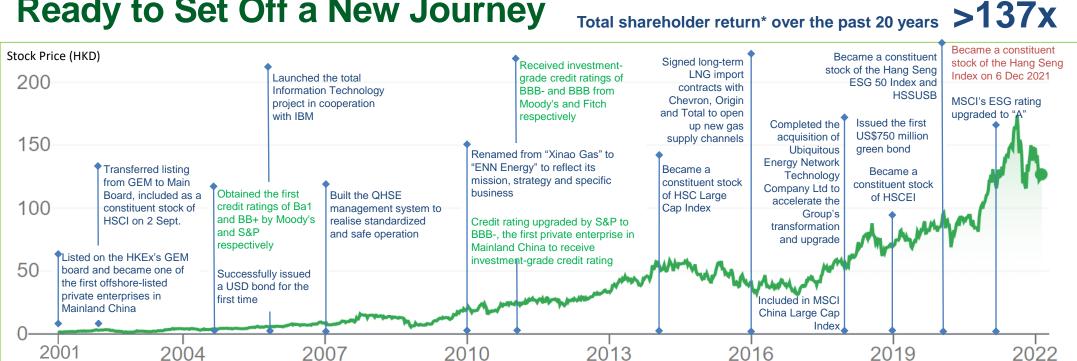




18 March 2022

# 20-Years of Excellence, ENN Becomes a Blue-chip Stock Ready to Set Off a New Journey Total shareholder return\* over the past 20 years





## Committed to developing ENN Energy into a high-quality blue-chip company

- Continue to lead the low-carbon development and strengthen the Group's influence in the industry
- Facilitate low-cost financing to support business expansion capitalising on strong credit ratings
- Strive to achieve carbon neutrality target by 2050
- Gradually increase dividend payout ratio and continue to enhance shareholder returns
- Broaden shareholder base including indexlinked funds, ESG funds and retail investors

<sup>\*</sup>Total shareholder return = (Stock price movement in the past 20 yrs+ total dividends) /IPO price (HKD1.15; Closing price in 31 Dec 2021: HKD147)

## **Highlights of 2021**

Formulated "Decarbonisation Action 2030 – Journey to Net Zero" Set the goal of carbon neutrality by 2050

Sales volume of IE increased by **58.3%** to **19,065 mil kWh**, **31** new IE projects was added, total number of operational projects increased to **150** 

Retail gas sales vol increased by 15.1% to 25,269 mil m<sup>3</sup>

Developed 21.04 mil m<sup>3</sup> installed daily capacity for C/I customers and 2.62 mil new residential customers

Acquired 20 citygas and regional pipeline network projects Further expanded our operating regions

Gross profit of Value Added Business increased by 31.3% to RMB1,723 mil

Core profit increased by 14.6% to RMB7,154 mil

Free cash flow reached RMB2,936 mil

Total dividends amounted to HKD2.70 per share, dividend payout ratio increased to 35%

## **Enhanced ESG Governance and Performance**

### ESG Rating Performance

## MSCI ESG rating upgraded to "A"



A

Hang Seng Sustainability Index

2020: A

B

**CDP** 

**First Rating** 

55

**DJSI Sustainability Score** 

2020: 51

### **Environment**



Carbon emission intensity (Baseline year: 2019)

**▶** 17.3%



Helped society & clients reduce emission

49.07 million tons

2020: 42.11 million tons

No. of member companies obtaining environmental management system certification ISO14001

40

By end of 2020: 17

Strengthen methane emission monitoring and treatment



Coverage of methane monitoring system

25.05 20.2% million m<sup>3</sup>

## **Society**

Percentage of female in senior management

57.1%

2020: 55.6%

Occupational injury case/mil hrs



2020: 1.27

Target to reduce to 0.75 by 2030

Investment in Operation Safety

RMB1.48 bil

2020: RMB1.21 bil

The rectification rate of firstclass hidden hazard of gas leakage



100%

### Governance

Enhanced the % of female board members

18.2%

2020: 10%

2025 target: **30%** 

**Obtained Information Security Management Certificate** 



ISO27001

Corruption cases, Complaints, Environmental illegal case



3

## **Decarbonisation in Action**

#### **Methane Management**

- Advocate more **eco-partners** to work together
- Set emission reduction targets and work with alliance partners to control the Methane intensity under 0.25%
- Identify emission sources and advance onsite methane detection technologies. Install laser methane monitoring system in all citygate stations by 2022
- Disclose methane emission data in 2023.
   Continue to improve transparency and seek third-party verification
- Upgrade internal system and performance evaluation mechanism, gradually link to management remuneration

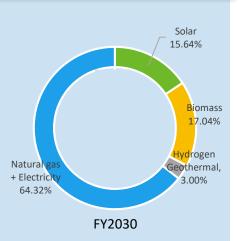




#### **Utilisation of Renewables for Integrated Energy Business**

**Application of Green Technology** 

- Enhance the use of solar, biomass, geothermal energy and other renewable energy. Increase the share of renewables from 20% in 2021 to 36% in 2030
- Improve the overall energy efficiency of energy generating facilities by 5% by 2030
- Promote carbon-negative technologies and introduce CCUS pilot projects by 2025, which will neutralise 5% annual carbon emissions caused by fossil fuels



#### **Green Office**

#### Low-carbon transformation for Langfang headquarters

- Install electrical automation and Serlink smart energy system to enhance intelligent management
- Upgrade and maintain geothermal heat pumps and related hardware to improve energy operation efficiency
- Upgrade and optimize energy using facilities such as water heaters and lighting energy-saving systems to reduce energy demand
- Installed 194.4kW distributed PV plant to provide clean and green power



Energy saved 280,000kWh/year





Emission reduced 168 tons/year 50°



## Geothermal Heat



Ground source heat pump technology



Middle-deep underground heat exchange technology

#### Biomass

Biomass rapid thermolysis technology



#### ♦ Hydrogen

- Plan to set up a laboratory in Shijiazhuang to conduct research on the application of hydrogen blending technology in natural gas pipeline
- Biomass hydrogen production technology

#### Energy Storage

 Develop energy storage technology and introduce sodium-ion batteries energy system



## **Ensure Intrinsic Safety, Build a Brand for Safety**

ENN Energy strives to achieve industry-best performance on safety, establish a leading digitalised intelligent system and build a brand for safety



### The government enhanced safety supervision

- √ The new Work Safety Law came into force on September 1, 2021
- ✓ The Work Safety Commission of the State Council issued the National Work Program for Special Improvement of Town Gas Safety in November 2021
- ✓ The Ministry of Housing and Urban-Rural Development issued an emergency notice to require local governments to effectively strengthen the safety supervision of the gas industry in January 2022

## **ENN Energy strengthened intrinsic safety**

- Improve accountability: quantified the safety regulations of 24 main roles
- Enhance capacity: constructed training sites for 31 enterprises; conducted over 100,000 pre-service certifications for general staff
- Assessment and inspection: carried out comprehensive safety assessment on over 60 enterprises and comprehensive inspection of operation safety on over 120 enterprises
- Hidden hazard management: issued all-scenario inspection guidelines; 117 units prepared self-inspection programs; chiefs led 424 hidden hazard inspections; rectification/control rate of problems and hidden hazards reached 100%

### **Old pipeline management**

- Set up a special management working group
- Completed the hidden hazard inspection, leak detection, pipeline maintenance and replacement of all pipelines over 20 years old, replaced a total of 780 km of pipelines

## **Engineering safety management**

- Control key engineering process and high-risk operations
- · Optimize contractor management

#### In-door hidden hazard management

- Provide safety inspection for households
  1-2 times/year and for C/I users 1
  time/month, higher than the national
  standard
- Modified in-door risk classification and formulated standardised handling procedure
- Replaced automatic shutoff valves and other facilities for 494,919 users

### **Citygate safety management**

- Conduct safety assessment and selfinspection
- Process intrinsic safety + Leak detection + Entry inspection + Perimeter security

### **Build an ecosystem for emergency management**

- Conduct a comprehensive mapping in emergency staffing, plans, equipment and drills to make up for the shortcomings
- Work with local governments in emergency response to integrate gas emergencies into the overall emergency response system of governments, promote the development of an ecosystem for emergency management

## **Built an Intelligent Safety Management System**

Leveraged IoT and AI technology to comprehensively build an intelligent safety management system with "multiple business scenarios directed by an intelligent operation center" realizing the all-scenario safety concept of "Knowing the Key Points, Discovering the Weak Links, Designating Responsible Personnel".

