hydropower Project with an average annual energy output of 3,206 GWh on a Build, Own, Operate & Transfer (BOOT) basis at Karot Village, District Rawalpindi, Punjab Province, Pakistan. The Project has been listed as a "Prioritized Project" under the China-Pakistan Economic Corridor (CPEC) and also "Key Project" as part of One Belt, One Road initiative.

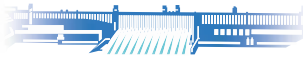
Kohala Hydro Company (Pvt.) Ltd. ("KHCL"), a subsidiary of CSAIL, is developing 1124 MW Kohala Hydropower Project with an expected annual energy generation of 5,149 GWh on a BOOT basis to be located on River Jhelum in Azad Jammu and Kashmir. The Project has been listed as an "Actively Promoted Project" in the CPEC.

Mahl Power Company (Pvt.) Ltd. ("MPCL"), a subsidiary of CSAIL, is developing 640 MW Mahl Hydropower Project on a BOOT basis to be located on River Jhelum on the boundary between AJ&K and Punjab.

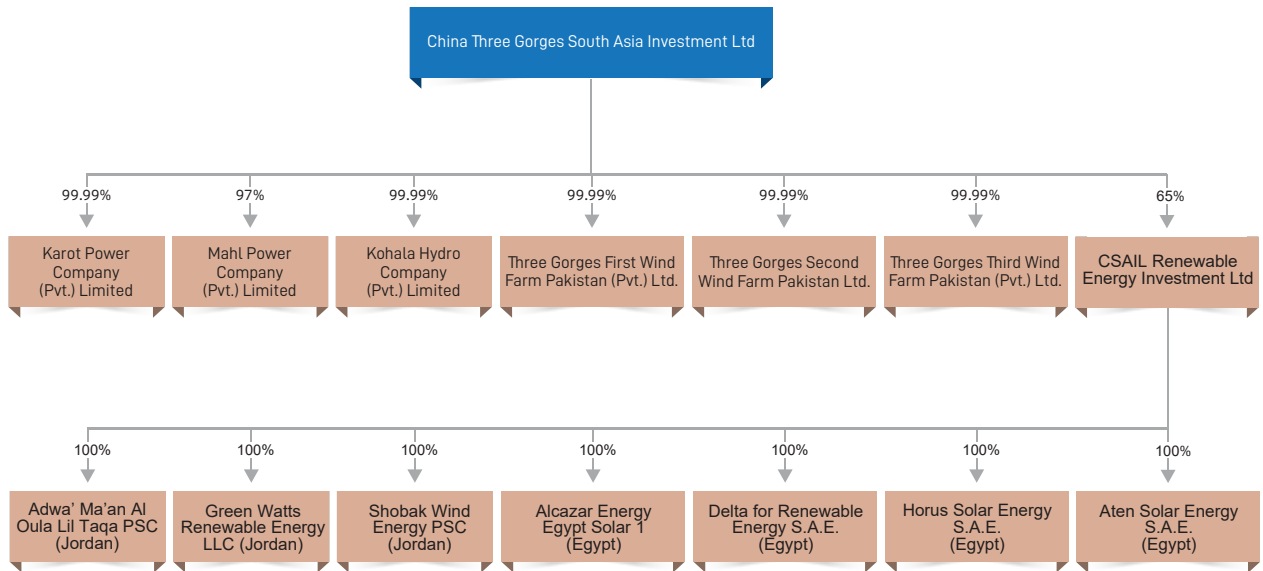
Three Gorges First Wind Farm Pakistan (Pvt.) Ltd. ("TGF"), a subsidiary of CSAIL, has funded and built the 49.5 MW wind power project, which is located in Jhimpir, Sindh. It was the first wind farm project in Pakistan which was completed ahead of schedule, when it was commissioned back in year 2014.

Three Gorges Second Phase Wind Power Projects (2x49.5 MW) have been developed by Three Gorges Second Wind Farm Pakistan Limited ("TGS") and Three Gorges Third Wind Farm Pakistan (Pvt.) Limited ("TGT"), which are subsidiaries of CSAIL. These projects have been developed on a Build, Own & Operate (BOO) basis. These projects are listed as "Actively Promoted Projects" in the CPEC since August, 2014 and achieved successful commissioning in June 2018 and are currently providing reliable electricity to the National Grid of Pakistan.

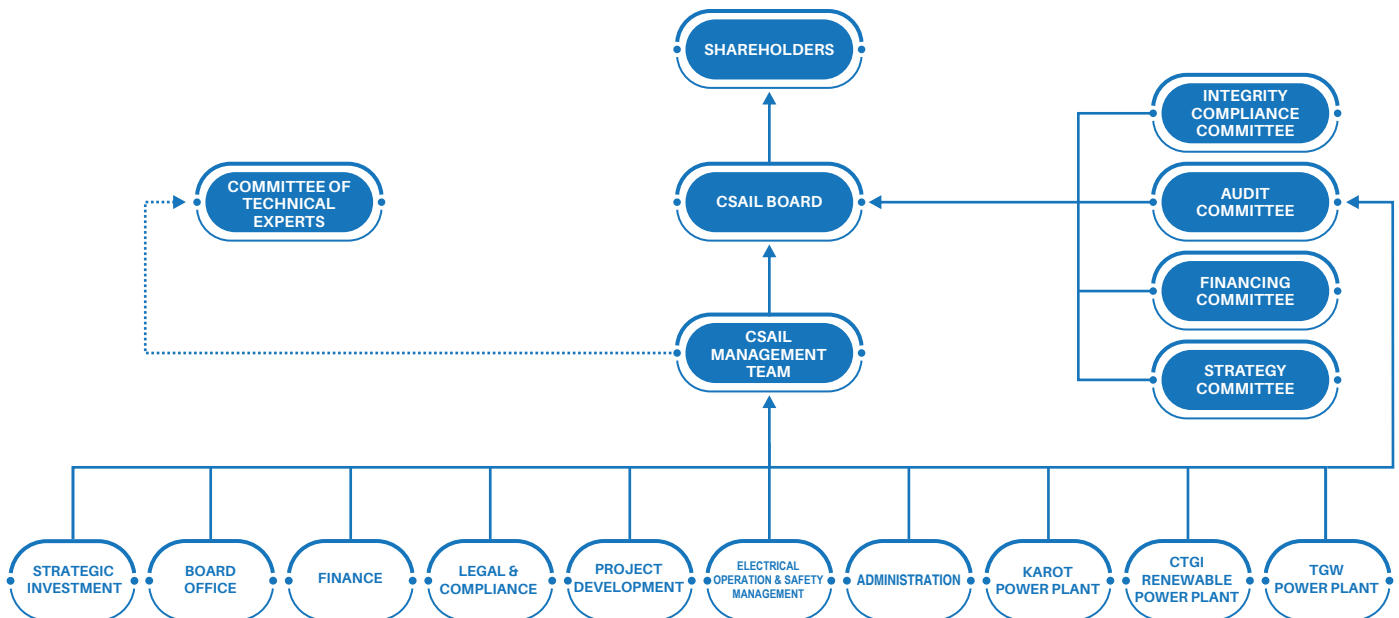
With the acquisition of Catalyst photovoltaic projects in Jun 2023, the following five operational renewable energy projects located in Egypt (1 Solar PV project of 64 MW) and Jordan (4 Solar PV projects of 45 MW) having a total installed capacity of 109 MW have been added in AAGE's portfolio and are currently being operated by CSAIL: (i) 64 MW SPEE Solar Energy, (ii) 23.09 MW Falcon Solar Energy, (iii) 10.08 MW Shamsuna Solar Energy, (iv) 5.46 MW Eagle - Karak Solar Energy, and (v) 5.74 MW Eagle - Irbid Solar Energy Project.



