

### 江苏北圭汽车科技有限公司

China Vehicle Industry Co.,Ltd
Subdivision
/Leading/Specialization
/concentration





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2023年01月01日

2023

**Engineering The Impossible** 

**Powering Your Future** 

Focus on One-Stop Service for Full Spectrum of Vehicles

Committed to Electrification Platform & New Energy R&D

Contribute to Sustainable Energy

致力于一站式解决新能源平台方案







Part 01

企业介绍 Company Profile

Part 02

一站式服务平台介绍 One-Stop Service

Part 03

车辆生产厂房建设 Factory Building

Part 04

生产线规划 Production Line

Part 05

KD模式和技术支持 KD &Technique Support

Part 06

新能源科技/油改电/光储充 Sustainable Power Solution

### PART 01 Company Profile

### 公司简介

One-Stop Service for Full Spectrum of Vehicles

Electrification Platform & New Energy R &D

Sustainable Energy





### **Company Profile**

### **Company Overview**



CHINA VEHICLE INDUSTRY CO., LTD. Founded in JiangSu Province, China, was initiated and established by the Chinese Academy of Engineering in conjunction with advantageous R&D resources of Firtt Tier universities of China and Leading with iconic and representative project for national science and technology system reform and innovation, a National High-Tech Enterprise driven by technological innovation, specializing in precision and newness.

The Enterprise has the capability of Supplying the One-Stop Service including: Manufacturer Factory Building, Production Line Established, KD Parts Supplied and Electrification Platform of core components such as electric control system and electric drive system, which can provide efficient electrification solutions for various application scenarios to gurantee the great performance of the EV.









### PART 02

油改电

# One-Stop Service Introduction 一站式服务介绍





Factory Building



### 工厂厂房介绍

### Vehicle Manufacturer Factory (Providing a Complete Solution)

### Plant Planning

Vehicle Production Line

Tailor-Made detailed factory layout based on the real production requirement and Local Government Policy

### 3D Simulation Design

Simulate the actual factory area, so that customers can experience the real factory in advance

### **Exporting & Construction**

Supply the High quality Steel Structure with Lowest Price and Assist to Build the Factory

工厂厂房介绍

3D方案介绍

出口运输及建设

### Production >>> Line

**Customized Design Solution** 

Design the whole Production Line and Associated Equipment based on the Produced Quantity and Vehicle Type.

### Installation & Debugging

(Tailor-Made Vehicle Production Solution)

Install and debuging the Production line & inspection line to proper condition

### Training & After-Sale

Traning the client to operate the related equipments in order to guarantee the smooth production.

客户非标定制方案

安装调试

KD & Technique Support (Assist to Realizing the Local Manufacturing)

培训及售后服务

### KD & Technique **Support**



KD部件 和技术支 持



#### **KD** Parts

Vechile's parts supplied to assembly in Client's Factory in order to save the cost and localizing the production

### Parts Localized

Auto Parts manufactured locally in order to meet the policy of Local Government

### Techniue Support

Assist to programming the vehicle's system and guarantee the performance

#### KD部件供应

本土化供应

Sustainable Power Supply Solution Provider

### Sustainable Power Solution



### Retrofiting

Assist to Repurposing the traditional vehicle to Electric vehicle in order to meet the clean energy development

### Vehicle Electrification

Assist the local vehicle industry getting into sustainable mode and realize electrification

### Clean Energy Solution

Solar Panel/ Energy Storage/ Charging Solution planned and assit the clients to save cost