### **Intelligent Project**



- Pipeline excavation and installation: full-process control and data collection, risk indication, closed-loop disposal
- Hazardous operations: full-process management of online operations; safety education and training, confirmation; construction site supervision

### **Smart City-gate Stations**



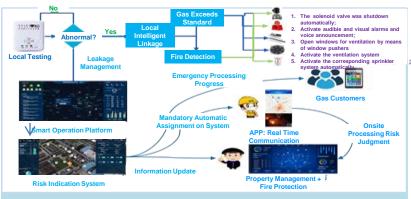
- Real-time monitoring: monitor gas leaks and unsafe behavior using laser tripod head and intelligent AI camera equipment for 7 \* 24 hours, with laser leak detection accuracy of up to 5ppm and accurate positioning by photo
- Timely disposal: second-level automatic alarm triggering, PC terminal, accurate push and disposal through APP terminals, the whole-process traceability

### Intelligent Operation Center



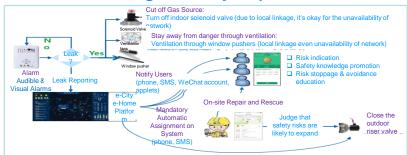
# Predictive Regulation Risk indication Integrated command Decision Evaluation Data Driven Customer Interaction

### **Smart Operation**



- Online simulation: Real-time monitoring through SCADA + online pipeline simulation technology
- IoT: sensing environmental changes, initiating multi-level linkage of on-site equipment, carrying out risk warning and response

### **Intelligent Safety Inspection**



- IoT + cloud: sensing changes in the indoor environment through the alarm system and IoT equipment; monitoring staff-client information interaction on the management platform for risk prompting, warning and response
- $\bullet$  IoT meter penetration rate for C/I users reached 48.5% and 36.6% respectively

## Content

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## **Steady Growth in Operating Results**

(RMB million)	2021	2020	Changes
Key Financial Data			
Revenue	93,113	71,617	<b>↑</b> 30.0%
Segment Revenue			
Retail gas sales	49,247	40,510	↑ 21.6% Gas vol growth, gas price hike
IE business	7,805	5,042	↑ 54.8% Utilisation increased, new projects commenced
Value added business	2,341	1,685	↑ 38.9% Diversified product portfolio, increased penetration
Wholesale of gas	25,634	17,936	↑ 42.9% LNG price hike
Construction & installation	8,086	6,444	↑ 25.5% More new connections, stable fee
Gross Profit	14,056	12,332	<b>14.0%</b>
EBITDA^	13,631	12,207	<b>11.7%</b>
Profit attributable to Shareholders	7,755	6,278	<b>^</b> 23.5%
Core Profit*	7,154	6,242	<b>14.6%</b>
Core EPS (RMB)	6.35	5.55	<b>14.4%</b>

<sup>^</sup> EBITDA = Includes JCE, Asso but excludes one-time items

<sup>\*</sup>Core Profit = Profit attributable to shareholders - other gains and losses (excluding net settlement amount realised from commodity derivative contracts) – deferred tax arose from unrealised gain of commodity derivative contracts and share-based payment expenses

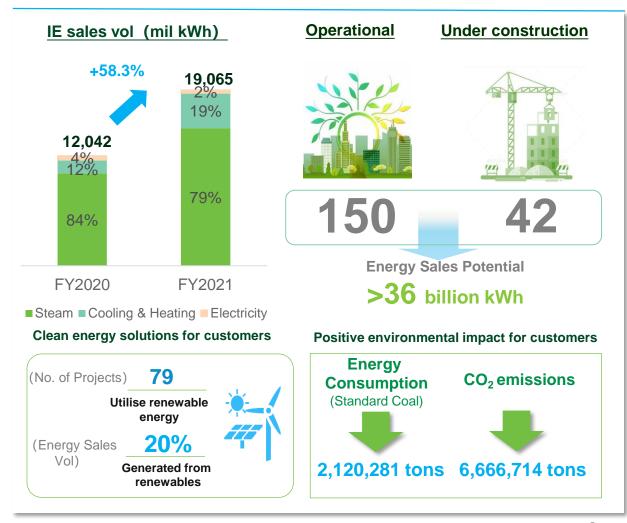
## **IE Business**

Provide customers with low-carbon/zero-carbon energy solutions which are driven by their needs, adaptive to local conditions and prioritising the use of renewables





## **Annual Performance**



## **Low-carbon Industrial Park**

- Developed intelligent low-carbon industrial parks prioritising the use of renewables and complementing multi-energy sources, to satisfy customer demand for energy saving, carbon reduction and energy cost reduction
- There were 52 low-carbon industrial parks in operation contributing to a revenue of RMB1.96 bil, up 116% yoy. Signed 261 new industrial parks with energy consumption potential of 114.5 billion kWh.



Xuancheng Economic Development Area in Anhui Province



#### Low-carbon solutions:

- ✓ Multi-energy integration, incremental distribution grid + wind + solar + natural gas micro-combustion engine + power plant waste heat
- ✓ Power generation operation and maintenance + boiler hosting operation + digitalisation platform to improve operational energy efficiency
- ✓ Configure energy storage power plants to complement the distribution grid, regulate electricity allocation and reduce the cost of electricity purchase
- Realize the integration of electricity, heat, gas and digital intelligence networks to create a national intelligent low-carbon industrial park

Energy consumption

Emission

reduction

benefits



350,000 tons/year



**Energy-saving** standard coal equivalent



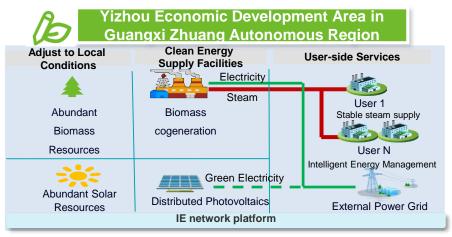
CO<sub>2</sub> reduction 128,000 tons/year

Electricity

kWh/year

160 million

49,000 tons/year



#### Low-carbon solutions:

- ✓ Renewable energy use, biomass co-generation + distributed solar energy
- **Energy management system** optimizes the operation efficiency of equipment and energy used in the park
- Carbon trading potential: Green Power + CCER carbon assets

Energy consumption scale



360,000 tons/year

**Emission** reduction benefits



**26,000 tons/year** 



CO<sub>2</sub> reduction 68.000 tons/vear

## **Low-carbon Factory**

- Energy consumption and carbon emission dual control policy, differential power tariffs and carbon trading stimulated customers demand for energy efficiency enhancement as well as energy structure optimization. The Group helped customers developed low-carbon factories by offering array of energy services, incl. consulting services and low-carbon energy supply
- There were 443 low-carbon factories in operation contributing to RMB3,694 mil of revenue, up 53% yoy