# SHAREHOLDING STRUCTURE



# ORGANIZATION CHART



## BOARD OF DIRECTORS



**Qin Guobin**  
Chairman



**Li Hongcheng**  
Board Director (SRF)



**Khalid Rafi**  
Independent Director



**Yang Baihua**  
Board Director (CTGI)



**Zhang Xinlin**  
Board Director



**Yao Feixiong**  
Board Director



## MANAGEMENT TEAM



**Wang Minsheng**

CEO



**Zhou Qiang**

Deputy Chief Executive Officer



**Wang Yu**

Deputy Chief Executive Officer



**Jiang Xiaoming**

Deputy Chief Financial Officer



**Liu Yonggang**

Assistant Chief Executive Officer



**Yang Jidong**

Assistant Chief Executive Officer



# CORE CONCEPTS

**Statement of Culture**  
We are CSAIL



**Mission**  
Provide clean energy and  
build beautiful  
communities together



**Vision**  
Build an International  
first-class clean energy group





## CSAIL's Spirit

Science and Democracy,  
Seeking Truth and Innovating,  
Solidarity and Cooperation,  
Courageous to Shoulder Responsibility  
Honesty and Contribution,  
Seeking Excellence



## Core Values

Dedication, Responsibility  
Innovation, Harmony



## Business Segments

Investment and Financial Services,  
Power Generation, New Energy

## CORPORATE GOVERNANCE

CSAIL (the "Company") defines Corporate Governance as a set of structures and processes for the direction and control of the Company, involving a set of relationships between the Company's shareholders, the board of directors ("Board") and executives for the purpose of creating long-term shareholder value.

CSAIL's code of Corporate Governance is based on international best practices of good corporate governance principles and CSAIL's Articles of Association in order to foster the confidence of its shareholders, employees, investors and the general public.

### Principles of Corporate Governance of CSAIL

The corporate governance framework of the Company is generally based on the following principles:

#### 01

##### Accountability

The Code establishes CSAIL's accountability to all shareholders and guides the Board in developing strategies, guiding and monitoring the Company's management.

#### 02

##### Fairness

CSAIL obligates itself to protect the rights of shareholders and ensure the equal treatment of all shareholders, including minority shareholders.

#### 03

##### Transparency

CSAIL is to ensure that timely and accurate disclosure is made on all material matters regarding the Company, including the financial situation, performance, ownership and governance structure of the Company, in a manner easily accessible to interested parties.

#### 04

##### Responsibility

CSAIL recognizes the rights of other stakeholders as established by laws and regulations, and encourages co-operation between the Company and stakeholders in creating sustainable and financially sound enterprises.

### Key Corporate Governance Policies & Practices of CSAIL

Following is a summary of CSAIL's key corporate governance policies and practices with respect of

#### 01

##### Board Governance

The Board Charter, the Audit Committee Charter, the Policy of Performance Evaluation of Board and Directors, the Director Remuneration Policy, and the Terms of Reference for Board Secretary.

#### 02

##### Internal Control and Risk Management System

The Internal Audit Policy

#### 03

##### Shareholder Rights & Relations

The Related Party Transaction Policy, and the Dividend Policy

#### 04

##### Transparency & Information Disclosure

The Information Disclosure Policy.



# BOARD GOVERNANCE

The Company is committed to build and maintain an effective, professional, and well-functioning Board of Directors given the important role it plays in ensuring the good corporate governance of the Company

## Board Roles and Responsibilities

The Company is committed to build and maintain an effective, professional, and well-functioning Board of Directors given the important role it plays in ensuring the good corporate governance of the Company.

### 01

#### Full Scope of Authority and Responsibility

The Board's full scope of authority and responsibility is set forth in the Articles of Association and the Board Charter of the Company.

- 1) to review, approve and monitor the long-term strategic objectives of the Company and the business plans of the management;
- 2) to monitor the overall performance of the Company and the progress towards the strategic objectives;
- 3) to assess the major risks faced by the Company and the steps the management has taken to monitor them;
- 4) to oversee the integrity of financial statements, the compliance with legal and regulatory requirements, the performance, qualifications and independence of the external auditor, and the effectiveness of the internal audit function;
- 5) to review and approve major business transactions of the Company;
- 6) to oversee and approve the human resource policies and frameworks of the Company;
- 7) to select and recommend director nominees for elections by shareholders;

### 02

#### Overall Accountability for the Performance

The Board assumes the overall accountability for the performance of the Company.

### 03

#### Creation of Long-term Shareholder Value

The Board is elected by shareholders to oversee and guide the management of the Company to create long-term shareholder value, while taking into account the interests of stakeholders.

### 04

#### Overall Functions

The Board serves the following functions in carrying out its guidance and oversight responsibility:

- 8) to select, develop and evaluate potential candidates for senior executive positions, and oversee the development of succession plan for the senior executives;
- 9) to determine the remuneration program for directors and senior executives;
- 10) to evaluate the overall performance and effectiveness of the Board and its members, and take corrective measures as necessary;
- 11) to oversee the corporate governance framework of the Company, and ensure its compliance with agreed policies and provisions;
- 12) to ensure appropriate shareholder relations are maintained, shareholder rights are protected, and shareholder meetings are conducted in accordance with applicable laws and regulations; and
- 13) to ensure the rights and interests of stakeholders are considered and the Company conducts its business in a socially responsible manner to the extent practical.

## Continuous Improvement of Structure & Management Processes

Based on principles of transparency and the pursuit of the highest standards of governance, CSAIL has improved its structure and management processes. By end November 2023, the company completed an important step to improve these corporate governance processes, with the approval of more than fifty (50) policies. In 2023, CSAIL successfully implemented the SAP ERP system across all its business units. This achievement has enabled the company to streamline its business processes, improve operational efficiency, and enhance collaboration among its various departments. Overall, the group-wide implementation of SAP ERP has been a major milestone for CSAIL Company, positioning it for continued growth and success in the years to come.



# CORPORATE CULTURE





## Grow with CSAIL

CSAIL always believe that the Company grows with the visionary power and hard work of its employees, and when the Company grows the employee grows with it. This is the reason CSAIL gives opportunities to every employee to grow.



On Feb 6, 2023, CSAIL and K-Electric signed a memorandum of understanding (MoU) to collaborate on exploring renewable energy including hydro projects across the country, including Azad Jammu and Kashmir.



