



BizTech Huihuà Chat: Realising The Renewable Energy Internet - The Financial Interconnectors

Professor Alexander Van de Putte, Chief Strategy Officer, Astana International Financial Centre
Zhuang Liu, General Manager, Energy China Group International Engineering Corporation

Thursday, 24 February 2022, 08:00 GMT



A Word From Today's Chairman

Professor Michael Mainelli
Executive Chairman
Z/Yen Group





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Today's Agenda

- 08:00 – 08:05 Chairman's Introduction
- 08:05 – 08:25 Keynote Presentation – Professor Alexander Van de Putte
- 08:25 – 08:45 Keynote Presentation – Zhuang Liu
- 08:45 – 09:05 Question & Answer
- 09:05 – 09:15 Conclusion & Close



Today's Speakers



Professor Alexander Van de Putte

Chief Strategy Officer, Chairman of Corporate
Governance & Stewardship, and Chairman of the
Academic Council

Astana International Financial Centre



Zhuang Liu

General Manager

Energy China Group
International Engineering
Corporation

Realising the Renewable Energy Internet – The Financial Interconnectors

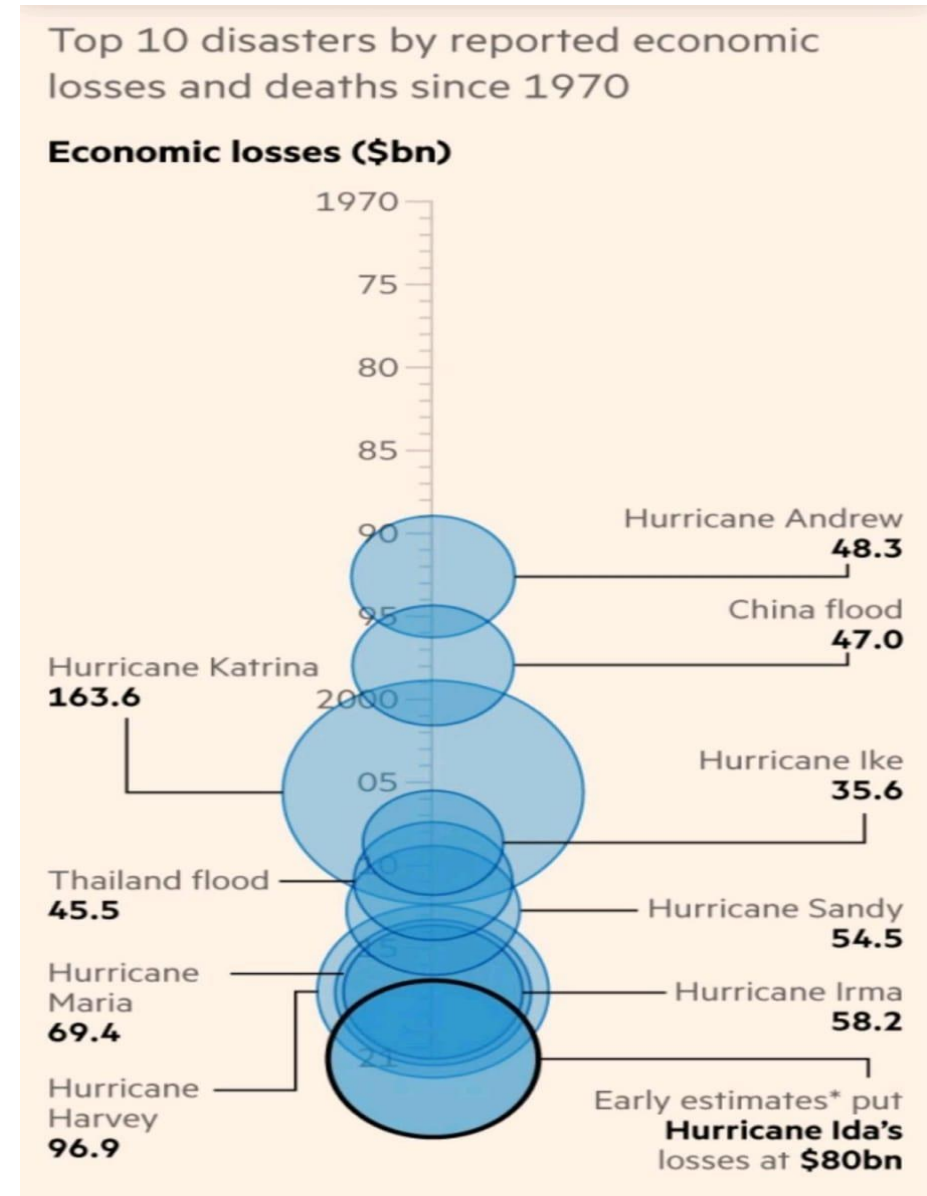
Prof. Alexander Van de Putte PhD, FCG, CDir FloD, NACD Fellow
Chief Strategy Officer
Chairman of Corporate Governance & Stewardship