## **CBAK Battery in Dalian**



### **Customer Pain Points**

- Boiler emissions exceed the standard imposing a huge pressure on consumption reduction
- Rough energy management

#### **Low-carbon Solutions**

- Energy-saving
   optimization of 69
   processes + professional boiler
   hosting operation
- Smart energy management + Billing optimization
- Renewable energy use, distributed solar + biomass boiler + green power procurement

#### **Achievement**



CO<sub>2</sub> reduction 16,800 tons/year



Customers' energy costs reduction RMB2.08 million per year

### Tongrentang in Yutian, Hebei



### **Customer Pain Points**

- Inefficient energy control systems
- · High energy consumption

### **Low-carbon Solutions**

- Upgrade control system in an intelligent manner through Serlink energy management system
- Energy facility hosting + Energy efficiency consulting + PV
- Green Factory Certification

### **Achievement**



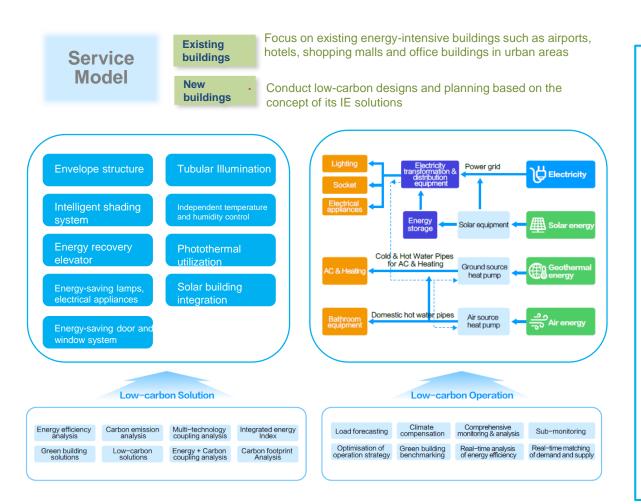
CO<sub>2</sub> reduction 9,500 tons/year



Customers' energy costs reduction RMB3.79 million per year

## **Low-carbon Buildings**

- Leveraging on the development opportunity of low-carbon and green building, with the adoption of digital intelligence platform, to offer low-carbon solutions and energy facilities hosting service, helped customers save energy and reduce carbon emissions and energy costs
- There were 38 low-carbon buildings in operation contributing to RMB2,151 mil of revenue, up 25% yoy







#### **Customer Pain Points**

- Rough energy management
- Inefficient equipment operation and maintenance
- Defective process svstem
- Energy waste

#### Low-carbon solutions

- Optimize energy system equipment by installing energy savers and frequency converters and recovering gas residual heat to reduce electricity consumption;
- · Installing air-source heat pumps and solar energy to improve energy use:
- Host operation of existing energy facilities;
- Intelligent upgrade of control system to improve operating efficiency



CO<sub>2</sub> reduction 601 tons/year



## **Low-carbon Transportation**

- > To build a smart low-carbon transportation platform based on digital intelligence system and various business scenarios
- ➤ 17 charging stations were put into operation with more than 20 stations under construction and 3 battery-swap stations were put into operation with 5 stations under construction, mainly located in Shanghai and Quanzhou.

### **Battery-Swap Business**



- Based on business scenarios and digital intelligence technology
- Build a smart transportation energy platform
- Ensure safe operation and management
- Digital interaction with customers

## **Charging Business**



- Positioning: automotive business transformation, low-carbon travel
- Resources: venue, customers, team, experience
- Markets: lease, car-hailing, urban distribution, short-distance, heavy-duty trucks
- Models: vehicle-electricity separation, battery operation, tram collective purchase
- **Extension:** photovoltaic, micro-combustion engine, energy storage

### Smart Low-carbon Transportation Platform











- Positioning: supplement battery-swap business and support smart city
- Resources: customers, team, eco-partners
- Markets: household cars, urban distribution, sanitation, public transportation
- Models: charging post operation, catering and leisure services
- **Extension:** PV-energy storage-charging integration, supporting new communities

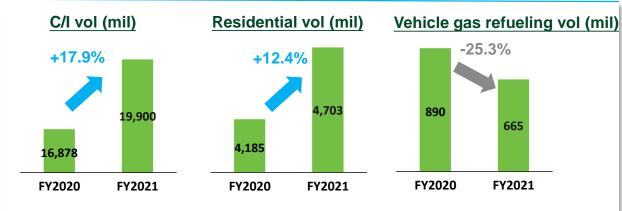
## **Retail Gas Sales Business**

- >Benefiting from macroeconomic growth and low-carbon development policies, natural gas consumption maintained rapid growth;
- Through various measures such as flexible pricing strategies and resource planning, we continued to expand the scale of gas volume by seizing opportunities brought by carbon peaking and carbon neutrality, coal-to-gas conversion and heating in southern regions.

#### 2021 Gross profit (RMB mil)



## **Annual Performance**



#### Dollar margin decreased by 0.09/m<sup>3</sup>

(RMB/m³)	2021	2020
Residential	2.93	2.81
C/I	3.17	2.76
Vehicle gas station	4.04	3.41
ASP	3.15	2.79
Average cost	2.60	2.14
Dollar margin (ex. VAT)	0.51	0.60

- ✓ More frequent and larger magnitude of citygate price hike in 2021: 5% in 2Q, 10% in 3Q, 30-35% in 4Q
- ✓ Surge in LNG price yoy
- ✓ Increased gas cost has not been fully passed through during the year
- √ Share of large C/I customers increased

## **Resources Optimisation and Diversification**

➤ Ensuring base volume supply from three majors, while leveraging on our scale to obtain diversified resources, so as to enhance supply capacity and reduce procurement costs

## Three majors

✓ Deepen collaboration with the majors to secure resources

## **LNG**

LNG import volume in 2021 was **1.58 mil tons** 

Costs of LNG long-term contracts are secured by oil price cap and derivative contracts

Advanced lock-in domestic LNG resources 1mil+ m³/day

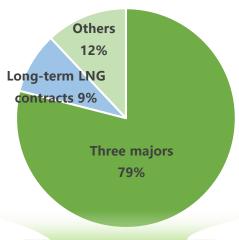
## **Unconventional Gas**

✓ Obtained unconventional resources from Shanxi, Shaanxi & Sichuan with capacity 2mil+ m³/day

## **Storage & Terminals**

- Obtained storage capacity from NPC to enhance profit through seasonal price difference
- Self-owned storage capacity of 109mil m<sup>3</sup>
- Connection of Zhoushan terminal to pipeline network facilitated LNG import for gas companies