## CORPORATE CULTURE



Celebration of Chinese New Year 2023 at Karot Hydropower project Office



CEO CSAI addressing the ceremony for the launch of Ba 'Tie Girl Movie ceremony at PNCA, Islamabad on Aug 3, 2023



## CORPORATE CULTURE



On Feb 17, 2023, the First CSAIL Annual Conference was held at the site of 720 MW Karot Hydropower Project



CSAIL celebrated "World Environment Day 2023" on Jun 5, 2023 with the theme of "Beat Plastic Pollution"



## CORPORATE AWARDS



CEO CSAIL received awards for two of CSAIL companies i.e., Karot Power Company (Pvt) Ltd. (KPCL) and China Three Gorges Second Wind Farm Pakistan Limited (TGS) , from the Honorable Prime Minister of Pakistan in Aug 2023



NFEH CSR Awards Achievement during 2023 for the Green Energy Initiative & the Government Initiatives & Distributions



## Integrity Compliance

CSAIL makes serious commitment to enhancing corporate governance on par with highest ethical standards and taking our business to next level. We launch integrity compliance program across CSAIL group of companies. Integrity compliance is an on-going process and we build the integrity culture into our business. We are obliged to conduct business in an ethical and professional manner.

Of paramount importance, we care about the disciplined attitude, approach, system and procedure we must have to sustain business and meet stakeholders' expectation. A number of key aspects of integrity framework has come into play.

### Integrity Policies:

Seven integrity-related policies are put in place to cover:

1. Integrity Compliance Principles
2. Code of Ethics and Business Conduct for Members of the Board and Executive Officers
3. Code of Business Conduct
4. Integrity Compliance Risk Assessment Manual
5. Employees Screening Program
6. Third Party Integrity Compliance Due Diligence
7. Whistleblowing, Investigation, Reporting and Remediation Program

## Integrity Principles

CSAIL's basic integrity principles are the cornerstones of our long-term business strategy and include the following:

- Conduct business with honesty and integrity and in accordance with applicable laws, regulations and internal rules.
- Perform one's duty with care and diligence to maximize the interests of CSAIL and its shareholders.
- Honour contracts, agreements, and assigned responsibilities, and treat shareholders, clients and other interested parties with honesty and fairness to maintain the sustainable development of CSAIL.
- Maintain confidentiality of the CSAIL's non-public information, and do not disclose non-public information unless authorized by CSAIL or required by law.
- Avoid real or apparent conflict between one's personal interests and the interests of CSAIL. Proactively disclose all potential conflicts and the actions to mitigate them.
- All employees have the right and obligation to report any misconduct, but shall not fabricate facts or purposely make false accusations.
- Protect whistle blowers from any form of retaliation.

## Formation of Integrity Compliance Committee

The Integrity Compliance Committee has been formed, comprising independent director and non-executive directors.

### Misconduct and Whistleblowing Mechanism

Misconduct ranging from bribery, fraud, collusion, coercion, embezzlement, unfair competition, conflict of interests to breach of laws and regulations is entirely unacceptable and must be avoided.

Any complaints against misconduct could be referred to the whistleblowing channel below. All complaints will be handled on a strictly confidential and non-retaliation basis.

**By Phone:**

**Hong Kong Hotline** : +852 5969 9366,

**Pakistan Hotline** : +92 310 593 5479

**By E-mail** : [whistleblow@ctgsail.com](mailto:whistleblow@ctgsail.com)

**By Post**

: Room 3401, 34/F, Cosco Tower, 183 Queen's Road Central, Sheung Wan, Hong Kong

**Attention**

: Chief Compliance Officer

### Whistle-Blowing Form

To ensure, amongst other, standardization of the process and substantiation of facts of the complaint, a standard whistle-blowing form has been developed and approved by the Integrity Compliance Committee, which can be downloaded from CSAIL Website ([www.ctgsail.com](http://www.ctgsail.com)).

## BUSINESS DEVELOPMENT

### CSAIL Projects in Pakistan

CSAIL is currently operating and developing 6 projects in Pakistan including three hydel projects i.e., 720 MW Karot Hydropower Project, 1124 MW Kohala Hydropower Project, 640 MW Mahl Hydropower Project and three Wind Farm Projects [Three Gorges First (TGF), Three Gorges Second (TGS) and Three Gorges Third (TGT)], with total installed capacity of over 2,600 MW and having a cumulative investment of more than US\$ 6 billion.

All these projects are on fast track for implementation, and 4 of them are under China Pakistan Economic Corridor (CPEC) framework. TGF has been in operation since November 2014. Karot, one of the prioritized project under CPEC, achieved financial close in February, 2017 and started construction; Three Gorges Second and Third Wind Farm Projects are actively promoted projects under CEPC and achieved COD in June 2018. Kohala and Mahl are in development stage, achieving financial close and finalizing feasibility stage tariff respectively.

#### 1124 MW KOHALA HPP



#### 99 MW TGS & TGT WPP



ARABIAN SEA





Following table illustrates the CSAIL'S current portfolio of power projects in Pakistan:

Project Name	Capacity (MW)	Project Cost (US\$ Million)	Targeted Completion	Stage
TGF	49.5	130	Achieved	Commissioned
TGS & TGT	99	224	Achieved	Commissioned
Karot HPP	720	1,740	Achieved	Commissioned
Kohala HPP	1,124	2,700	2031	Under Financial Closing
Mahl HPP	640	1,478	2032	Under Tariff Review
<b>TOTAL</b>	<b>2,632.5</b>	<b>6,272</b>		





Panoramic View of 720MW Karot Hydropower Project, Pakistan



Panoramic View of Three Gorges Wind Farm Projects and Office Complex



# Projects in MENA Region

## Introduction

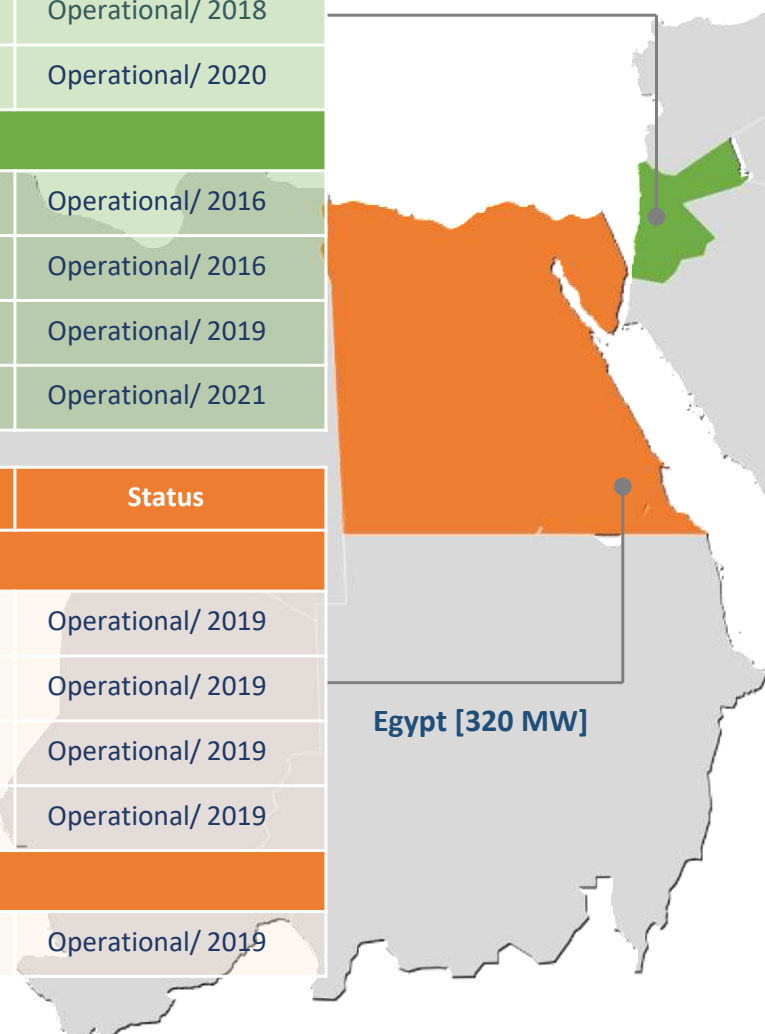
CSAIL Renewable Energy Investment Ltd (CREIL) is one of the subsidiaries of CSAIL under the umbrella of China Three Gorges International Corporation (CTGI). On 19th August 2021, CSAIL successfully acquired Alcazar Energy Partners' 7 renewable energy projects, which includes 5 Solar power projects and 2 wind power projects in Egypt and Jordan, with a total installed capacity of 411 MW. On June 8, 2023, Asia-Africa Green Energy Investment Ltd (AAGE), a subsidiary of CTGI, acquired five (05) Catalyst photovoltaic projects in Egypt and Jordan, the total installed capacity of which is 109 MW, and all of which are photovoltaic power plants in operation. Currently, CSAIL is operating all of these twelve (12) wind and solar power projects having a total capacity of around 520 MW and the details of these projects are as follows:

Project	Capacity(MWp)	Technology	Status
<b>CSAIL Projects</b>			
Maan	24	Solar PV	Operational/ 2016
Al Rajef	86.1	Wind	Operational/ 2018
Shobak	44.85	Wind	Operational/ 2020
<b>AAGE Projects</b>			
Falcon	23.096	Solar PV	Operational/ 2016
Shamsuna	10.08	Solar PV	Operational/ 2016
Eagle - Karak	5.458	Solar PV	Operational/ 2019
Eagle - Irbid	5.742	Solar PV	Operational/ 2021

Project	Capacity(MWp)	Technology	Status
<b>CSAIL Projects</b>			
CTGIS1	64	Solar PV	Operational/ 2019
DELTA	64	Solar PV	Operational/ 2019
ATEN	64	Solar PV	Operational/ 2019
HORUS	64	Solar PV	Operational/ 2019
<b>AAGE Project</b>			
SPEE	64	Solar PV	Operational/ 2019

**Jordan [200 MW]**

**Egypt [320 MW]**







Panoramic View of AEES1 Project



Panoramic View of Delta for Renewable Energy S.A.E. Project



Panoramic View of Aten and Horus Solar Energy S.A.E. Projects





Panoramic View of Ma'an Solar PV Project



Panoramic View of Al Rajef Wind Farm



Panoramic View of Shobak Wind Farm



# ESG PERFORMANCE

## Health, Safety, Social and Environment (HSSE)

HSSE are key priorities for China Three Gorges and its subsidiaries. CSAIL take responsibility, set requirements, and monitor HSSE performance in the development, construction and operations phases of projects. We define and communicate our standards to our employees and subcontractors.

### Key risks:

- Traffic safety
- Labor and working conditions (own and subcontractor workers)
- Contractor safety and monitoring
- Security and emergency preparedness
- Biodiversity Management & Monitoring
- Hazardous/Non Hazardous Waste Management

### Key opportunities:

- Training and awareness
- Open reporting culture
- Lessons learned
- Technological developments

We continuously work for zero harm to personnel, assets and the environment. All our business activities are conducted in accordance with applicable labor standards and fundamental human rights norms as prescribed by the IFC PS2, International Labor Organization (ILO) and the host countries regulations.

CTG/CSAIL is committed to maintaining a comprehensive, effective, and consistent HSSE management system across all projects. Our HSSE performance and objectives are monitored and evaluated in internal and external audits and annual management reviews.

CSAIL is certified to ISO 9001, 45001 and 14001, confirming our alignment to industry best practice.

## Stakeholder Engagement

Regular engagement with internal and external stakeholders to understand what types of topics and issues concern them is key to determining our sustainability priorities.

CSAIL key stakeholder groups include financing partners, shareholders, employees, suppliers, contractors, governments and regulators, and local communities.

Stakeholder expectations are mapped through meetings, and in dialogue with our local stakeholders. We also receive stakeholder feedback at the corporate level through dialogues with regulators and financiers. We assess identified topics for the significance of their environmental, social, safety and economic impacts.

## Grievances

In 2023, the total number of grievances received from community and workers from CSAIL operating projects amounted to 117, of which 104 were resolved and 13 were open as of the date of publication of this report.

100% 

employees and contractors covered by our Occupational Health and Safety Management System



Monthly, Quarterly & Annually reports to Stakeholders.



89% grievances resolved





## Diversity and gender equality



We acknowledge that people are our most important asset, and we strive to create an environment that fosters excellence, promotes our values and encourages diversity.

### Key risks:

- Talent recruitment and retention
- Ensuring sustainable growth
- Work-life balance

### Key opportunities:

- Diverse workforce
- Green and sustainable company
- Human capital development
- Leadership development

Diversity, equity, inclusion and belonging are key business imperatives for CSAIL. We embrace these aspects in our practices, policies and procedures, including hiring processes, performance and rewards, learning and development programmes and initiatives.

## Safety Examination of Staff

A safety examination was conducted for staff members. The examination aimed to assess their knowledge and understanding of safety protocols and practices. The results of the examination were used to identify any gaps in safety knowledge and provide necessary training and support.



On Jun 16, 2023, a safety examination was conducted for O&M staff members at Karot Project site.

## Resource use Efficiency



Renewable power projects require large amounts of resources to be built. With power purchase agreements (PPAs) lasting up to 30 years, projects must be designed and operated with consideration to long-term performance and eventual decommissioning.

### Key risks:

- End-of-life disposal of components and site restoration costs
- Solid & Liquid Waste management
- Impacts of resource extraction

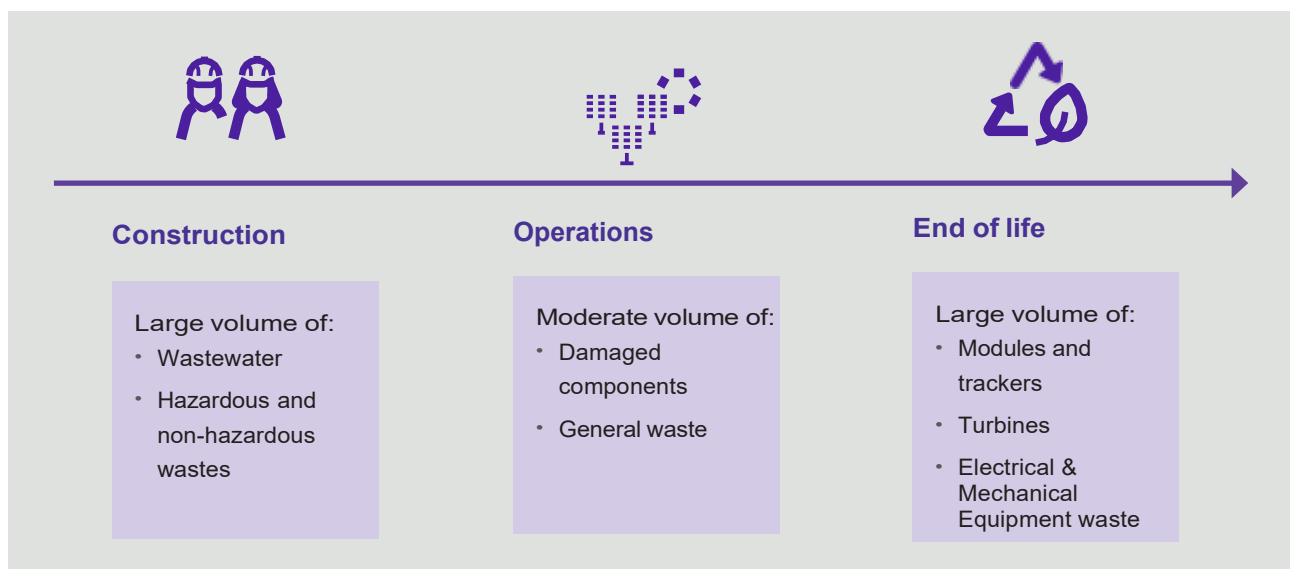
### Key opportunities:

- Lifetime extension through repowering and revamping
- Resource efficiency and reduced O&M
- Recycling of main components

CSAIL and its subsidiaries are committed to being a responsible business by considering our projects' long-term performance and end-of-life decommissioning, aiming to minimize potential negative impacts upon society and the environment, as well as maximize economic value. In this regard, we have mapped key solid and liquid waste streams and developed waste management plans (hazardous & non-hazardous waste management) across our operational projects.

We reviewed and updated our site waste management plans to better integrate lifecycle requirements and improve waste management procedures. Our key waste streams are presented below aligned to the phase of a typical project.

## Key Waste Streams



Wind turbine blades currently have low recycling rates globally due to challenges of material recovery from composites, though the industry has ambitious targets on increasing recycling rates in the coming years.

We will continue working to identify options for safe and environmentally sound disposal of damaged components to ensure each project has a suitable solution in place.



## Valuing Water Resources



Water is an important aspect of our environmental management. We optimize usage of water during construction and operations and avoid impacting natural aquifers.

### Key risks:

- Water availability and management during construction and operation Phases
- Climate change impact
- Flow management during operation of Hydel projects

### Key opportunities:

- Technology enabling efficiency improvements.
- Reporting and monitoring

Water conservation awareness, minimizing water use for dust suppression by maintaining road conditions and monthly monitoring to identify causes of abnormal volumes are among the management considerations implemented at all projects. Efficiency is sought by avoiding unnecessary washing cycles and using effective washing methods like spraying. The source of water in projects is surface water, municipal water, and outsourced water for drinking purposes.

Water use varies greatly between our solar projects due to differences in plant design, regulatory that dictates the frequency of cleaning that is required. This limits how much we can reduce water consumption, but we strive to optimize usage across our projects.

Substantial amounts of water flow through our hydro- power investments. CSAIL hydropower companies do not have operational control over hydel projects, though we have reviewed water basin and flow management practices to ensure alignment with the requirements of environmental flow as per approved ESIA study of the project. Plant operators follow the requirements which are set to ensure minimal ecological flows, balance water availability with flow and to avoid overfilling reservoirs.

Changing seasonal water availability and maximum flow are potential impacts of climate change on the hydro- power projects which will be the focus of the CSAIL hydropower companies.





## Biodiversity



The development and construction of renewable energy projects may include environmental impacts such as the degradation of habitats, reduction of resource availability and transformation of habitats, which can affect biodiversity. CSAIL works to implement mitigation measures to minimize impacts and restore biodiversity.

### Key risks:

- Land use change and habitat loss
- Deforestation
- Endangered species impacts
- Indirect impacts

### Key opportunities:

- Habitat creation during operations
- Habitat restoration at end of life

Biodiversity considerations are part of CSAIL's environmental and social due diligence and baseline studies in order to identify and mitigate negative impacts during project development. If impacts cannot be mitigated, we create biodiversity offsets to compensate for major impacts on fauna and flora caused by projects to ensure no net loss and, where possible, a net gain in endangered species.

Biodiversity Management Plans for avifaunal and aquatic monitoring have been prepared and being implemented for wind power and hydel power plant respectively to restore biodiversity in the area.

IUCN Pakistan as an Implementation Organization of Karot Biodiversity Management Plan (BMP) has mandated to conserve & protect local biodiversity by controlling illegal fishing, poaching, logging and sand mining with the involvement of local communities, schools' teachers, students, government line departments, local NGOs/CSOs and district administration.

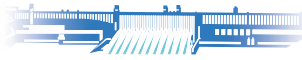
Restocking/Release of 300,000 Mahseer Fingerlings in KAROT waters is one of the milestones to be achieved during the project period. As first step, the 1st release of 5000 Endangered Mahseer Fish stock in Jehlum river downstream of the Karot dam have been ensured during the year as part of restoration and creation of rich ecosystem.

During Avifaunal monitoring at wind power plant in MENA region, no bird collision incident took place during the year at wind power plants. Effective shut down cases were performed without insignificant power losses throughout the year.



Restocking / Release of 5,000 Endangered Mahseer Fingerlings in KAROT waters (Jhelum River)





# SAFETY & SUSTAINABILITY - PAKISTAN PROJECTS

 **95%**

Safety Improvement by implementing , training & inspection plan and timely identificaton of hazards and their rectification, resulting in zero LTI



**1.31 M+**

Tons of CO<sub>2</sub> Emissions Avoided\*

**zero Fatalities**

KPI's M&E with stringent commitment reduced chances of Serious Accidents



**100 +**

Safety & Environment Trainings Conducted



**1000 +**

Safety & Environment Champions Trained



**0 Accidents**

No safety Accidents

# SAFETY & SUSTAINABILITY - JORDAN PROJECTS



**One Million Incident-Free Man Hours achieved in MENA Projects**



**0.15 M+**

Tons of CO<sub>2</sub> Emissions Avoided\*

**zero Fatalities**

KPI's M&E with stringent commitment reduced chances of Serious Accidents



**600 +**

Safety & Environment Champions Trained



**500+**

Safety & Environment Trainings Conducted



**0 Accidents**

No safety Accidents

# SAFETY & SUSTAINABILITY - EGYPT PROJECTS



**One Million Incident-Free Man Hours achieved in MENA Projects**



**0.19\* M+**

Tons of CO<sub>2</sub> Emissions Avoided\*

**zero Fatalities**

KPI's M&E with stringent commitment reduced chances of Serious Accidents



**3197 +**

Safety & Environment Champions Trained



**600+**

Safety & Environment Trainings Conducted



**0 Accidents**

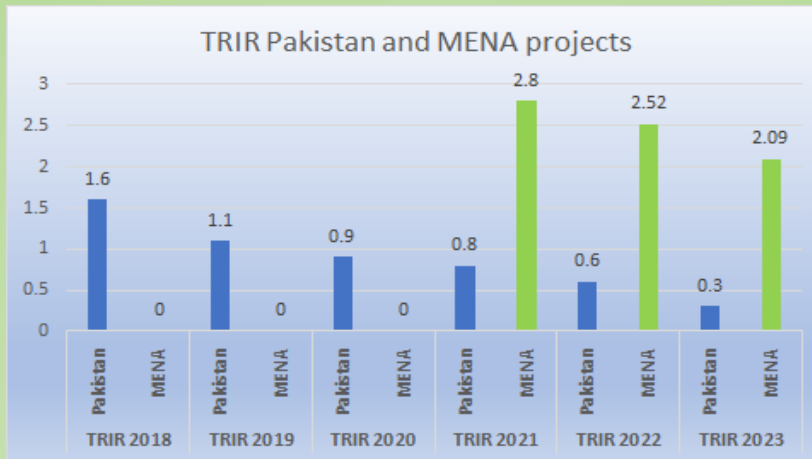
No safety Accidents

\*Note: CO<sub>2</sub> calculations are based on IEA 2022 Emissions Factor and are calculated from Jan 2023 till Oct 2023.



