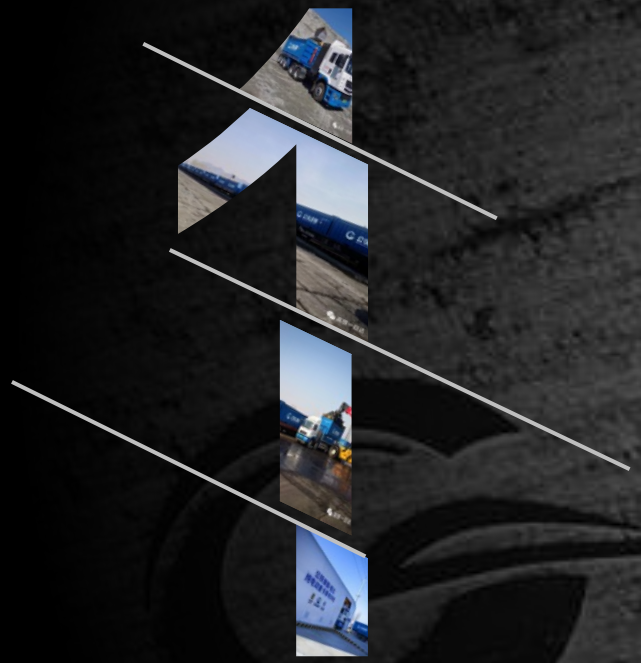

公铁绿链
公铁绿链
Come into
reality

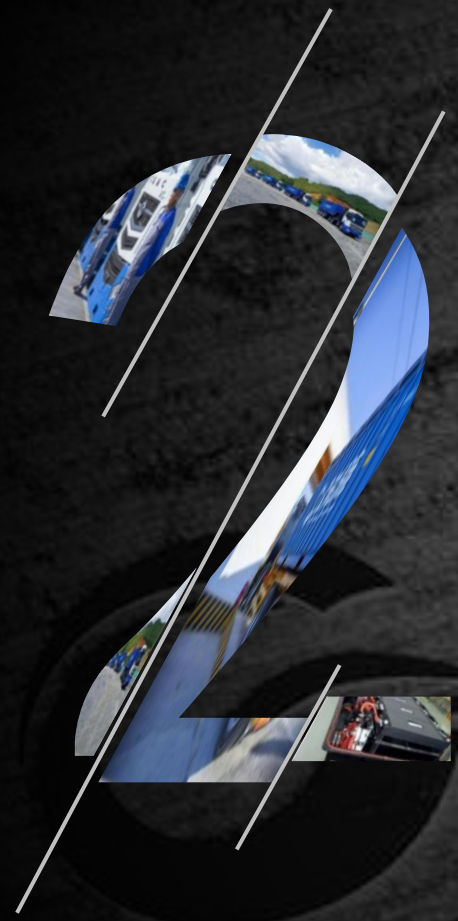


Company Introduction

Introduction

H&R Green Chain, the abbreviation for Beijing Highway & Railway Green Chain New Energy Resource Limited Liability Company, was founded and sponsored by State Power and Beijing Highway & Railway Green Chain Multimodal Transportation Limited Company in August, 2019, with a registered capital of 50 million Yuan.

The featured business of the company provides green transport service which is based on Intelligent digital terminal. Being a combination of various service occasions as charging stations, batteries, transport capability, green mine bases and the fleet, it’ s a green new energy service which extracts the operating information of electric heavy-duty trucks via intelligent terminal.



Solution

公铁绿链

Industry Environment

The efficient development of logistics：
Electric and intelligent industry promoted by various policy factors have already emerged.

Environmental Protection
Carbon Reducing

Overload Control

Structural Adjustment

Systems

Phenomenon

Disadvantages of electric heavy truck charging mode

01

High battery cost

Electric heavy-duty trucks: around 1 million Yuan

Diesel heavy trucks: 400 to 500 thousand Yuan

The battery life is shorter than the vehicle life.