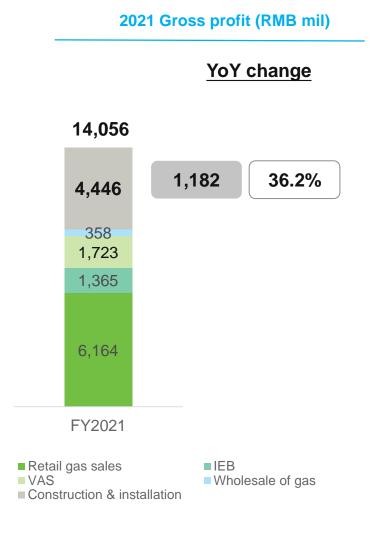
### **Gas source structure in 2021**



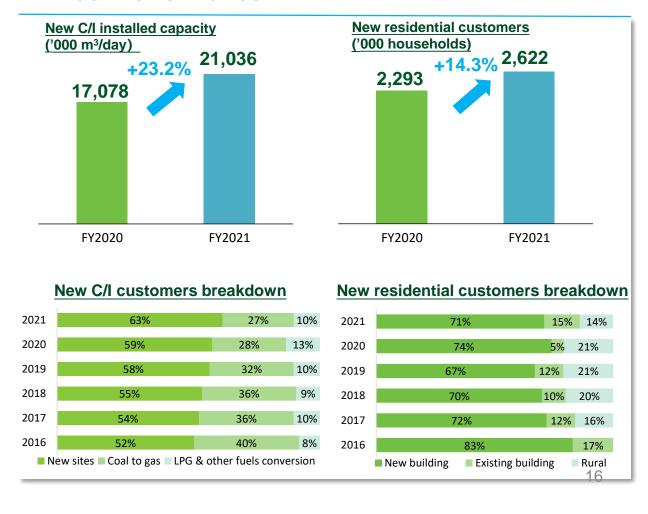
- ✓ Growing base vol from 3 majors
- Continued to obtain competitive unconventional and LNG resources
- ✓ Enhanced resources flexibility

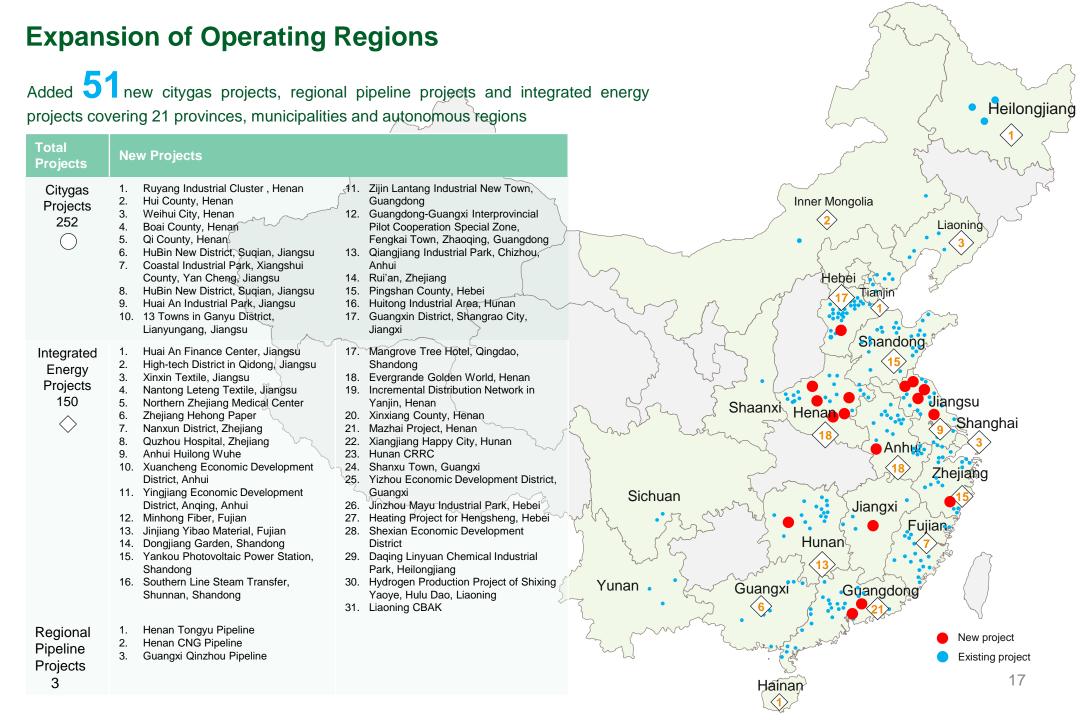
## **Construction & Installation**

- Continue to explore C/I users development potential and push forward coal-fired boiler replacement by leveraging the opportunity of the fight against air pollution;
- Large-scale urbanization needs to be coupled with the use of clean energy to improve the environment and meet the public's pursuit of a high-quality of life bringing huge potential for the development of urban residential users.

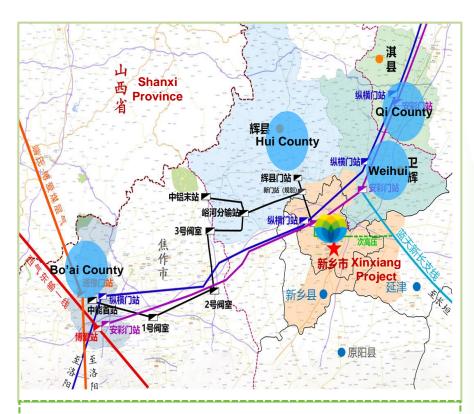


## **Annual Performance**





## Henan Zhongyuan Project



#### **Project Overview:**

- Including four concessions in Hui County, Weihui City, Qi County and Bo'ai and the Zhongneng Pipeline
- Covering 3 industrial clusters including food, building materials, equipment and chemical industries.
- 200,000 residential users and 1,410 C/I users

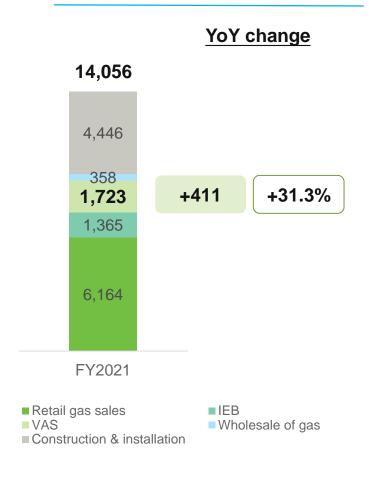
## **Project Value**

- ✓ Expect to contribute incremental gas vol of 900 million m³ over the next 3 years
- ✓ Reduce pipeline transmission fees of Xinxiang project
- ✓ Procure low-cost CBM gas source from Shanxi to reduce costs
- ✓ Establish multiple-gas source channels, build a regional resource pool and an interconnected gas network to achieve regional synergy
- ✓ Start from steam supply, power services, rooftop photovoltaic to provide energy services to customers in high-load industries such as food, building materials, chemicals, paper making, to explore more business opportunity for integrated energy business and improve the level of digitaliisation of industrial parks/enterprises
- Expand value added business based on sound customer service platform, product portfolio and ecosystem resources

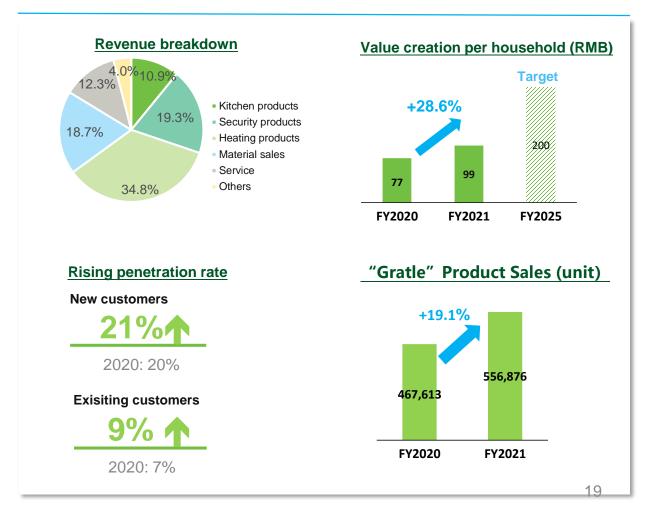
## **Value Added Business**

- Based on superior customer services and product portfolio, provide one-stop solutions for customers to enhance per customer value
- Expand product mix both vertically and horizontally, innovate new business model for products and services to create higher value





## **Annual Performance**



## Value Creation Model Upgrade

Match products and services based on business scenarios to provide personalized, cost-effective, one-stop solutions to satisfy customers' demands for gas safety, convenient services, life quality, clean heating, etc.