新能源解决方案



# PART 03 Factory Building 厂房建设

3D Presentation
3D设计方案
Customized CAD Drawing
全套设计图纸

Tips for Pre-Consideration

Ceiling Reference Drawing of Showroom 结合汽车产线的建议,室内装修及4S销售店的设计

On-Site Installation 现场安装服务

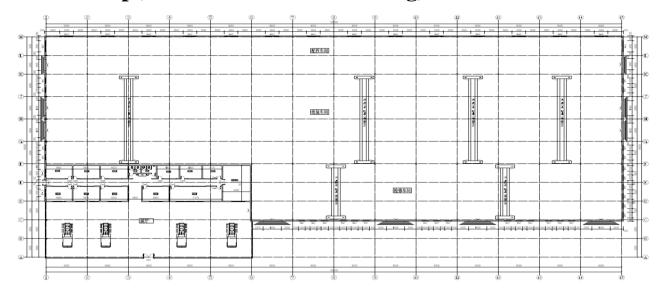


### **Factory Building**

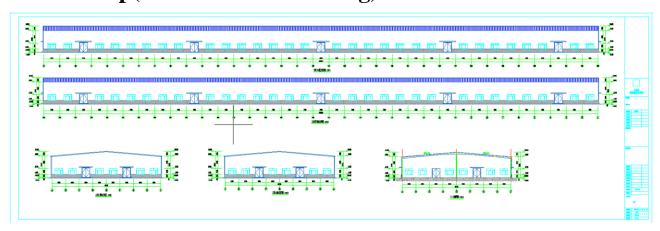
### **Workshop(3D Presentation)**



### **Workshop**(Customized CAD Drawing)



### **Workshop**(Construction Drawing)







**Office Ceiling Reference Drawing** 



**Workshop**(Tips for Pre-Consideration)





### PART 04 Production Line 汽车生产线

- Definition & Presentation of CKD/SKD
- > CKD和SKD的定义和相关模式介绍
- Different Production Line Introduction
- > 汽车生产线介绍
- ▶ Factory & Investment/厂房展示和投资预算
- Production Line & Main Equipment Presentation
- ▶ 生产线主要设备展示
- of Full Spectrum Vehicle Models
- 全类型车辆车产线和主要设备展示

# CHINA VEHICLE INDUSTRY Powering Your Future

### **Definition of CKD/SKD**

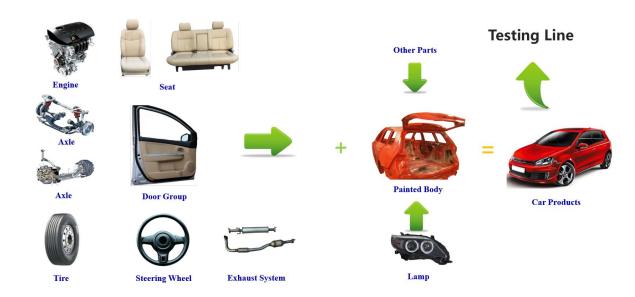
• SKD: Semi Knocked Down

SKD Line Consist of Assembly Line and Testing Line

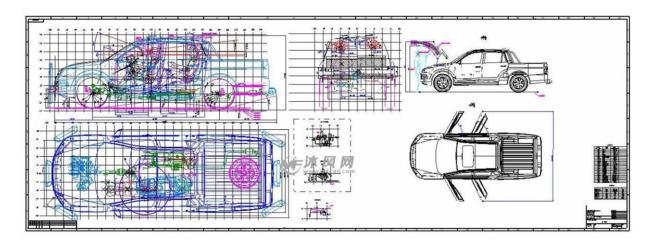
• CKD: Completely Knocked Down

CKD production line Consist of Welding line, Painting line, Assembly line and Testing line.

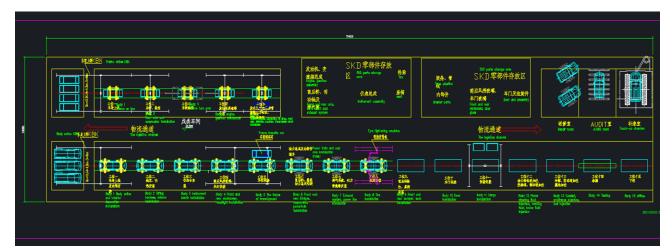
SKD or CKD Line advantages, Compared with CBU, the SKD and CKD Automobile parts import duty should be 5-8% or free, the CBU automobile import duty should be 30-40% or higher