24 February 2022

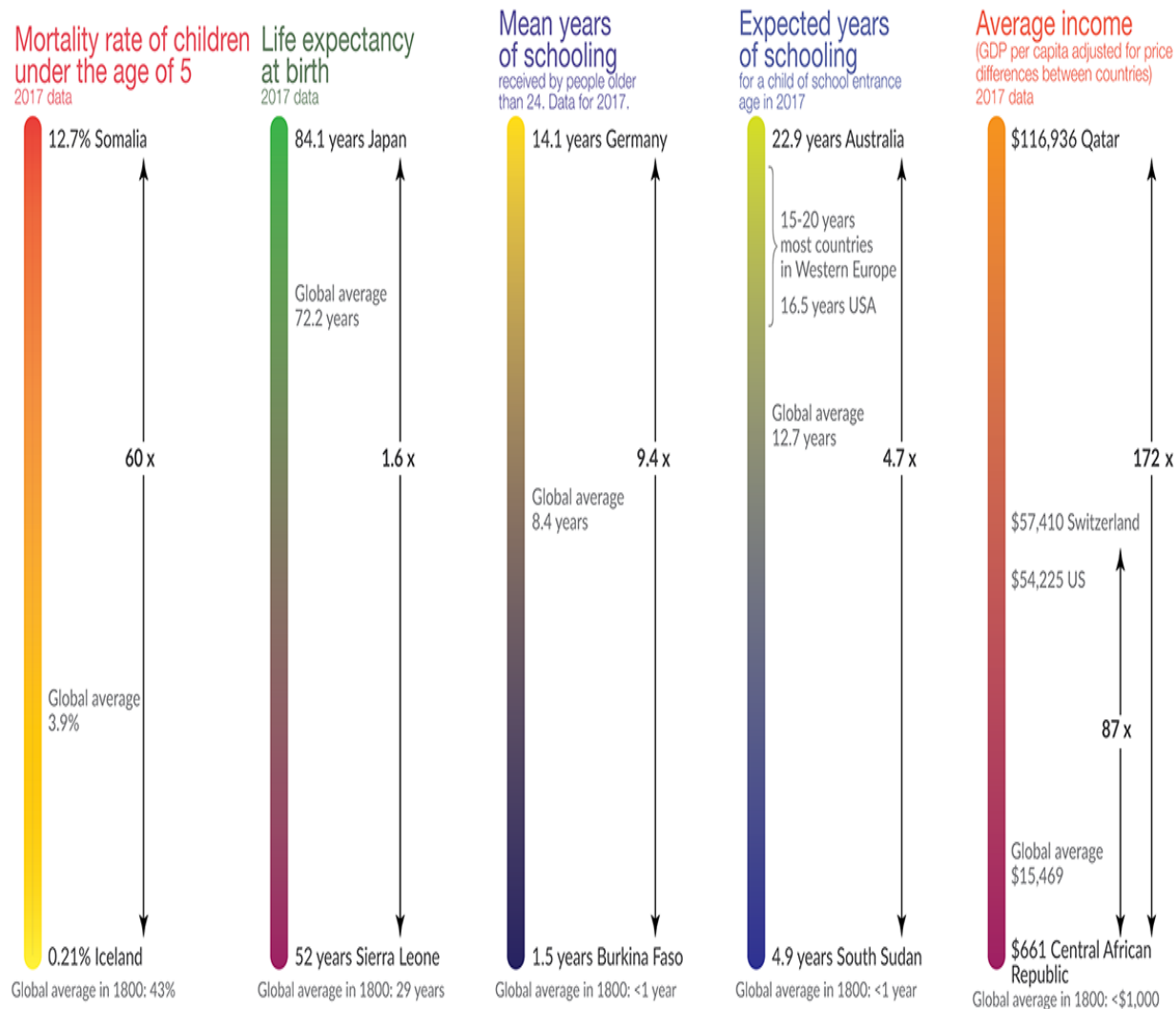


The Cost of Global Climate Change

- The cost of global climate change was estimated by the Stern Review to be \$500 billion in 2006.
- 15 years later (at the end of 2021), the cost of global climate change stood at \$16.5 trillion, or compounded annual growth rate (CAGR) of 26%.
- Therefore, the cost of global climate change is growing 7 times faster than the global economy.
- In addition, the deaths and financial losses of climate related disasters are increasing and there are also more frequent climate related disasters.



Global Inequality in Living Conditions



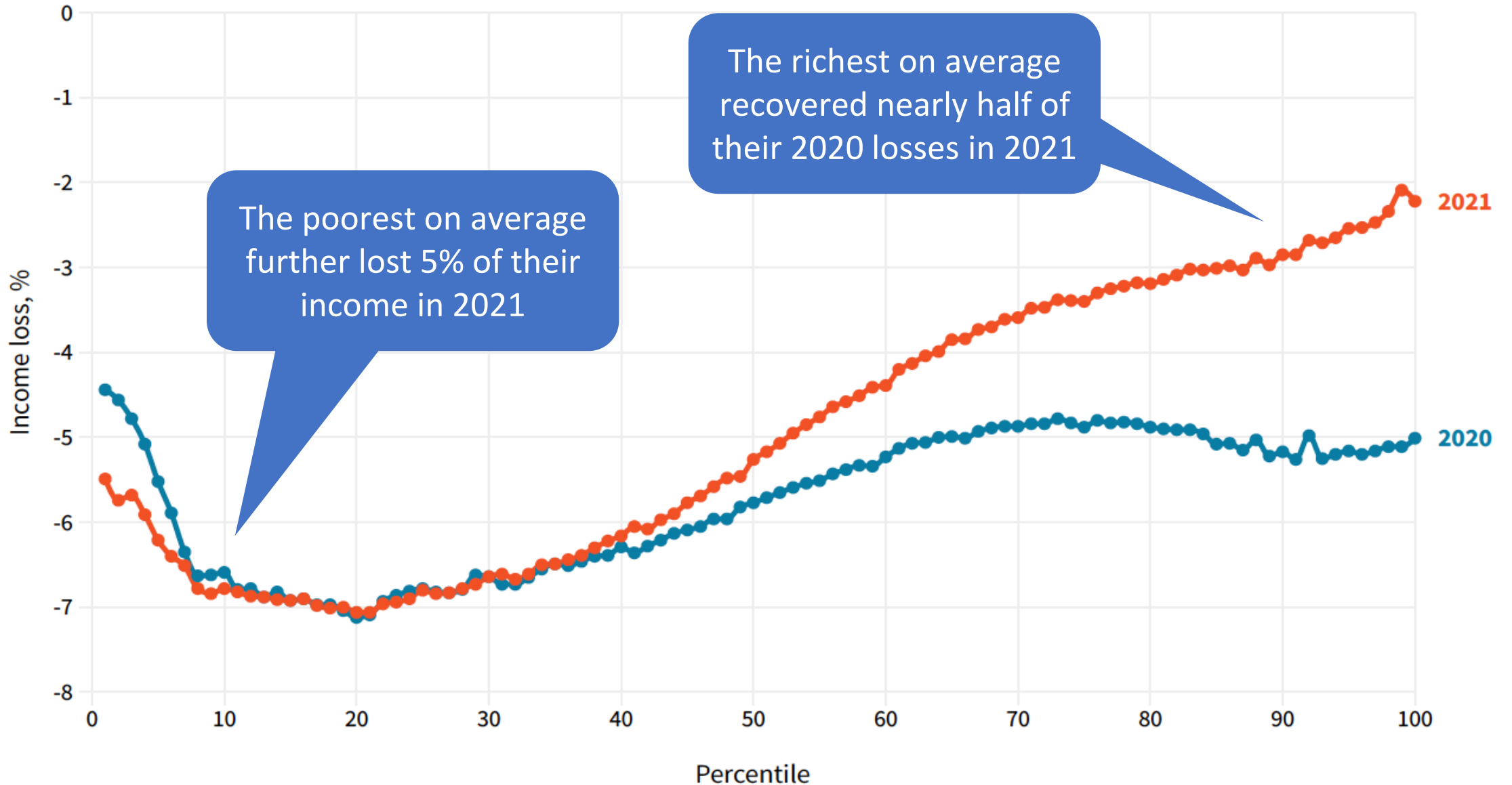
The extent of global inequality – it is not who you are, but where you are.