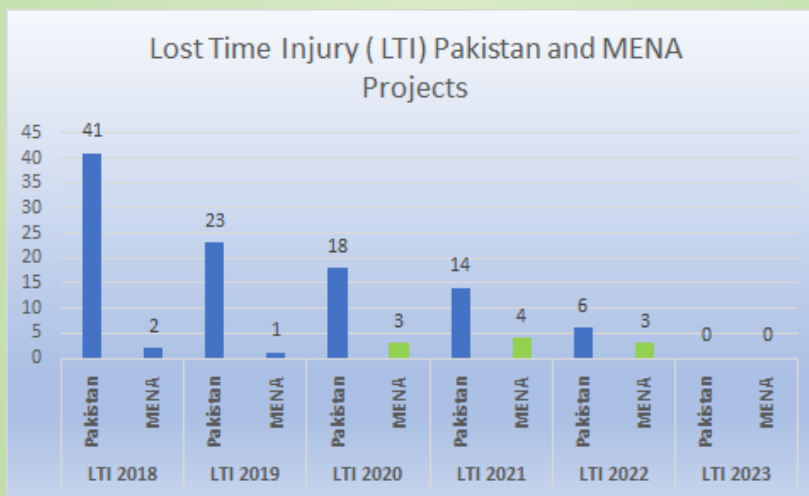
## Our Culture of Safety

Our safety performance has increased with improvements in comparison to previous years. Total Recordable Incident Rate (TRIR) reduced to 0.3 in 2023 as compared to previous years which was 1.6 in 2018 which shows CSAIL's commitments towards safety improvement in its all projects.



Guided by CSAIL, Project Companies presented an increased focus on raising capacity building of staff and workers by implementation of training and inspection plan, internal & external training, mock drills.

More importantly, CSAIL continued to demonstrate safety excellence without serious accidents by achieving Zero LTI through out CSAIL projects in in Pakistan and MENA in 2023 as compared to past performance.



Further examples of our culture of caring for our employee's over the past years included strategic involvement of CSAIL E&S Staff in restructuring systems at project companies' level and improving the risk management practices while improving capacities of Project Companies E&S Staff Members. Moreover, safety liability letter signed by each employee to ensure that safety is everyone responsibility.

Moreover, regular management walk through the project sites has enhanced the importance of safety culture and safety first among the employees and workers.



Karot project site inspection by the management



## BRINGING SUSTAINABILITY

### Monitoring & Evaluation

CSAIL enhanced overall Safeguards performance of project companies by improved engagement via monthly monitoring and quarterly evaluations. Additionally, the launch of Award schemes at Project Companies and supply chain for recognizing and rewarding individuals for their contribution towards sustainability approaches and actions.

### Corporate Safe & Environment Care

CSAIL emphasized on the overall improvement of corporate structure by raising awareness through constant engagement of staff and members across CSAIL and Project Companies on the issues of sustainability, biodiversity, Safety and Environment.

### Zero Fatalities

CSAIL achieved across business stream with improved KPI's of safety and sustainability a daunting task of Zero Fatalities across the project companies. CSAIL is committed to ensure its continuous improvement in future. Severe accidents fatal to life were reduced to Zero while achieving 30+ Million hours.

### Strengthening of On-site Safety

CSAIL and its subsidiaries have ensured on site safety by performing special safety month inspection, monthly inspections, quarterly inspections and doing timely rectification of the identified hazards.

### Accident / Incident Management, Reporting & Investigation

**Proactive Actions:** inspections, hazard identification, audit, training, control of work.

**Reactive Actions:** Immediate post-accident actions include control of damage, reporting, insurance, incident investigation, root causes, corrective actions and lesson learnt.

### Emergency Preparedness Response Plan (EPRP), Drill & Training

Develop EPRP, conduct emergency evacuation drills, firefighting drills, flood preparedness drills. Conduct safety internal and external trainings based on yearly approved training plan.

### Carbon Emissions Avoided



CSAIL clean renewable projects avoided approx. 1.65 million tons CO<sub>2</sub> emission into atmosphere in the year 2023 till end of Oct.

### Integrated ISO Management System



Quality management



Environmental management



Occupational health and safety management

Our improvement and revisions in HSE Management system (HSSEMS) and aligning it with CTGI as a strategic decision to move CSAIL and Project Companies towards generating a more positive impact in future by the portfolio of projects.

Guided by the IFC and CTGI guidelines and standards CSAIL is certified to ISO 9001, 45001 and 14001 conforming our alignment to industry best practices.

### Revegetation & Plantation to meet Global Climate Change Impact

Conducted plantation green schemes across projects to reduce carbon footprints and celebrated World environment days to present our

commitment to Sustainable Development Goals (SDGs) and commitments of projects.

## Some Glimpses of Safety related culture at CSAIL

Safety Inspection during IFC Monitoring Visit to Karot Power Plant



Safety Inspection at the site of Karot HPP



HSE Audit in MENA Projects



Organized emergency drills (evacuation, fire, and electrical shock) across Jordan



Safety inspection of TGW Projects in Pakistan



Safety inspection of MENA Projects







## Some Glimpses of Environment Management Practices



Revegetation and plantation at Karot HPP

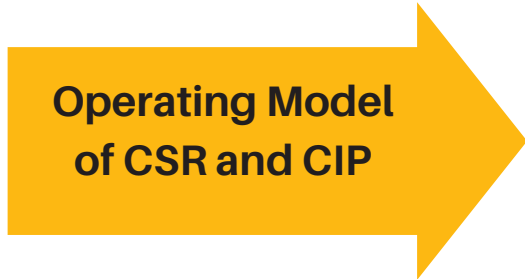


Erosion control practice and slope protection at Karot HPP

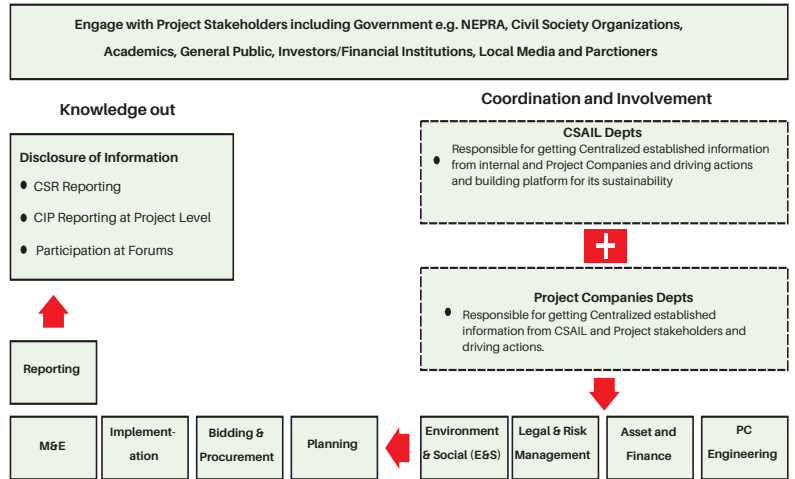


# CIP and CSR CULTURE & SUSTAINABILITY

In order to implement its CSR in its areas of operation, CSAIL ensures compliance with four basic principles of philanthropic, ethical, legal, and economic responsibilities, while focusing on the core areas such as Community Livelihood, Infrastructure, Health & Recreation, and Education & Capacity Building.