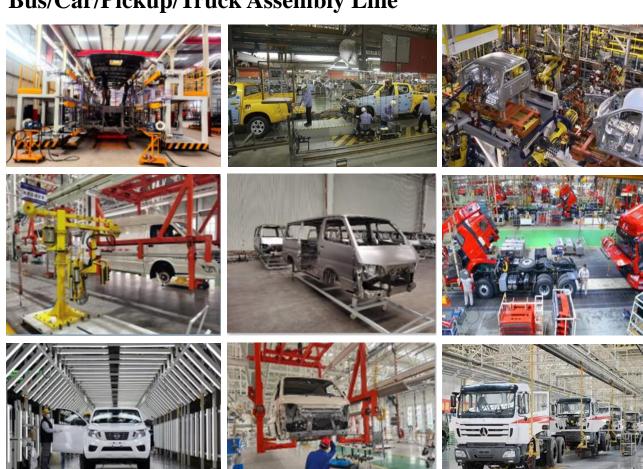
### **CKD/SKD Parts Sub-Assembly**



### **CAD Drawings of the Assembly Line**



### **Bus/Car/Pickup/Truck Assembly Line**



### **Production Line**

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### **Test Equipment**









### **Main Equipment of Assembly Line**





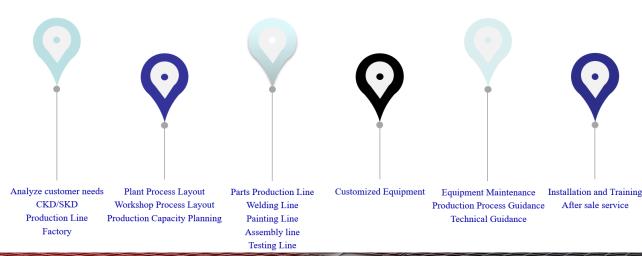




### **Investment of Assembly Line**

Item	Assembly Line	Painting Line	Testing Line	Sub-total	Output Per Year
Car	2 Million	100,000.00 Repair Painting	250,000.00	2.35 Million	20000 Units
Pick-up	2 Million	100,000.00 Repair Painting	300,000.00	2.40 Million	15000 Units
Minibus Auto	3 Million	200,000.00 Repair Painting	300,000.00	3.50 Million	6000 Units
Minibus Manual	1.5 Million	200,000.00 Repair Painting	300,000.00	1.70 Million	6000 Units

### What We Can Do For You







Inverter

PART 05 Cooling Circuit e-Powertrain KD Parts & Technique Suppo KD部件和技术支持

- Stamped Part of Vehicle
- 汽车冲压件
- Chassis Parts
- 底盘配件
- Parts Localized/ All Category
- 部件本地化供应
- Technique Support
- 技术支持