## **Security Products**

✓ Provide safety and security products and services to households leveraging on safety check





Smart meter Insurance

Auto shutoff volve



Kitchen renovation

## **Low-carbon Products**

✓ Provide low-carbon. energy saving products and services









Geothermal heat pump



Gas heat pump

## **Smart Products**

Develop innovative smart products based on customised demands









Online bill payment platform

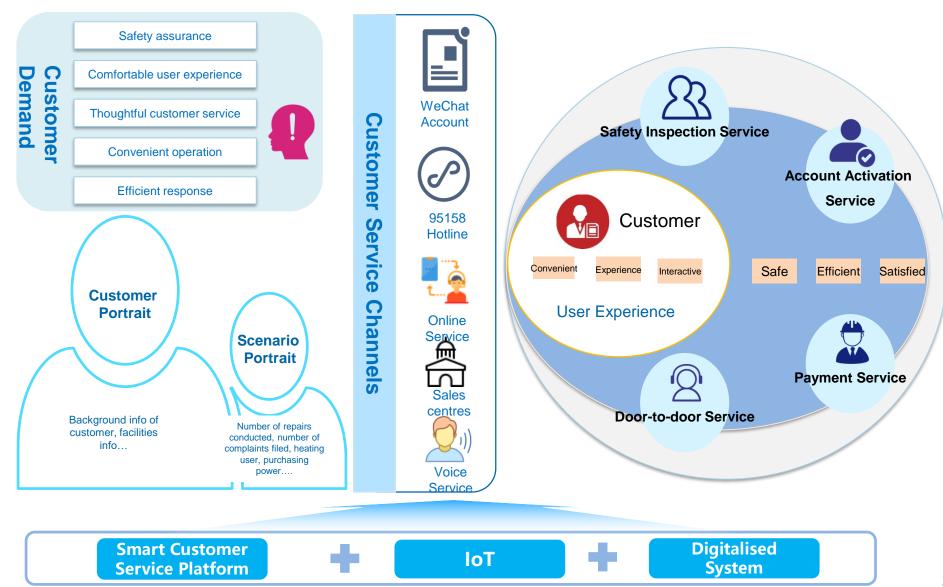
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other brands

## **Improved Customer Service Capability**

Leverage on digitalisation to ensure indoor safety, enhance customer experience and credibility



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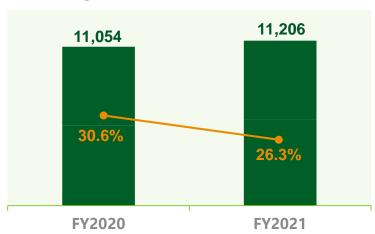
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## **Robust Financial Performance**

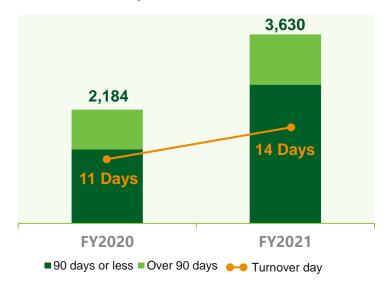
SG&A and SG&A Margin (RMB mil)



Net Gearing Ratio & Net Debt (RMB mil)



AR & Turnover Day (RMB mil)

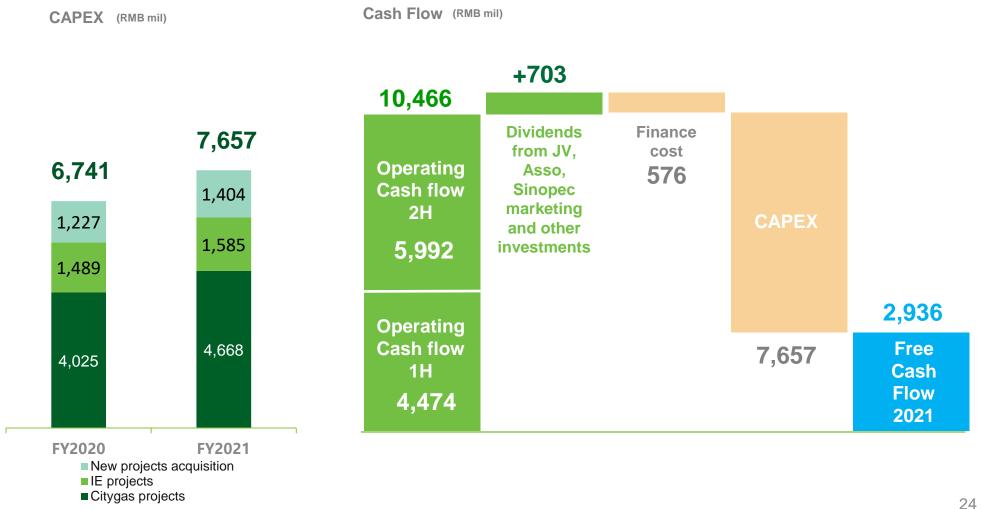


Total Debt (RMB mil)



## **CAPEX & Cash Flow Analysis**

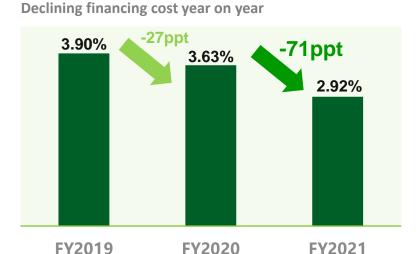
> Steady growth of our core businesses coupled with prudent financial management, continued to generate positive free cash flow

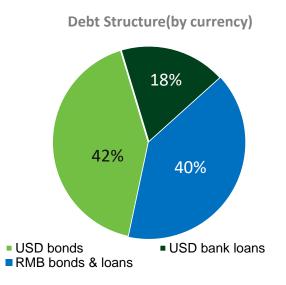


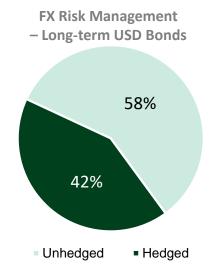
## **Ample Financial Resources and Liquidity**

- ➤ Credit ratings upgraded by two international rating agencies, finance cost further declined to 2.92% in 2021, financial flexibility improved
- Low financing cost and ample financial resources ensure our continuous business expansion

Rating Agency	2021	2020
<b>S&amp;P Global</b> Ratings	BBB	BBB
MOODY'S INVESTORS SERVICE	Baa1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Baa2
FitchRatings	BBB+ 1 Upgraded in Jan 22	ВВВ







### **Ample Financial Resources**

RMB (mil)	Amount
Cash on hand	8,684
Unutilised credit facilities	16,070

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## **Opportunities and Challenges**

- ✓ Implement the "carbon peaking and carbon neutrality" strategy with a focus on safety and stability and seek progress while ensuring energy safety and economic development
- Extending energy system reform from upstream and midstream to downstream
- ✓ Safety has been highly concerned by the government

- ✓ With demand contraction, the pandemic impact, partial economic recovery and countercyclical adjustment, macroeconomic development faced increasing uncertainties
- ✓ The integration of data intelligence with industries accelerated across all scenarios, which reconstructed the business logic

## **Macro Factors**

### Changes in the industry landscape

- With profound structural changes and further marketisation in the natural gas industry, we need to accelerate business innovation to achieve personalized value creation
- Competition in integrated energy and carbon services is getting fierce, scale and differentiated solutions become more important