## HSE (Health & Safety Dept. CSAIL)



## CSR as Strategic Choice

CSAIL strategize CSR & CIP into organizational goals for improving the overall sustainability of firm



## Area of Focus for Sustainable Development

CSAIL enhanced overall Safeguards performance of project companies by focusing on core priority areas such as livelihood, education, capacity building, and infrastructure while embedding the priorities in Plan, Policies, and operations.







# Contribution Under CSR and CIP



Contributing to the CSR and Community Investment is the United Nations Global Compact, a voluntary strategic policy initiative for businesses committing them to deliver on the 10 universally accepted principles. By now CSAIL has achieved various milestones of implementing various CSR and CIP projects, wherein effective and efficient CSR & CIP strategies were adopted benefiting the communities and all relevant stakeholders of the projects.

## PAKISTAN PROJECTS

Under the CIP implementation of Karot HPP, following various projects have been completed and handed over to local line authorities.

1. Improvement in educational facilities
2. Improvement in health facilities
3. Provision of recreational facilities
4. Provision of drinking water supply
5. Improvement in access roads and bridges
6. Disaster relief program

### Glimpses of Some Completed Karot HPP CIP Projects in 2023



Newly Constructed Rest house in Hollar village, AJK



Newly Constructed building of Boys Inter College Azad Pattan, AJK



Newly Constructed Access Road in AJK



Newly Renovated Kahuta Club

Following future CSR projects have been identified in Pakistan. These include;

1. Construction of Road at Punjab Side, in Brohi village to provide road access to villagers
2. Construction of Road at AJK Site to provide access to the villagers



## MENA PROJECTS

Under Benban Solar Park Development Association (BSDA), an association formulated on behalf of Beban solar park developers is working on CSR activities, CTGIR participated in some CSR related events organized by BSDA within the local community as highlighted below:



Participated in the opening event of the dialysis center in Benban Qebly Hospital at local community village.

Based on our role as CTGI Renewable Energy Projects towards Corporate Social Responsibility (CSR) and community support, CTGIR contributed with the Benban Solar Energy Developers Association (BSDA) to an initiative to plant 2,000 fruit trees in the villages of Benban.

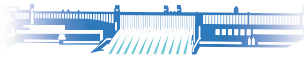
The CSAIL team planted trees in the Benban Hospital and on the walls of the Benban Solar Park.



Participated in the initiative of planting 2000 fruit trees in Benban villages

Following future CSR projects have been identified in MENA region. These include;

1. Improvement in educational Institute Infrastructure within the vicinity of project area in Egypt covering provision of various equipment.
2. Improvement in Health facilities within the vicinity of the project area in Egypt and Jordan by providing different types of hospital equipment.
3. Orphan support in Al Rajef project area in Jordan by providing cash payment to orphans living in the project area.
4. University Scholarship program among the deserving students from the local community of the project area in Jordan.



## MAJOR STRATEGIC PARTNERS

### CSAIL'S Shareholders



China Three Gorges International Corporation (CTGI), a subsidiary of CTG, is a platform for CTG to implement the Belt and Road Initiative and accelerate the "going global" process of the hydropower and new energy sector in China for its international operations.



The International Finance Corporation (IFC) is an international financial institution that offers investment, advisory, and asset management services to encourage private sector development in developing countries. The IFC is a member of the World Bank Group and is headquartered in Washington, D.C., United States. It was established in 1956 as the private sector arm of the World Bank Group to advance economic development by investing in strictly for-profit and commercial projects that purport to reduce poverty and promote development.



The Silk Road Fund is a state owned investment fund of the Chinese government to foster increased investment in countries along the One Belt, One Road, an economic development initiative primarily covering Eurasia. The Chinese government pledged US\$40 billion for the creation of the investment fund established on December 29, 2014.

### Leaders / Financiers



CDB is the world's largest development finance institution, and the largest Chinese bank for foreign investment and financing cooperation, long-term lending and bond issuance. It ranked 87th on the Fortune Global 500 list in 2015.



The Export-Import Bank of China is a state-funded and state-owned policy bank with the status of an independent legal entity. It is a bank directly under the leadership of the State Council and dedicated to supporting China's foreign trade, investment and international economic cooperation. With the Chinese government's credit support, the Bank plays a crucial role in promoting steady economic growth and structural adjustment, supporting foreign trade, and implementing the "going global" strategy.



HBL was the first commercial bank to be established in Pakistan in 1947. Over the years, HBL has grown its branch network and maintained its position as the largest private sector bank in Pakistan with over 1,700 branches and 2,000 ATMs globally and a customer base exceeding ten million relationships.

## Departments & Entities of GoP & local Governments



NEPRA is the power sector regulator, which approves licenses and determines tariffs of the entire public electricity chain. NEPRA's main responsibilities are to (i) issue licenses for generation, transmission and distribution of electric power, (ii) establish and enforce Standards to ensure quality and safety of operation and supply of electric power to consumers; (iii) approve investment and power acquisition programs of the utility companies; and (iv) determine Tariffs for generation, transmission and distribution of electric power.



The Government of Pakistan is represented by the Private Power & Infrastructure Board (PPIB) for private sector investors interested in development of Power Projects based on Hydel, Oil, Gas and Coal and related infrastructure. PPIB was established in 1994 and provides a One-Window facility to private sector investors in matters concerning establishing power projects and related infrastructure.



The Government of Pakistan has established the China Pakistan Economic Corridor (CPEC) Authority under CPEC Authority Act 2020. The CPEC Authority is working towards accelerating the pace of CPEC related activities, finding new drivers of growth, unlocking the potential of interlinked production network and global value chains through regional and global connectivity.



Alternative Energy Development Board (AEDB) was established in 2003 to facilitate and encourage development of Renewable Energy in Pakistan and with a mission to introduce Alternative and Renewable Energies at an accelerated rate.



CSAIL's Kohala and Mahl Projects are located in Azad Jammu & Kashmir. The Government of the Azad Jammu & Kashmir is represented by the AJK Private Power Cell and is co-signatory to the AJK IA and signatory to the Water Use Agreement which provides package of concessions available to hydropower projects of CSAIL in AJK for their smooth functioning in AJK.



In the light of Council of Common Interest (CCI) decision issued under Article 157(3) of the Constitution of the Islamic Republic of Pakistan, the Provincial Governments have been authorized to undertake activities for setting up and operation of Power Projects of more than 50 MW capacity for the Power Sector Development. Government of the Punjab (GoPb) has setup the Punjab Power Development Board (PPDB) in 1995 and framed its own Power Generation Policy in 2006 as revised in 2009 and subsequent amendments thereto, for facilitation in development of power generation projects, through one window facility.



The Government of KPK earlier established "Small Hydel Development Organization" with the objective to (i) identify and develop hydel potential upto 5MW, (ii) construct small hydel stations for isolated load centers and (iii) operate and maintain off grid small hydel stations. In 1993, it was converted to an autonomous body under the 1993 Act and renamed as "Sarhad Hydel Development Organization (SHYDO)". In 2014, the name of organization was changed to "Pakhtunkhwa Energy Development Organization (PEDO)" through passage of PEDO Act 2014.