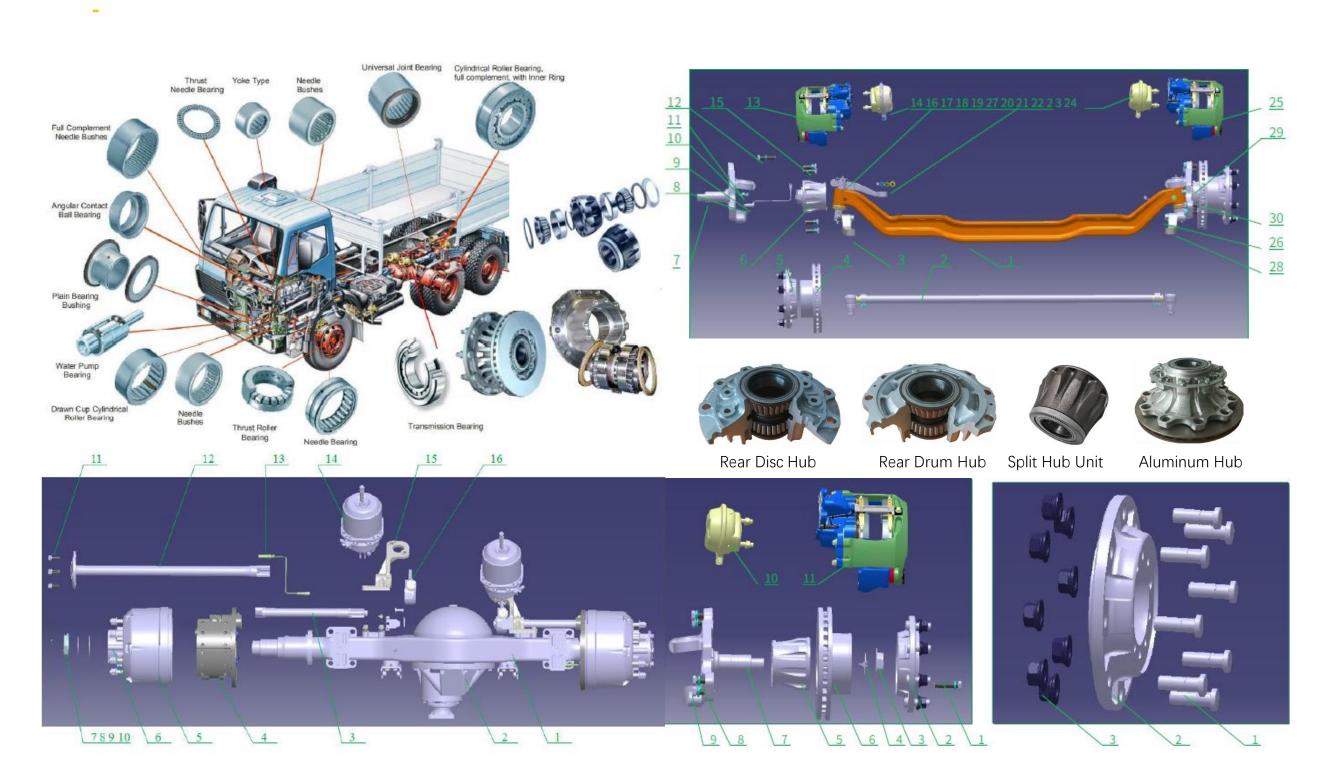
High voltage battery system

DC charging unit

### KD Parts & Technique Support

### **Axle & Suspension**





- 1-Axle housing 2-Main reduction 3-Brake camshaft 4-Brake 5-Brake drum 6-Bearing unit hub
- 7,8,9,10-Wheel End locking mechanism (Bearing Retaining ring, Anti-friction plate, Locking Nut, Tightening Screw)
- 11-Semi-shaft bolt 12-Semi-Shaft 13-ABS sensor 14-Brake air chamber 15-Air-Chamber bracket 16-Air-Chamber Adjusting Arm

### 05

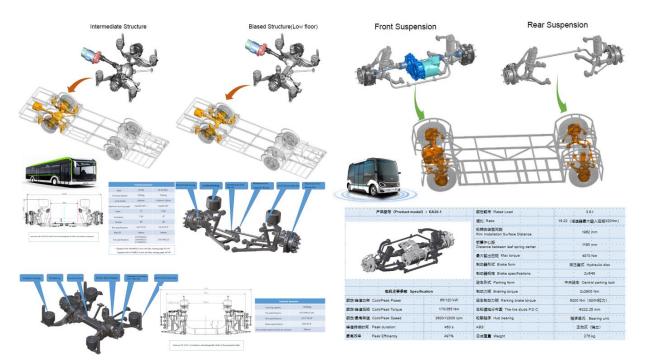
### **KD Parts & Technique Support**

### **Stamping Parts**





### **Chassis Parts**

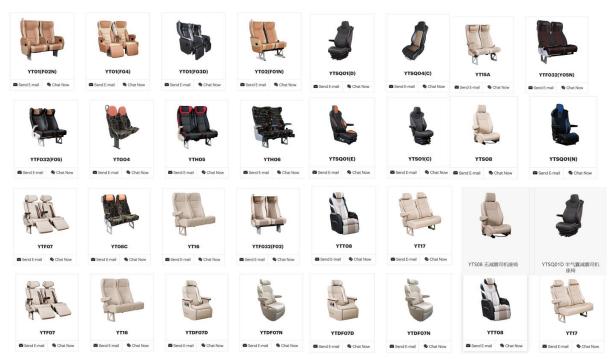




### **Bearing Series**



### **Seats Parts**





### **KD Parts & Technique Support**

### CHINA VEHICLE INDUSTRY Powering Your Future

### **Air Conditioning**



### **Evaporator Blower**



### **Air Bag Parts**



### **Valve Series**



### **Platform Technology System**



### Build a complete technology system of electrification platform

We also has the ability to develop and manufacture the basic components of the three electric systems, as well as the ability to develop and match from the system to the vehicle level, which can completely realize the total solution and end-scene application of the electrification of commercial vehicles and construction machinery, and has the advantage of electrification platform technology.