Disadvantages of electric heavy truck charging mode

02

High battery weight
Cargo capacity declines by 10-20%.

High-power charging facilities are in short supply.

Conventional fast charging consumes long time.
The operation time declines by over 20%.

Disadvantages of electric heavy truck charging mode

03

Large charging site is needed due to the large vehicle volume.

Great impact on Power Grid due to low charging power utilization and high capacitance occupation.

The planning and construction of charging station is difficult.

Advantages of electric heavy truck charging mode

High efficiency

Cost reduction

Flexibility

Safety

Utilization

Comprehensive scheme of vehicle power exchange

- Positioning Platform

Identify the information of the target vehicle. Exchange the information of the vehicle and batteries. Guide the vehicle to the preliminary position.

- The battery-swapping Robot

Unlock the vehicle base and pinpoint the battery.

Remove the empty batteries and load them the robot.

Comprehensive scheme of vehicle power exchange

- Storage and charging room

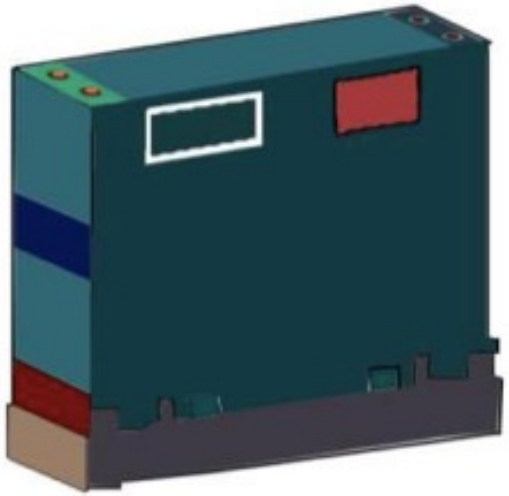
Use battery-storing system to charge the empty batteries and conduct battery monitoring and detection.

- Monitoring Center

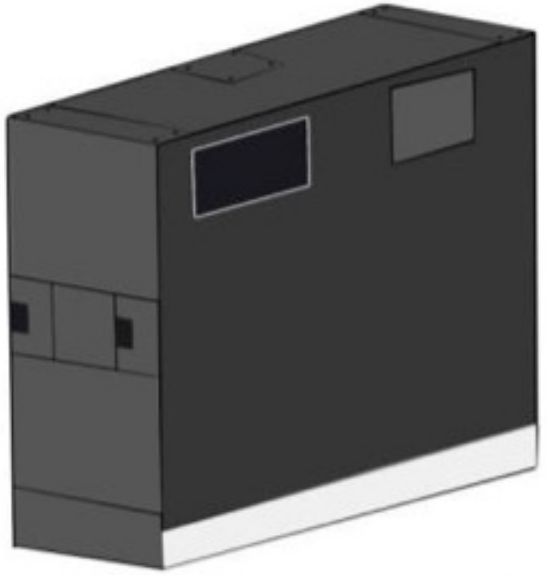
Equipped with fire fighting system, UPS system, video monitoring system and data server, the whole station is under all-round monitoring and data processing. The Monitoring center can be connected to the cloud server.

Brief introduction to the composition of vehicle power exchange system

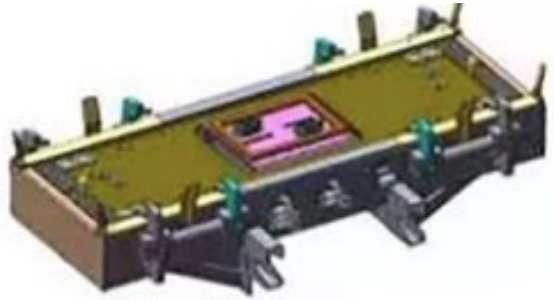
The target vehicle type



Onboard power assembly system for electric vehicles



Battery-swapping assembly system



Onboard battery-swapping base (fixed with vehicles)

Top mounted power station

Performance Index

Battery-exchanging time: **5mins**

Success rate of auto-battery-exchanging: **99.9%**

Charging power: **2100kw**

Numbers of charging rooms: **8**

Frequency: **168 times per 24 hours**

Battery-exchanging mode: **top hoisting**

Matching vehicle type: **all kinds of heavy truck**

Monitoring system: **Intelligent Monitoring and Controlling System**

Occupied area: **200 m^2**

Energy consumption reduced: 10%

公铁绿链

A 5-minute-battery-exchanging process.