### **Changes in customer demands**

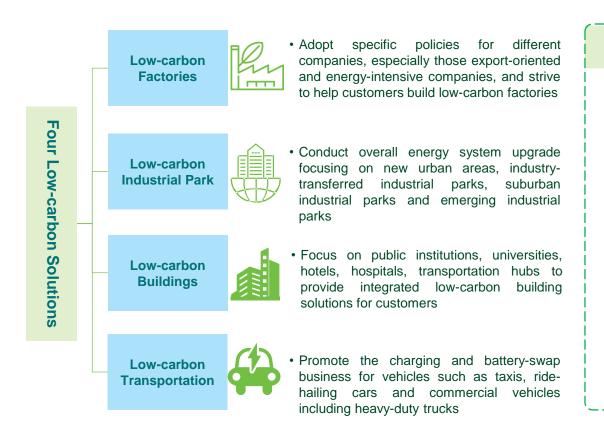
- Energy saving and carbon reduction have become the immediate demand of customers; natural gas consumption will continue to grow at a fast pace and the integrated energy business will see significant opportunities
- We need to provide compelling security, energy and low-carbon total solutions based on customer demands

## New requirements for core competencies

- Based on digital intelligence technology, we need to continuously improve the key capabilities of cognition, planning, design, delivery, operation and matching
- We need to build an ecosystem and quickly strengthen key capabilities such as carbon services and process optimization to realize a closed loop of value creation

## Develop Integrated Energy Services with Scale and Quality(1/2)

Deeply understand customers by further developing existing customers on a multi-dimensional basis and flexibly expand new customers from various aspects to create a industry benchmark, rapidly implement various low-carbon solutions and promote the scale-up of integrated energy services



## **Overall Strategies**



## **Existing Customers**

- Extend integrated energy business to existing gas customers
- Deep dive into existing customers to explore full value chain business potential



#### **New Customers**

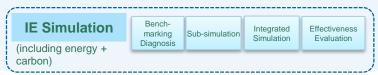
- Grasp customer demands, expand energy & carbon consulting, low-carbon planning, energy-use services, digital intelligence platform and other services
- Strengthen alliance M&A to achieve growth



#### **Demonstration**

 Create a number of demonstration projects to set businss models, standards and products







IE Operation Equipment Management Inspection Management

work Order Management Managemen

Energy & Carbon Accounting Energy & Carbon Trading

## Develop Integrated Energy Services with Scale and Quality(2/2)

Provide low-carbon solutions based on customer needs in three areas: electricity, heat and carbon

## > Expand distributed solar

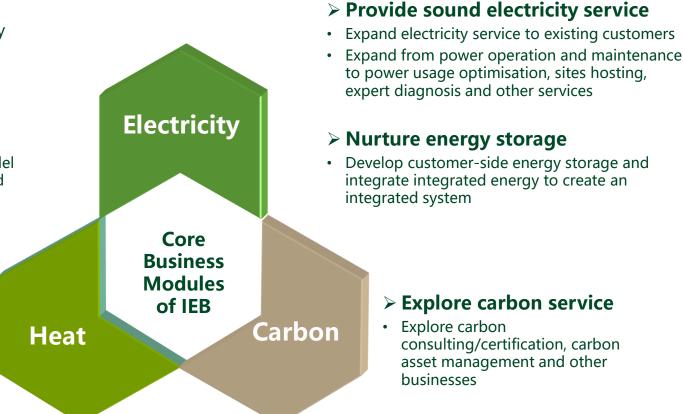
Actively expand regional high-quality solar resources

## Upgrade electricity trading service

 Carry out green power trading agents, upgrade traditional electricity sales model and expand from electricity sales to load aggregation, virtual power plants, etc.

### > Utilise biomass

- Manage the full life cycle of biomass utilisation from collection - storage processing - transportation – usage
- > Increase the use of natural gas heating and waste heat

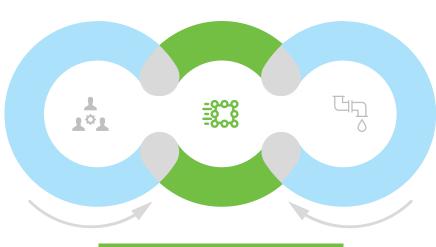


## **Expand and Strengthen Gas Distribution Business**

## Integrate and optimise gas sources

- ✓ Deepen the strategic cooperation with the three majors to secure more resources
- Create synergies from the ecosystem to have flexible LNG import and other unconventional resources





## **Smart Matching of Supply & Demand**

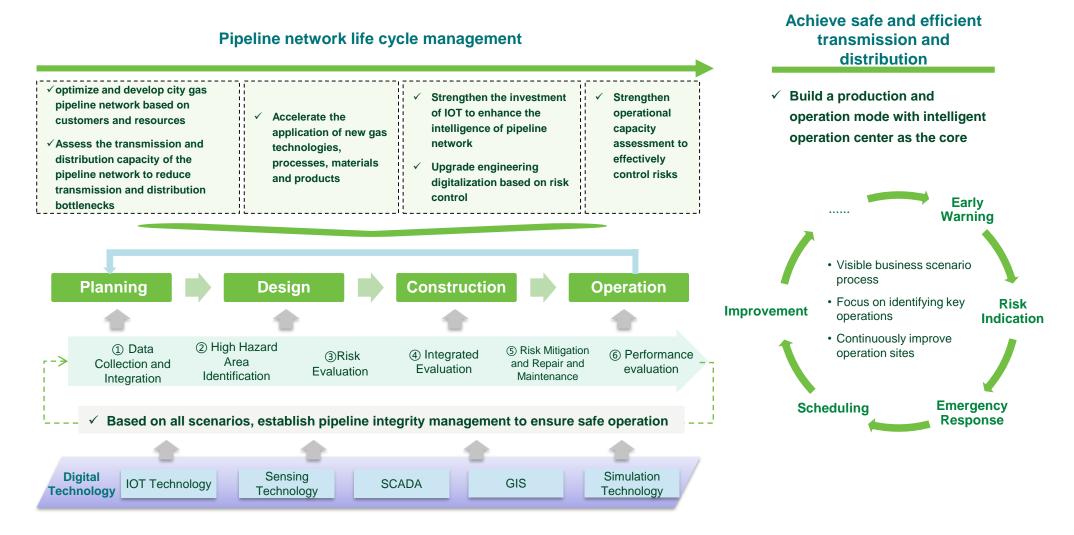
- Conduct customer gas demand forecast by category
- ✓ Optimise the matching of customer-resourceschannels
- Provide diversified pricing packages

## Scale up market size

- ✓ Initiate and expand the use of substitution for high-carbon energy for high-energy consuming and high-emissions customers
- ✓ Closed-loop customer management (from consumption planning, confirmation, adjustment and execution)
- ✓ Accelerate coal to gas conversions for C/I users, and increase the penetration rate for residential users
- ✓ Acquire citygas projects via M&As in an innovative way