#### **Electrical control system**

- Absorb Mordern technology, independent innovation, and research
- Complete product series, a wide range of applications
- The highest working efficiency point can reach 99.6%
- Good environmental adaptability
   and high reliability

#### **Electrical drive system**

- Domestic leading independent brand high-speed asynchronous motor
- Adopting the leading domestic permanent magnet synchronous motor technology
- High-precision electronic control system is perfectly matched to give maximum efficiency

#### **PACK R&D**

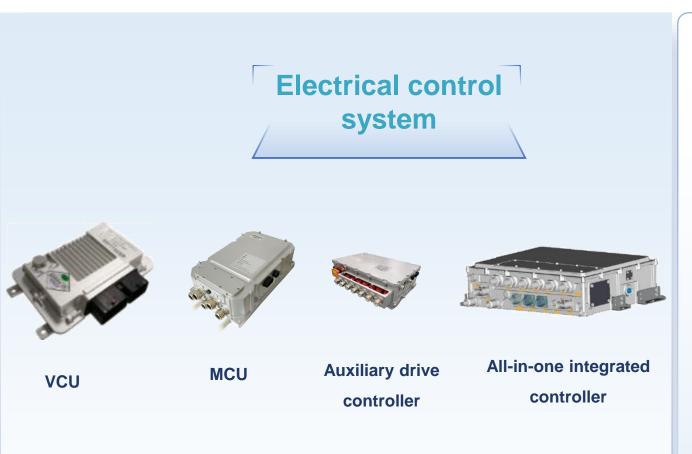
- Standardized dimensions, facilitating iterative development.
- Wide coverage of the full range of C-type, T-type, air-cooled, liquidcooled, and explosion-proof products.
- Provide customized solution service for customers.

#### **Electrified platforms**

- Industry vehicle technology expert
- Complete vehicle development system
- Sound vehicle verification system

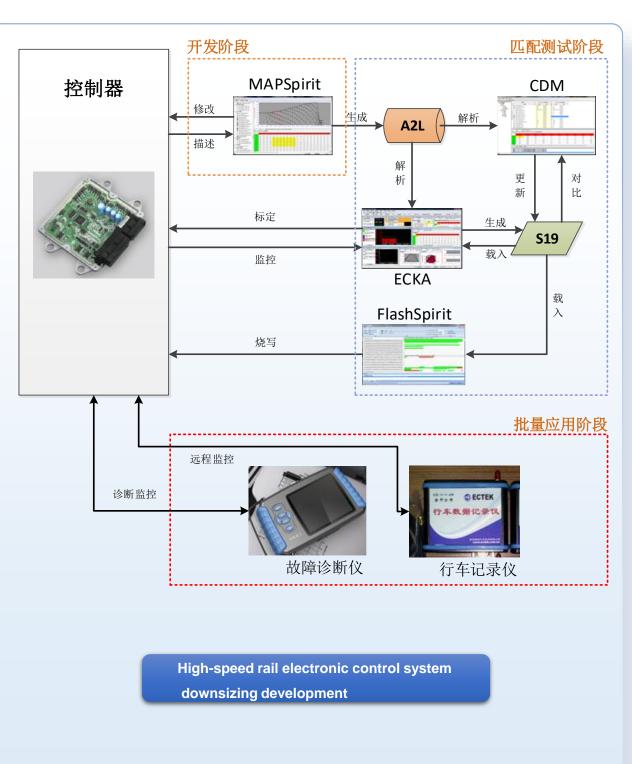
**EV Platform** 





6 platform products: 30kW, 50kW, 80kW, 100kW, 150kW, 250kW

Applicable application scenarios: 6-12m new energy buses, heavy trucks, electrified construction machinery, and other application scenarios



### **Business Model**



Platform Capacity Building



### Electrification platform (providing a complete electrification solution)

### Electrification R&D Platform

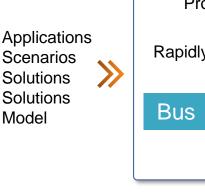
The world's leading complete integrated development platform for electrification

### Power Drive System

PACK High-speed asynchronous motors
Permanent magnet synchronous motors

**Electrical Control System** 

MCU VCU PDU DCDC DCAC BMS



Products for electrified application scenarios

Rapidly forming products for electrification application scenarios

Airport Shuttle Mining explosion-proof Vehicle

**Electrification Solutions** 

Develop electrified products with partners

Heavy Truck Pure Electric System

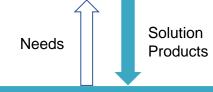
Electrified Chassis

Electrification Components

Oil-to-Electric Solution Offerings

Electric drive system

Construction Machinery



Market

**>>** 

Large customers (domestic and international, airports, mines)

Needs Solution Products

Partners/Large customers

Needs Solution Products

Export to the Middle East, Southeast Asia, construction machinery oil to electricity, etc.