## Power Purchaser - CPPA-G & NTDC



Central Power Purchasing Agency Guarantee Limited (CPPA), a Company created by the Government of Pakistan, is a non-profit independent company established under the Companies Ordinance, 1984 and solely responsible for implementing and administering the “Single Buyer Plus” market mechanism (ultimately leading to competitive market operations). The Company will be entering into the Power Purchase Agreement with CPPA-G after finalizing all Project Cost and finalization and approval of Tariff by NEPRA.



National Transmission & Despatch Company (NTDC) was incorporated on 6th November, 1998 and commenced commercial operation on 24th December, 1998. It was organized to take over all the properties, rights and assets obligations and liabilities of 220 KV and 500 KV Grid Stations and Transmission Lines/Network owned by Pakistan Water and Power Development Authority (WAPDA). NTDC operates and maintains fourteen 500 KV and thirty eight 220 KV Grid Stations, 5110.48 km of 500 KV transmission line and 9686.32 km of 220 KV transmission line in Pakistan.

## Owner’s & Lender’s Engineers



LI is a leading international engineering company. It offers a broad range of planning and consultancy services. Their services relate primarily to complex infrastructure projects in the energy, hydropower and water resources sectors.



Changjiang Institute of Survey, Planning, Design and Research (CISPDR) is a stated-owned high-tech enterprise and an international contractor certified by the Ministry of Commerce of China, mainly engaged in engineering survey, planning, design, scientific research, consulting, construction supervision, construction management and EPC contracting for projects in China and abroad.



MM is a global, employee-owned management, engineering and development consultancy delivering innovation saving its clients money and time.



SMEC is a multidisciplinary and professional services engineering company that delivers outstanding physical and social infrastructure services to clients and communities around the world.

## OEM, EPC & O&M Contracts



Goldwind is a Chinese wind turbine manufacturer headquartered in Beijing, China. Goldwind was the largest wind turbine manufacturer globally (by installations) in 2015. As of 2016, it was ranked 3rd for onshore and also 3rd for offshore turbine manufacturing by Bloomberg New Energy Finance.



TGDC is a subsidiary of CTG, which is responsible for development of technology and economy of CTG group and is also EPC Contractor for various hydropower projects.



China Three Gorges Projects Development Co., Ltd. (CTGPC) is a wholly owned subsidiary of CTG, which is responsible for project investment, construction, management and consulting of large and medium-sized hydropower project, pumped storage power station, water conservancy projects and public infrastructure projects.



CTGO is a wholly owned subsidiary of CTG, which is responsible for operation and maintenance of projects.



CMEC is a construction and engineering company, forming one part of the China National Machinery Industry Corporation (Sinomach) group of companies. Specialization of CMEC is in construction of power projects in generation, transmission, and distribution.



SIDRI, affiliated to CTG and founded in November 1954, is an A-grade institute with productive technical force, advanced technical equipment and reliable quality products completed.



SUMEC, established in 1978, is a key member of China National Machinery Industry Corporation (SINOMACH), a world top-500 enterprise. Growing up in the process of reform and opening-up of China and global economic integration and through over 30 years of development, SUMEC has become a modern manufacturing service group focusing on three fields of trade and service, engineering contracting, and investment and development.

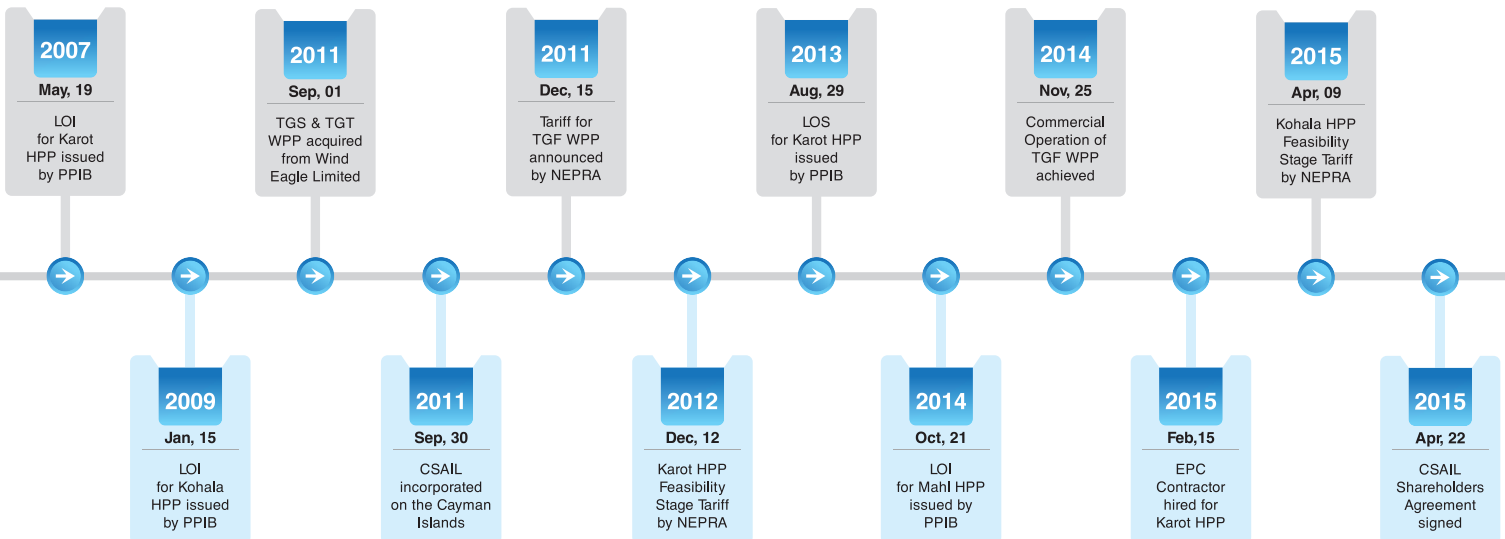


# MAJOR STRATEGIC PARTNERS IN MENA REGION





# MAJOR MILESTONES





**2015**  
**Sep, 22**  
Establishment  
of Kohala  
Hydro Company  
(Private) Limited

**2016**  
**Aug, 01**  
LOS for  
TGS & TGT  
WPP issued  
by AEDB

**2017**  
**Feb, 22**  
Financial  
Close of  
Karot HPP  
achieved

**2018**  
**Jun**  
TGS & TGT  
WPPs  
Commissioned

**2020**  
**Jun, 25**  
Project  
Agreements  
of Kohala  
HPP signed

**2022**  
**Jun, 29**  
Karot HPP  
achieved  
COD

**2015**  
**Dec, 31**  
LOS for  
Kohala HPP  
issued by  
PIIB

**2017**  
**Jan, 24**  
Mahl HPP  
Feasibility study  
approved by  
Panel of Experts

**2017**  
**Mar, 17**  
Financial  
Close of  
TGS & TGT  
WPP achieved

**2018**  
**Sep, 22**  
River Closing  
for KAROT  
HPP  
achieved

**2021**  
**Aug, 19**  
CSAIL  
acquired  
Alcazar Energy  
Partners

**2023**  
**Jun, 8**  
AAGE  
acquired  
Catalyst PV  
Project











CSAIL WeChat



CSAIL Facebook



CSAIL Twitter



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