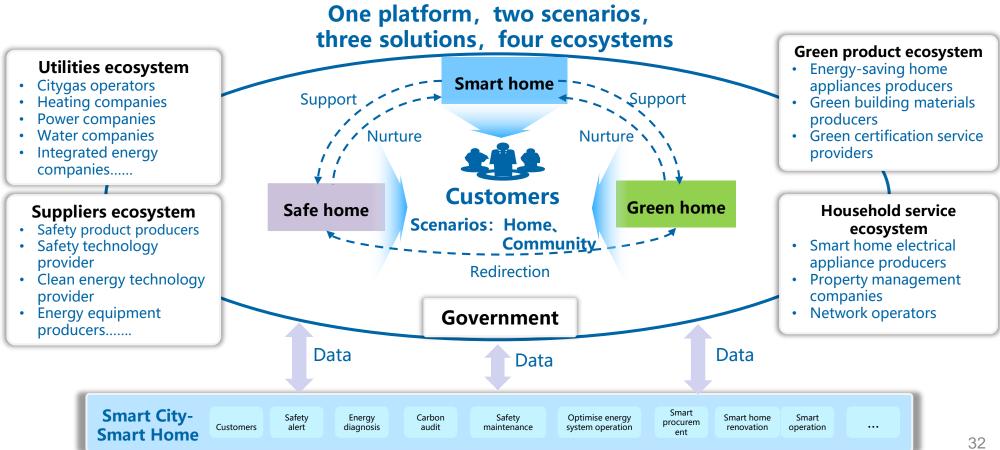


# Improve the safety and transmission capacity of Pipeline network, enhance efficiency and reduce costs with digital intelligence



## VAS Upgrade to "Smart City-Smart Home"

- Business model upgrade from Value Added Service Provider to a Lifestyle Ecosystem Operator, providing quality lifestyle services to all homes
- > Focus on the needs for safety, low-carbon, comfort & personalisation, to create a Smart City-Smart Home platform, collaborating with ecosystem partners to provide lifestyle services and products to customers



## **2022 Guidance**

	Targets
IEB revenue	+50%
VAS gross profit	+30%
Retail gas sales volume	+12-15%
Dollar margin	Approx. RMB0.5/m <sup>3</sup>
New C/I development	20 mil m³/day
New residential development	2.4mil
New project(Citygas & IE project)	50
Core profit	+12-15%

## **Content**

- 1. Results Review
- 2. Financial Highlights
- 3. Development Strategy
- 4. Appendix

## **ENN – To Build an Industry-leading Integrated Energy Service Provider**

## **Company Profile**

- Established in 1993, ENN is one of the leading private-owned clean energy distributor in China.
- ENN's principal business includes investment in, and the operation and management of gas pipeline infrastructure, vehicle/ship gas refueling stations and IE stations, sales and wholesale of piped gas, LNG and other energy, integrated energy business, sales and distribution of piped gas, LNG and multiple energy forms. It also develops integrated energy business and wholesale of gas business, while providing other energy-related value added business.
- ENN was listed on the GEM in 2001 and transferred to the Main Board of HKEX (stock code: 2688) in 2002

## **Key Business Segments**

## Rey Dusiness Segment



- Sell piped gas to residential households and C/I customers
- Construct and operate CNG/LNG gas refueling stations

#### **Integrated Energy Business**



 Based on customers' need, provide multi-energy products according to energy sources available locally, and customize integrated energy solutions

#### Wholesale of Gas



 Conduct natural gas wholesale business to fully utilize its advanced dispatch system, logistics fleet and upstream resources

#### **Construction & Installation**

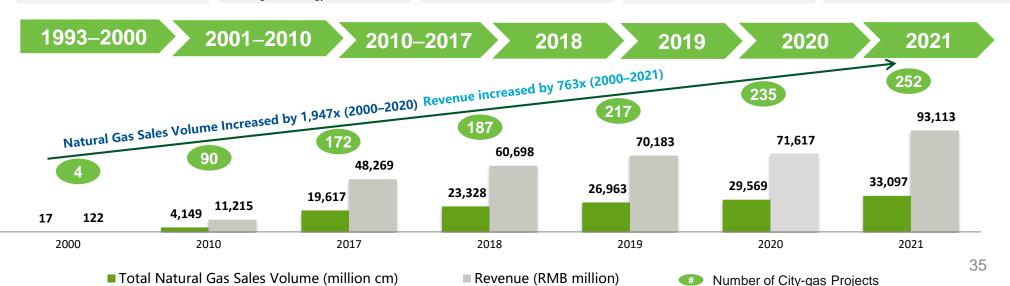


 Conduct gas pipeline construction and installation for residential and C/I customers

#### **Value Added Business**



- Provide energy-saving technology, retrofitting services, and inspection and maintenance services
- Provide gas-related products and material sales



#### Methane Emission (ME) Management

Align with international standards and improve transparency

Joined the Methane Guiding Principles (MGP) in 2021, we aim to adopt best practices for identification, monitoring and reporting of ME, and to disclose ME data align with international standards in 2023 and continuously improve transparency afterwards

Improve ME management policies and measures

Integrate methane management into daily operations, deploy continuous emission reduction measures, and gradually link performance related to ME management with remuneration

Promote the application of onsite detection technology

Aim to equip all city-gate stations with the onsite detection devices such as Pan-Tilt-Zoom (PTZ) by end of 2022, so as to improve quality and accuracy of ME data

Encourage eco-partners to take actions

As a founding member of the China Oil and Gas Methane Alliance, we pledged to achieve the common goal of the alliance and advocate for more eco-partners to take actions on ME management, including taking advanced technologies and improving disclosure transparency

#### Energy Transportation Decarbonisation



Adopt clean fuels for self-owned vehicles

Aim to achieve carbon emission reduction of 28.3% for selfowned transportation vehicles by eliminating diesel-powered vehicles by end of 2025, and switching to zero-carbon fuels such as hydrogen or bio-fuels around 2030

 Enhance efficiency and reduce emission with intelligent approaches

Continuously implement digital and smart technologies including Yuntu Cloud System and smart dispatching to optimise route and minimise the idling rate, so as to improve efficiency and reduce carbon emissions

Promote low-carbon operations of eco-partners

Aim to adopt low-carbon transportation as a core criterion for supplier assessment from 2026

#### **Green office**



Energy Conservation in Office Buildings

Use of renewable energy

Aim to fully deploy photovoltaic for self-owned office buildings, with solar power generation accounting for 5% of electricity consumption by 2025

#### Energy-saving management of office buildings

Aim to reduce energy consumption per unit area of office buildings by 10% by 2025

- · Energy-efficient lighting fixtures and air conditions
- Paperless office
- Green building standards for office buildings construction
- Intelligent management of energy utilisation

#### Low-carbon Travel

Aim to replace 50% of self-owned administrative vehicles with new energy vehicles by 2025

#### **Integrated Energy Business (IEB)**

#### Energy Generating Facilities of IEB



Promote the use of renewable energy

By accelerating solar, biomass, geothermal and other renewable energy use, and introducing hydrogen after 2025, we aim to increase the proportion of renewable and zero-carbon energy utilisation to 36% by 2030

Improve overall energy generating efficiency
 Aim to further improve the overall energy generating
 efficiency by 5% against existing level of 90% by 2030
 with technical and strategic optimisation and support
 from the Serink Smart Energy Management Platform

Boost carbon-negative technology application
 Aim to establish carbon capture, utilisation and
 storage (CCUS) pilot projects for IEB around 2025
 and neutralse 5% carbon emissions generated from
 natural gas consumption annually thereafter

#### Low-carbon Industrial Parks and Green Factories



**UILDING A** 

LOW-CARBON SOCIE

- To assist the green development of industrial parks and customers, we aim to help them build 50 green factories and 50 low-carbon industrial parks by 2025
- By 2030, the number of green factories and low-carbon industrial parks developed for customers will increase to 200 respectively

#### **Green Buildings**



 Leveraging on our enriched lechnological know-hows on integrated energy and experience of energy management for customers, we provide green buildings solut ions and building energy-saving services for architectural customers such as hospitals, hotels, airports, office buildings, etc.