- Living conditions are vastly unequal between different places in our world today.
- This is largely the consequence of the changes in the last two centuries: in some places living conditions changed dramatically, in others more slowly.

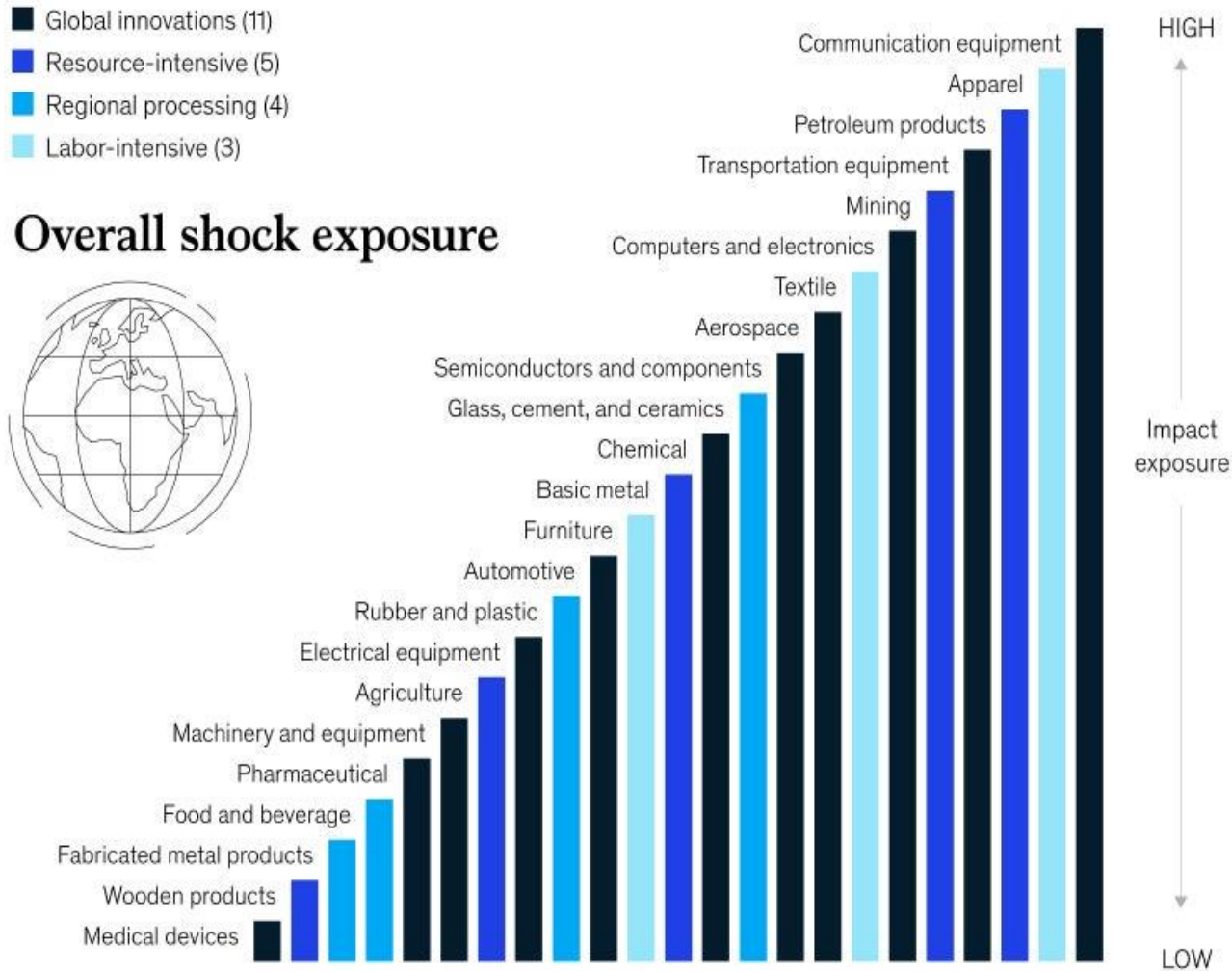
Nobody can get healthy and wealthy on his own – Societies make progress, not individuals.

- What gives people the chance for a good life is when the entire society and economy around them changes for the better.
- This is what development and economic growth are about: transforming a place so that what was previously only attainable for the luckiest few comes into reach for most.