### **KD Parts & Technique Support**

**Technique Support** 

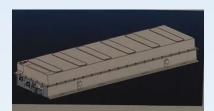
**Battery Pack** 电池包



### **PACK** system









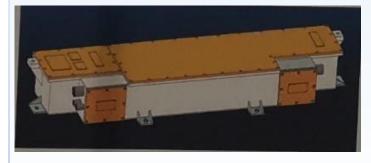
**First generation** lightweight standard C box

**Second generation** liquid-cooled standard C-box

**Logistics truck** standard box

**Switch Battery of** heavy truck battery box

**Internal module** structure design







Mining explosion-proof battery A box

Mining explosionproof battery B box























### **Supply Chain Resource**



Supplier

**Partners** 

**R&D** Resources





































### PART 06 Sustainable Power Solution 可持续能源解决方案

- ✓ Retrofitting/Oil to Electric
- ✓ 油改电技术
- ✓ Vehicle Electrification/
- ✓ All EV Series Presentation
- ✓ 全系列新能源车型谱展示
- ✓ Clean Energy Solution/
- ✓ 清洁能源方案
- ✓ Solar Panel/
- ✓ Energy Storage/Charging Station
- ✓ 光,储,充方案

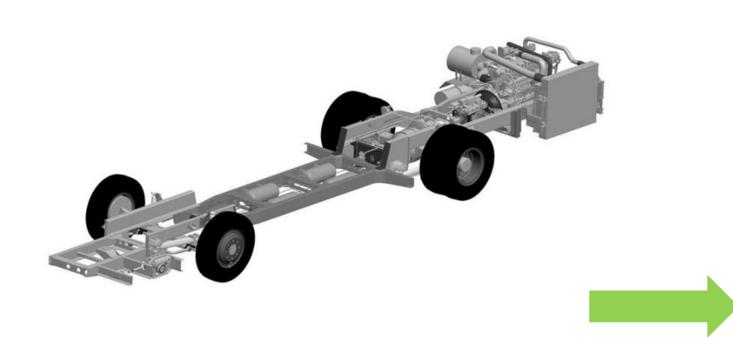


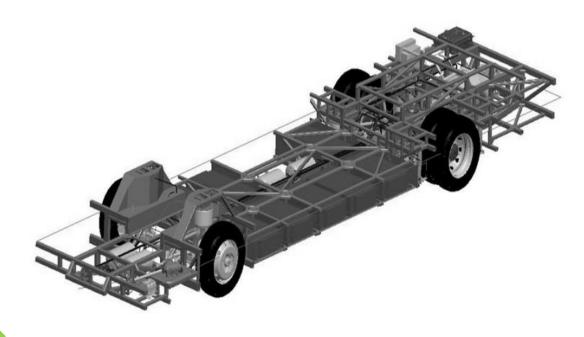
### **Sustainable Power Solution** Retrofitting