#### Value Added Business





Understanding the household customers' pursuit
of smart energy usage, safety and low-carbon
lifestyle, we will serve them leveraging the use of
digital and intelligent technologies such as LoRa,
LoT, big data, etc.



## **Application of Low-carbon Energy - Hydrogen**

In cooperation with well-known universities in China, we plan to build a hydrogen energy laboratory in Shijiazhuang and jointly carried out multi-scene hydrogen doping experiments

Developed the technology of biomass hydrogen production, which has applied for a patent, and produced hydrogen-rich gas from biomass pyrolysis for metallurgical reduction

Founding member of "Yangtze River Delta Hydrogen Infrastructure Industry Alliance", aims at exploring the development of hydrogen refueling infrastructure following policies of "Yangtze River Delta G60 Hydrogen Corridor"



## Hydrogen produced by Natural gas – A project in Liaoning Huludao



- Provided hydrogen for a pharmaceutical company
- H2 production capacity: 1,200 mil m³/year
- Investment amount: RMB17.39 mil
- Expected return: IRR 20%
- Status: Commenced operation in June 2021

## Hydrogen produced by Coke oven gas – A project in Henan Jingbao



- Matched with PSA hydrogen production device, purified the hydrogen-rich tail gas made from coke oven gas ,and exported to provide high purity hydrogen fuel for bus companies
- H2 production capacity: 2,000 mil m³/year
- Status: Commenced operation in Jan 2021

## **Explore the Application of Low-carbon Energy Distributed Solar**

Government's front: "14 · 5 Year Plan" is expected to continue to drive the use of clean energy, and to implement renewable power generation quotas and license waiver policies Customer's needs: Pressure to digest renewable-generated power, demand for cost reduction and efficiency enhancement

 ENN Energy possesses tremendous C/I customers resources

**Competitive Edge:** 

 Gas concession areas, IE projects, and incremental power distribution networks will create synergy, able to reduce operating costs & mitigate receivables issues

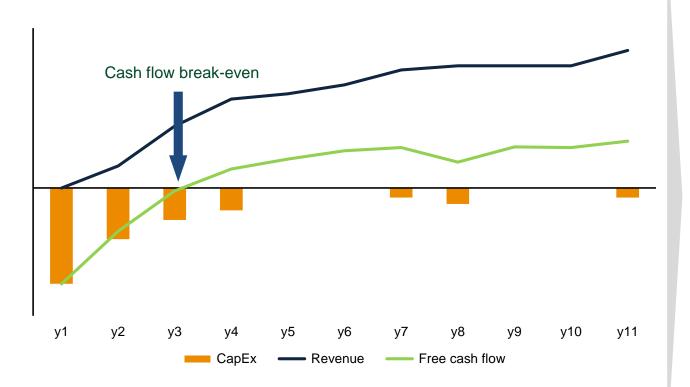
## Case Study – Yangkou Distributed Solar Station in Shandong Shouguang

## Summary

- Installed capacity: 11.33MW
- Utilized customer's rooftop of 146,000 m<sup>2</sup>
- Investment amount: RMB70.98mil
- Operation: Grid connection & all-on-grid
- Generation Capacity: 16mil kWh in 2019
- Tariff Subsidy: RMB0.98/kWh
- Return: IRR 12%



## **Typical Industrial Park IE Project - Cash Flow Projection**



## 1. Stable & Recurring Income

- Integrated energy solutions reduce customers' overall energy bills **▶10%**
- Selling the types of energy customer need increases their stickiness

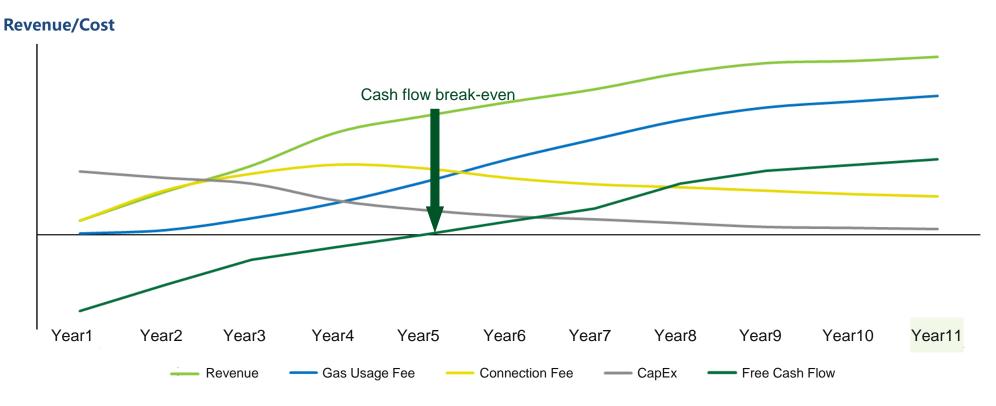
## 2. Rapid Cash Flow Generation

- Capex are invested by stages depending on the number of customers and their energy consumption scale
- Our projects are mostly industrial parks with existing customers, once the energy stations completed, energy sales can be generated
- Payback period: 7-8 years

### 3. Low Risk

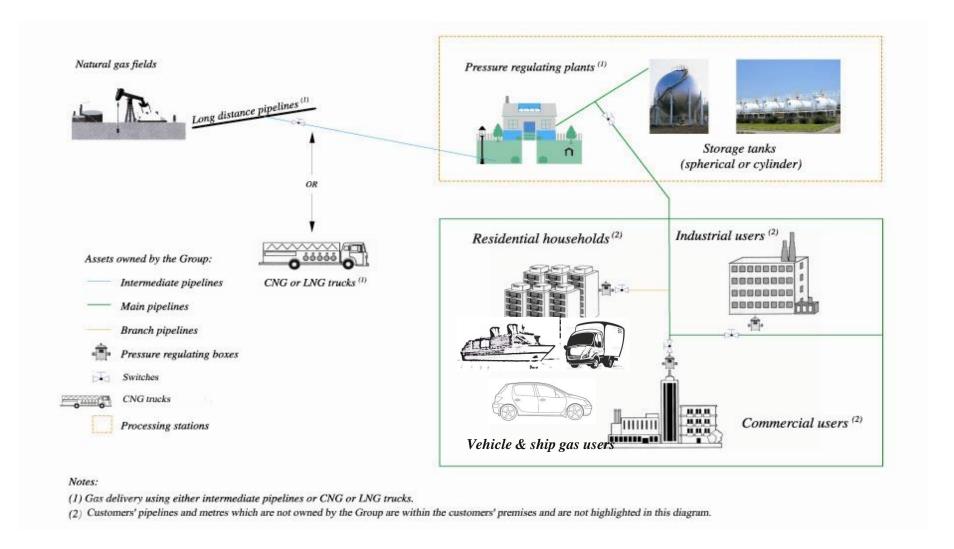
- Diversified customer base in industrial parks helps reduce cyclical risks of certain industry
- Sign minimum energy offtake volume and establish automatic passthrough mechanism with customers
- Market-oriented business model with low regulatory risk

## Simplified Model for a Typical City-gas Project



- Connection fee dominates in early years when the project companies are signing up new customers
- Gas usage increases as projects mature, becoming the major source of recurring income
- ➤ Prior to the completion of the whole pipeline network in cities, revenue will be generated as soon as gas supply becomes available in certain districts. Each connection contract normally takes 6–12 months to complete
- In general, gas projects would generate positive free cash flow after 5 years of operation

## **Gas Delivery Process**



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