Covid-19 has Increased Global Inequality

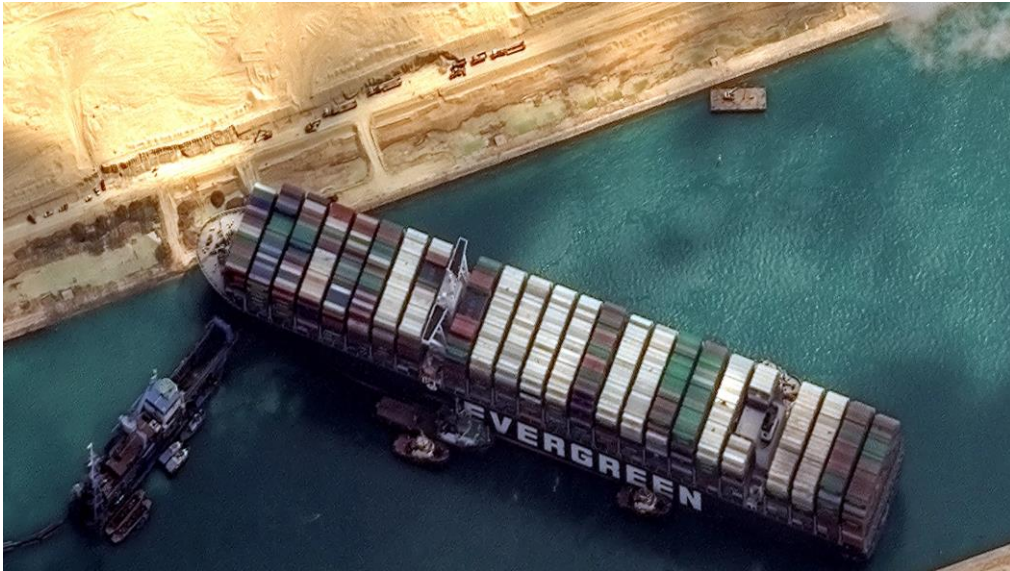


Value Chain Exposure to Shocks Vary Greatly by Sector



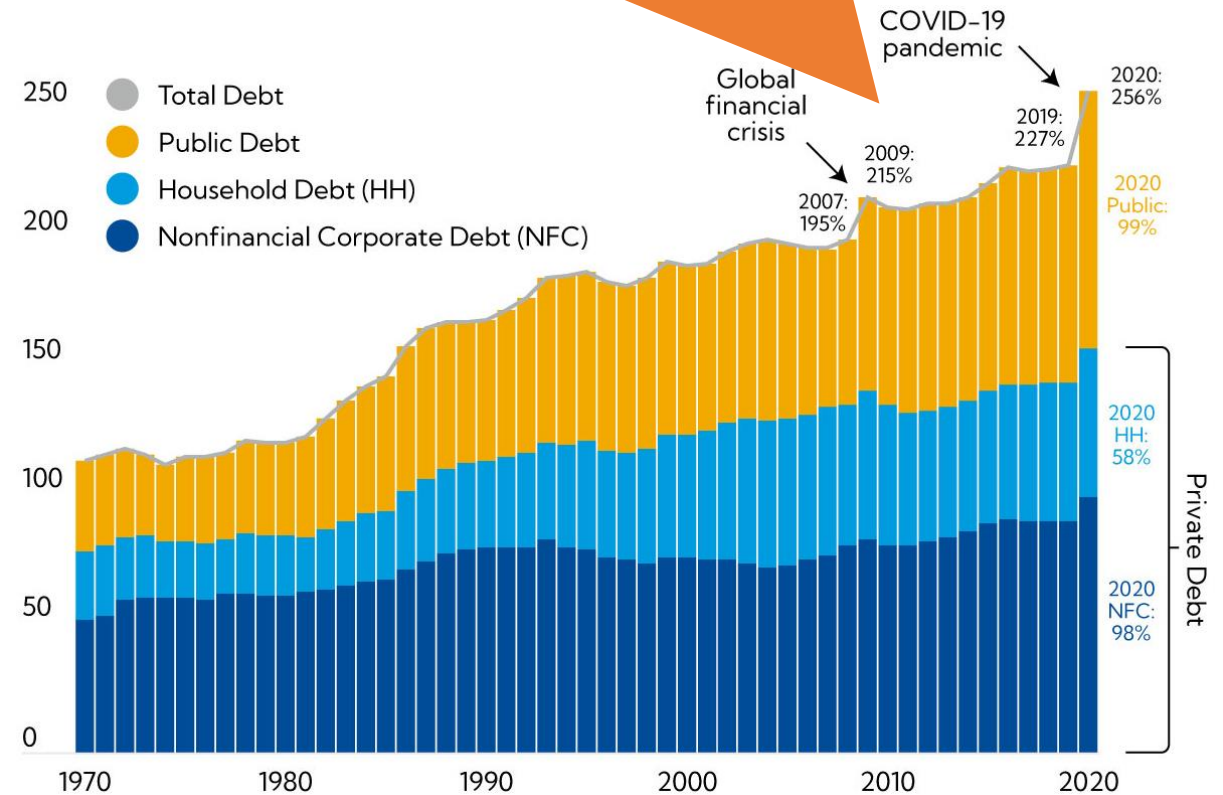
**FUKUSHIMA,
COVID-19,
TERRORISM,
SYSTEMIC
CYBER
ATTACKS
SHOW THE
LACK OF
RESILIENCE
OF GLOBAL
VALUE CHAIN**

The Global Economy is Not Well Prepared to Deal with Shocks – 1



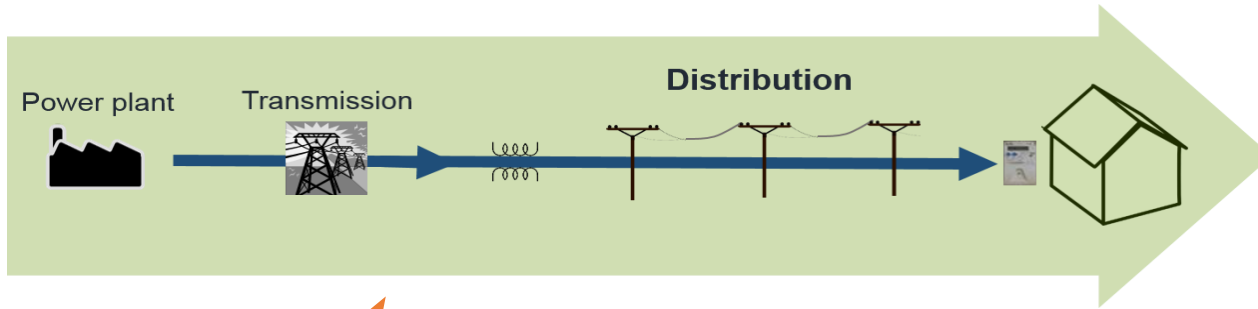
A single container ship brought 12% of global trade to a halt and it took more than 1 month to clear the backlog.

In 2020, the global economy declined by 4.9%, but it could have been -20% or even -25% because global debt increased by \$19.3 trillion. *How often can we continue to ease the impact on economic growth resulting from an exogenous shock by issuing debt?*



The Global Economy is Not Well Prepared to Deal with Shocks – 2

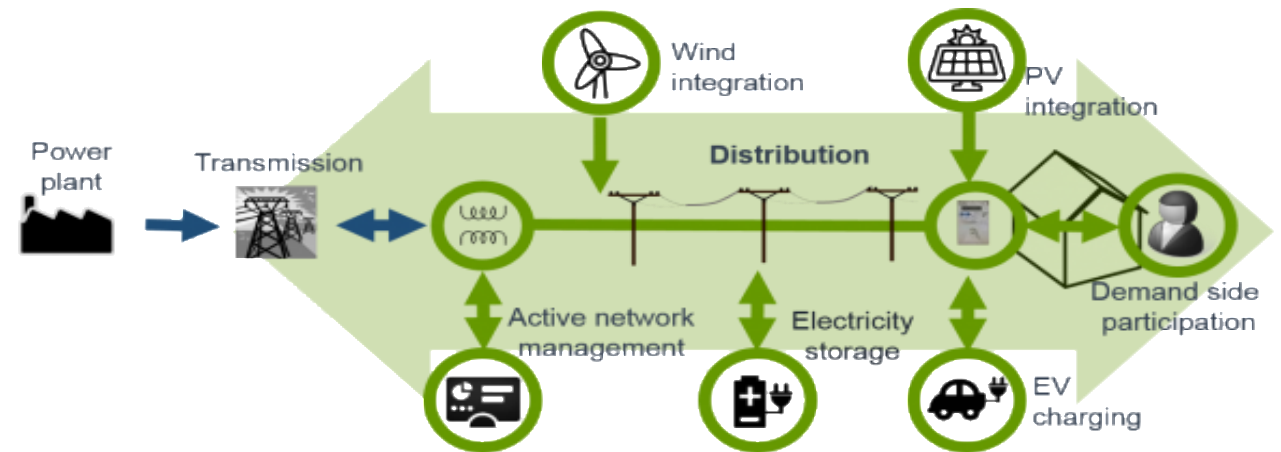
Traditional 'Unidirectional' grid



A multidirectional largely decentralised smart grid is resilient and therefore less vulnerable to breakdowns and upstream disruptions