A comfortable experience like the fuel-filling one.

Energy consumption reduced: 10%

公铁绿链
Highway & Railway Green Chain Multimodal Transportation

Separation of vehicle and batteries; Low acquisition cost
The acquisition cost of the vehicle without batteries is equivalent to the cost of the fuel vehicle.

Energy supplement is faster than fueling filling.
Energy can be supplied in 5 minutes which allows continuous service.

Distribution and land saving
The area of one single station needs up to 300 m^2.
Based on serving the same amount of vehicles, battery-swapping mode only needs a quarter of the needed power which recharging mode costs.

Low running costs of vehicles and safer batteries
Featured with low battery collecting cost, long scientific management, high profit of echelon use and safer professional operation and maintenance.

公铁绿链

Project Case

Weike mine, Miyun Districk, Beijing:

The first electric heavy truck operation project across China

Project Case

公铁绿链

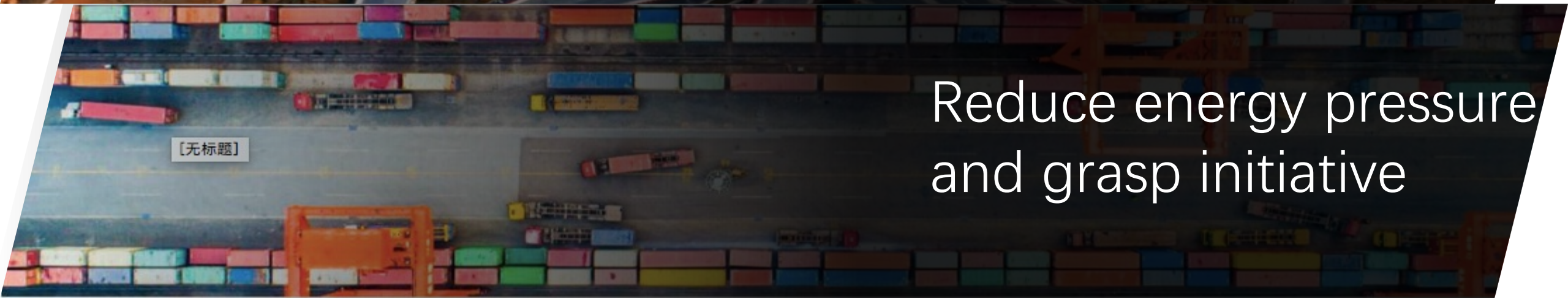
Xilin Hot, Inner Mongolia: The first electric heavy truck coal mine transportation project under extremely cold conditions across China

Project Values

Project Values

Environmental economy must be enforced.

Industry transformation



Reduce energy pressure and grasp initiative

Investigation and guidance

Press reports

公铁绿链

公铁绿链

Device data:

Average distance of daily driving: 600 kilometers
Daily freight of sand and gravel: 100 trucks travel 4 times with 28t loads each time
11200t per day in total.
Annual transportation volume: 340 million tons
Annual driving distance: 100 trucks * 600 kilometers * 300days per years
18 million kilometers in total
Annual electricity consumption: average electricity consumption 1.4 kWh per kilometer
23.58 million kWh in total
Annual electricity bills: average electricity bill 0.72 Yuan/kWh
17 million Yuan in total
Diesel saving: Calculated by 50 liters per hundred kilometer and 300 days a year with 30 thousand liters per day, the annual diesel consumption is 9 million liters.
It means that 23670000 kilograms of CO_2 emission decrease , which equals to 699300 kilograms of carbon emission decrease, happens when using 76500t of diesel.


Thank you