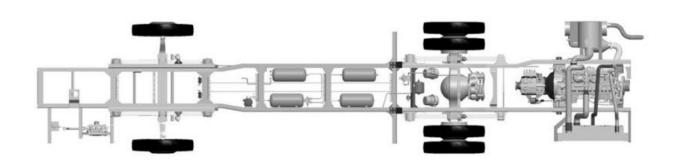
**Bus--Oil to Electric** 

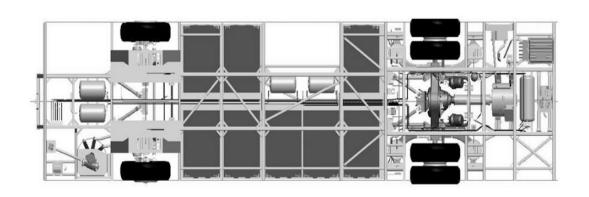
客车-油改电













**Electric Chassis** 

# Sustainable Power Solution Retrofitting Truck--Oil to Electric 卡车油改电









Remove the Oil system

Battery Mounted on Both Sides

Battery Mounted on Back of the Cab

### **Construction Loader -Oil to Electric**



### **Construction Cost -Oil to Electric**

No.	ltem	Material Status	Set	Price(CNY)	
1	Drive system	Drive system, connection flange, motor controller, suspension soft pad, 3-in-1, high voltage distribution cabinet, drive shaft	t pad, 3-in-1,		
2	Cooling system	Cooling water tank, water pump, water pipe, expansion tank		8000	
3	Air conditioning system	Air conditioner compressor, condenser, PTC, piping		10000	
4	Low voltage system	Car controller, gas pedal, shift handle, low-voltage distribution box, simple instrument, insulation monitoring module, driving recorder, etc.		10000	
5	Wiring	L/H voltage wiring		12000	
6	Bracket Accessories	Bracket, auxiliary materials, wear and tear parts, outer shell		10000	
7	Battery	350kwh		520000	
8	Labor cost	Assembly and commissioning fees		30000	
9	Total	¥700,000 (CNY)			

### Sustainable Power Solution Vehicle Electrification 电动整车解决方案





### 产品目录 Products Catalog

K系列

### K series







大轿车

公路客车

城市客车

双层观光客车

**Large Limousine** 

Coach

City Bus

Double-decker

Z系列

**Z** series









机场专用

环卫专用

军警专用

矿卡专用

**Airport Bus** 

**Garbage Truck** 

Police Vehicle

**Mine Truc** 

W series









微面物流

轻卡物流

轻客物流

ogistics Van

**Logistics Truck** 

**Logistics Hiace** 

**Core components** 





电机产品

电机控制

电池pack

Motor

MCU

**Battery pack** 

### **Sustainable Power Solution**Vehicle Electrification











### **Sustainable Power Solution**Vehicle Electrification











### Sustainable Power Solution Vehicle Electrification Solar Panel 光伏能源



- √ Solar Panel
- ✓ 太阳能组件
- ✓ Energy Storage
- ✓ 储能
- ✓ Charging Station
- ✓ 充电桩
- ✓ Energy Storage/Charging Station
- ✓ 光,储,充一体解决方案



### **Sustainable Power Solution**Clean Energy Solution



	核心设备	集成开发	平台及服务
<b>%</b>	一逆变器	大型电站 品品 分布式光伏 户用光伏 小面光伏 工作 智能清扫	会 云平台 智能运维
	风电变流器	<b>二</b> 风电场	(②) 数字能源服务
(1) 储	届 储能变流器	宿能系统 家庭光储	虚拟发电
( )电	<b>予充电桩</b> 电控	光储充 V2G	co₂ 碳资产管理
H <sub>2</sub> 氢	制氢设备	制氢系统	区块链

Solar Panel/Energy Storage/Charging Station

### **Sustainable Power Solution**Clean Energy Solution







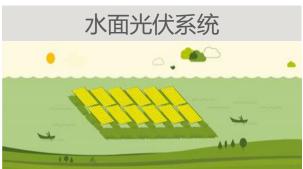




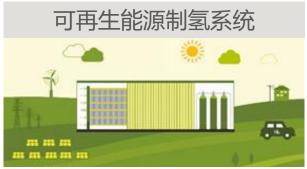












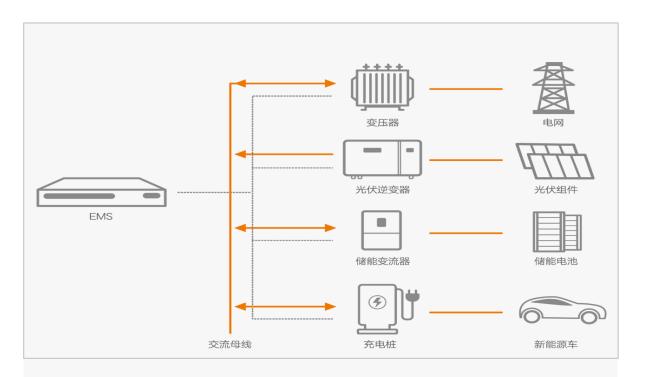
Solar Panel/Energy Storage/Charging Station