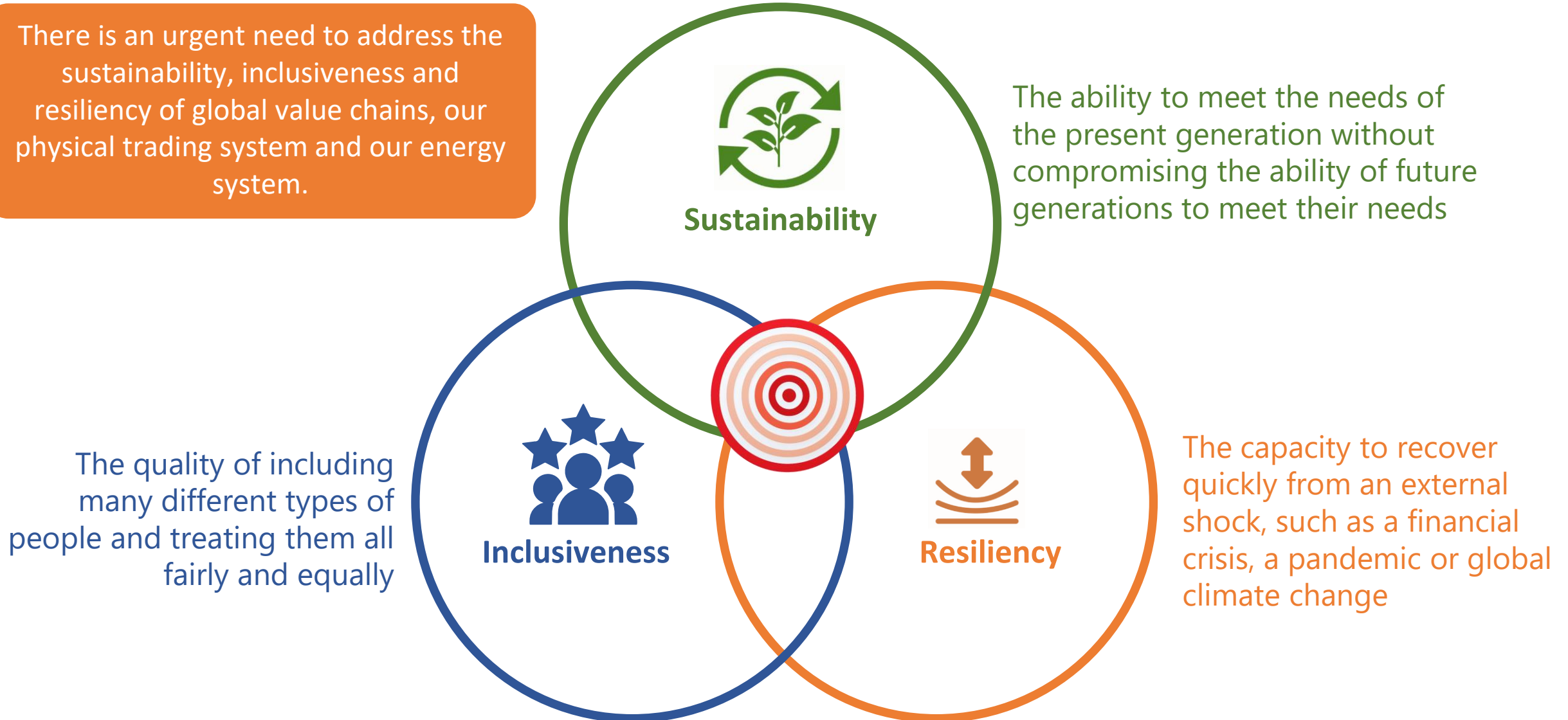
In a unidirectional grid, the system is vulnerable to upstream disruptions (power plant, transmission, etc) resulting in power outages at the point of consumption

Multidirectional largely decentralised 'Smart' grid

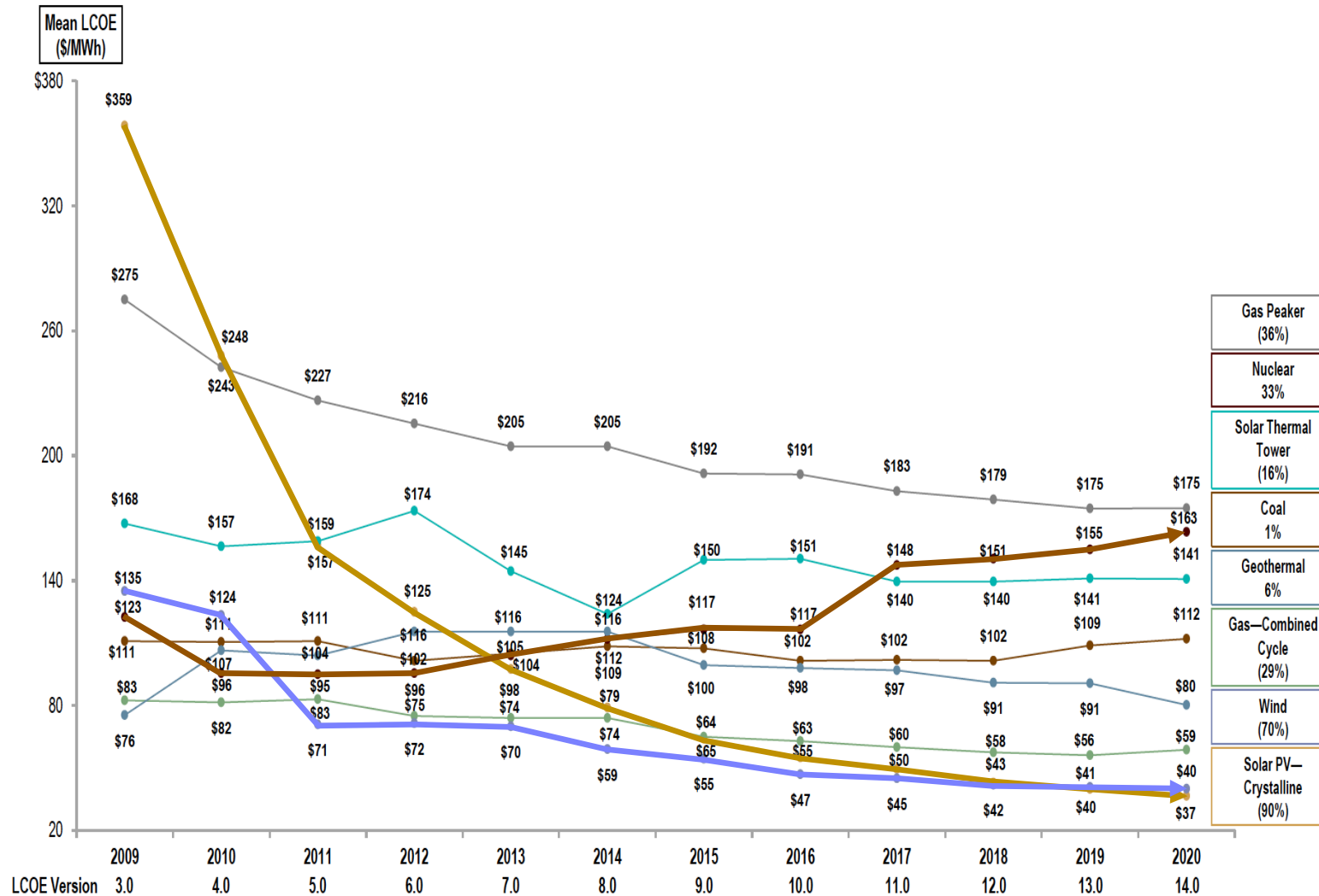


The Need to Move Beyond the Narrowly Defined ESG

There is an urgent need to address the sustainability, inclusiveness and resiliency of global value chains, our physical trading system and our energy system.