### **Sustainable Power Solution**Clean Energy Solution



### **Optical Storage and Charging Solutions – Local and Remote Solutions**

### **Local Solution**

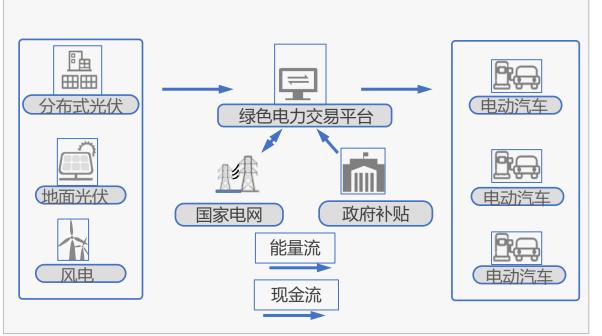


### 光伏+储能系统+充电

- 弥补配电容量不足,节省 扩容成本
- 盈利模式多元化
- 新能源车用新能源电



#### **Remote Solution**



### 远端绿电+跨区域交易

- 绿电持续供应
- 电力、交通系统脱碳
- 助力碳中和



### **Sustainable Power Solution**

### Clean Energy Solution Photovoltaic

#### 标准薄膜组件

#### ASP-S1



#### 组件参数

产品尺寸	推推	功率温度系数	电压温度系数	电流温度系数	
L1200*W600*D6.8mm	11.8kg	-0.214%/°C	-0.321%/°C	0.060%/°C	
输出功率保证	輸出功	事 10年内保证证 25年内保	达到额定输出功 证达到80%。	率的90%,	
材料和制造工艺		保证期: 10年			

#### S1组件参数

规格	ASP-S1-80	ASP-S1-85	ASP-S1-90
额定功率 (Pm)	80W	85W	90W
开路电压 (Voc)	118.9V	120.5V	123V
短路电流 (Isc)	0.95A	0.98A	1.04A
工作电压 (Vm)	94.1V	96.6V	97.8V
工作电流(Im)	0.85A	0.88A	0.92A

测试条件: STC 1000W/m², AM1.5, 25℃

### 光伏真空组件

· ASP-SHP



#### 光伏真空组件参数

功率温度系数	电压温度系	故	电流温度系数	
-0.214%/°C	-0.321%/°	c	0.060%/°C	
输出功率保证		内保证达到额定转 年内保证达到80	會出功率的90%, )%。	
材料和制造工艺		保证期:10年		
规格	ASP-SHP			
传热系数	0.8W/m²K			
导热系数	0.023W/mK			
产品尺寸	L12	00*W600*D20	mm	
额定功率 (Pm)	72W	54W	48W	
开路电压 (Voc)	116V	116V	116V	
短路电流 (Isc)	0.88A	0.78A	0.59A	

CHINA VEHICLE INDUSTRY

Powering Your Future

#### 标准透光组件参数



产品尺寸	重量	功率温度系数	电压温度系数	电流温度系数
L1200*W600*D7.0m	m 11.8kg	-0.214%/°C	-0.321%/°C	0.060%/°C
输出功率保证	输出功	)率 10年内保证 25年内保	达到额定输出功证达到80%。	率的90%,
材料和制造工艺		保证	朝: 10年	
规格	ASP-ST1-48	ASP-ST	1-64 A	SP-ST1-72
额定功率 (Pm)	48W	641	v	72W
开路电压(Voc)	116V	116	V	116V
短路电流(Isc)	0.59A	0.78	A	0.88A
工作电压(Vm)	87V	871	/	87V
工作电流(Im)	0.55A	0.73	A	0.82A
透光率 40%		20%		10%

测试条件: STC 1000W/m2, AM1.5, 25°C







# Sustainable Power Solution Clean Energy Solution-Project Application

CHINA VEHICLE INDUSTRY

Powering Your Future

光伏农业大棚Photovoltaic agricultural greenhouse





光伏车棚 Photovoltaic Vehicle shed







光伏公父年号 Photovoltaic CityBus Station

### **Sustainable Power Solution**

Charging Station AC Charger Serious







Pillar & Wall & Ground Charger 柱式,立式和挂式充电桩

### **DC Charger Serious**





Advertisement Dispaly DC Charger广告展示直流充电桩















Mobile Charger 移动充电桩



Distributed Large Output DC Charger 分布式直流充电桩c