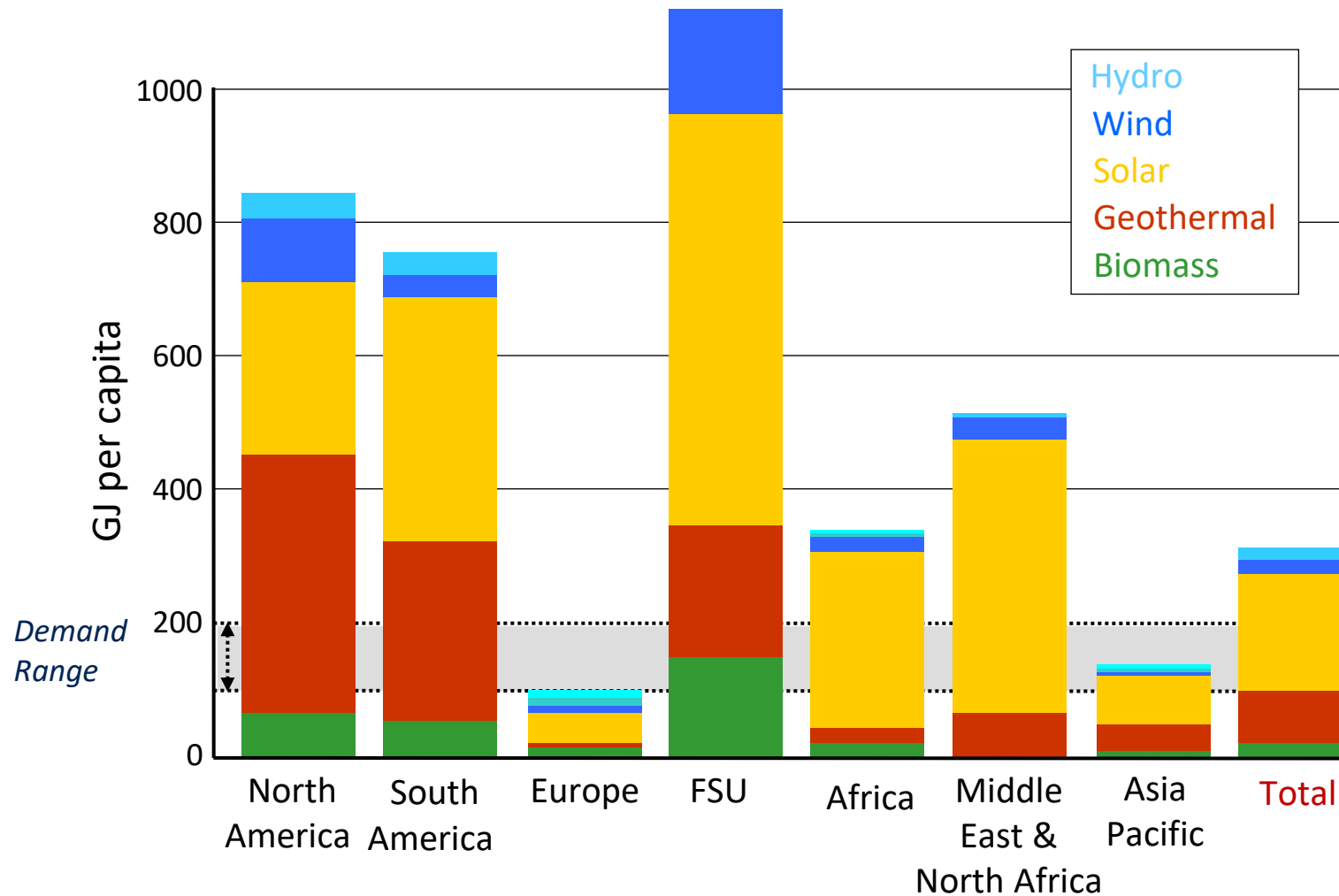


Electric Renewables are Competitive Against Fossil-fuel Alternatives



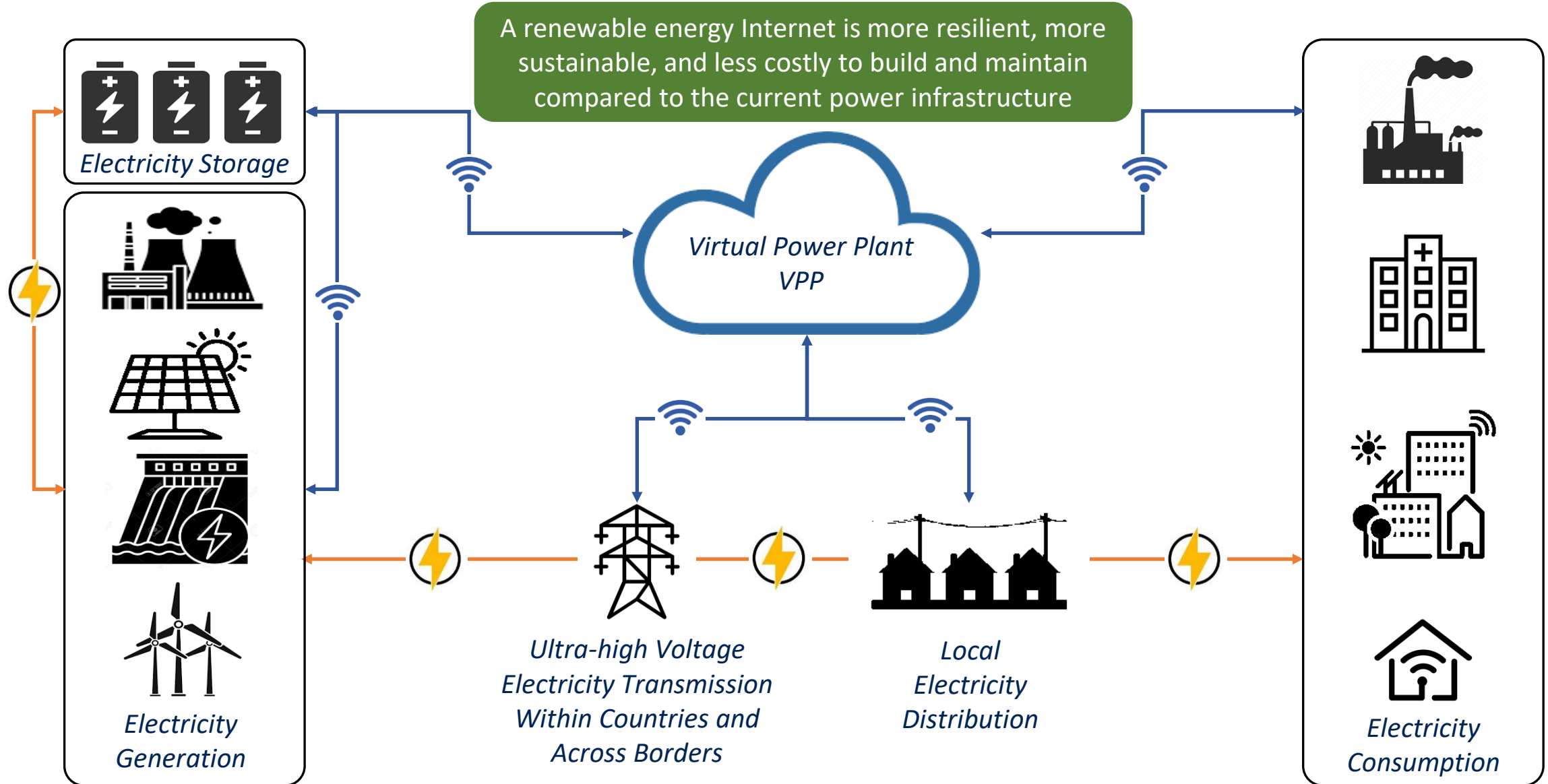
- The levelised cost of wind and especially solar have decreased dramatically, making them competitive against all fossil-fuel alternatives.
- The cost of nuclear has been increasing steadily and is amongst the most expensive. Nuclear is also not needed as part of a largely decentralized multi-directional renewable energy super grid

Renewable Energy Potential to Meet the Needs of 10 billion People

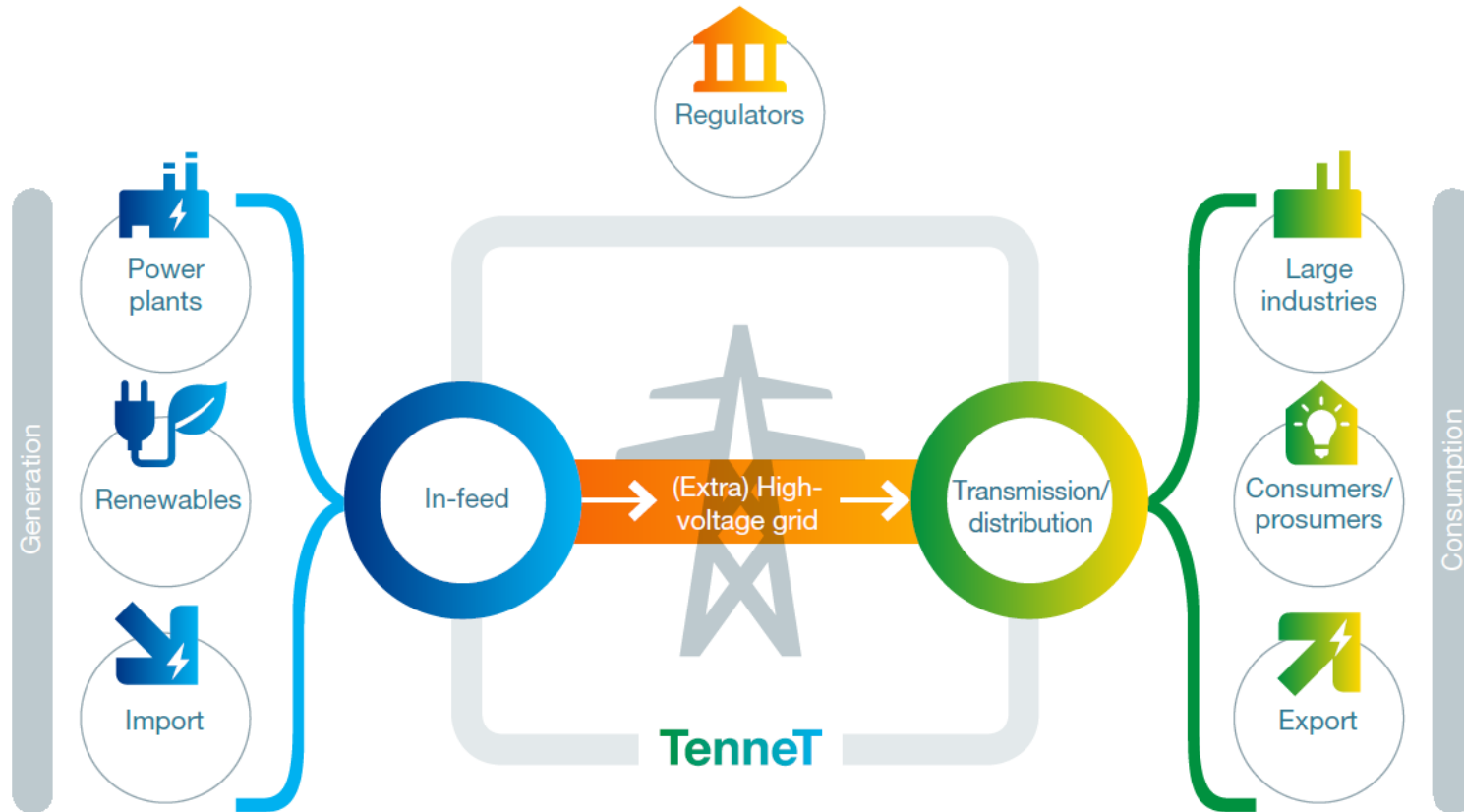


- There is enough renewable energy potential (the amount of energy that can be economically developed) to meet the needs of 10 billion people, but is not equally distributed across the globe.
- Asia Pacific and Europe will always be net importers of energy, while the FSU, including Kazakhstan has ample export potential.

The Eurasia Renewable Energy Internet



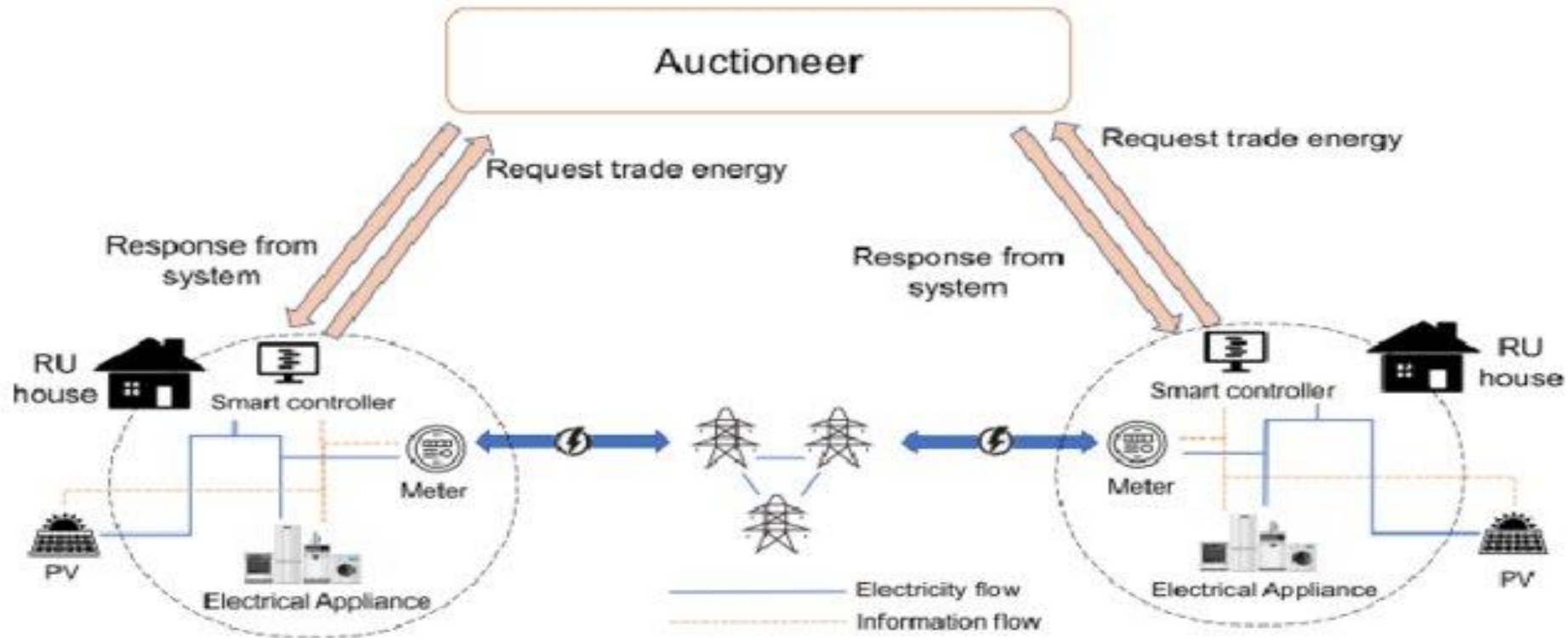
A Transparent, Liquid and Stable Electricity Market is Needed



To realise the Renewable Energy Internet, a transparent, liquid and stable electricity market is needed.

This to ensure that electricity production and transmission capacity in all countries along the REI are used as efficiently as possible.

... as well as a Peer-to-Peer Energy Trading within Smart Grids



At the 'local' smart grid level a real-time peer-to-peer energy trading system using blockchain technology.

Each residential or commercial unit can buy or sell energy in a manner that is profitable. In addition, it reduces the need for centralised energy production and storage

Financing the Eurasia Renewable Energy Internet

“A pan-Eurasian Grid requires a pan-Eurasian financing solution, including equity markets, green and blue bonds and Islamic bonds, combining the financial might of financial centres along the Eurasian region”





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ENERGY CHINA

CPECC
中电工程

ENERGY
CHINA

CPECC

Company Presentation for Z/YEN

24 Feb, 2022

CHINA POWER ENGINEERING CONSULTING GROUP CO., LTD.

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01

Company Overview



- **Founded in 2002, with 24 domestic subsidiaries and 2 Spain design institutes(EAI and GHESA);**
- **“National Team” and “Pacemaker” of China’s electric power engineering design industry;**
- **Specilization in planning, consulting, EPC projects, investment & operation, and related technology development.**

01

Company Overview

No.1

The World's Largest Power Survey,
Design and Consulting Company

No.1

One of China's NO.1
Engineering Design Enterprises

No.4

Ranked 4th in the Global Design Firms

No.6

The most efficient contractor in China

Top250

One of the world's Top 250 Contractors

13 grandmasters

13 state-level grandmasters in survey and
design

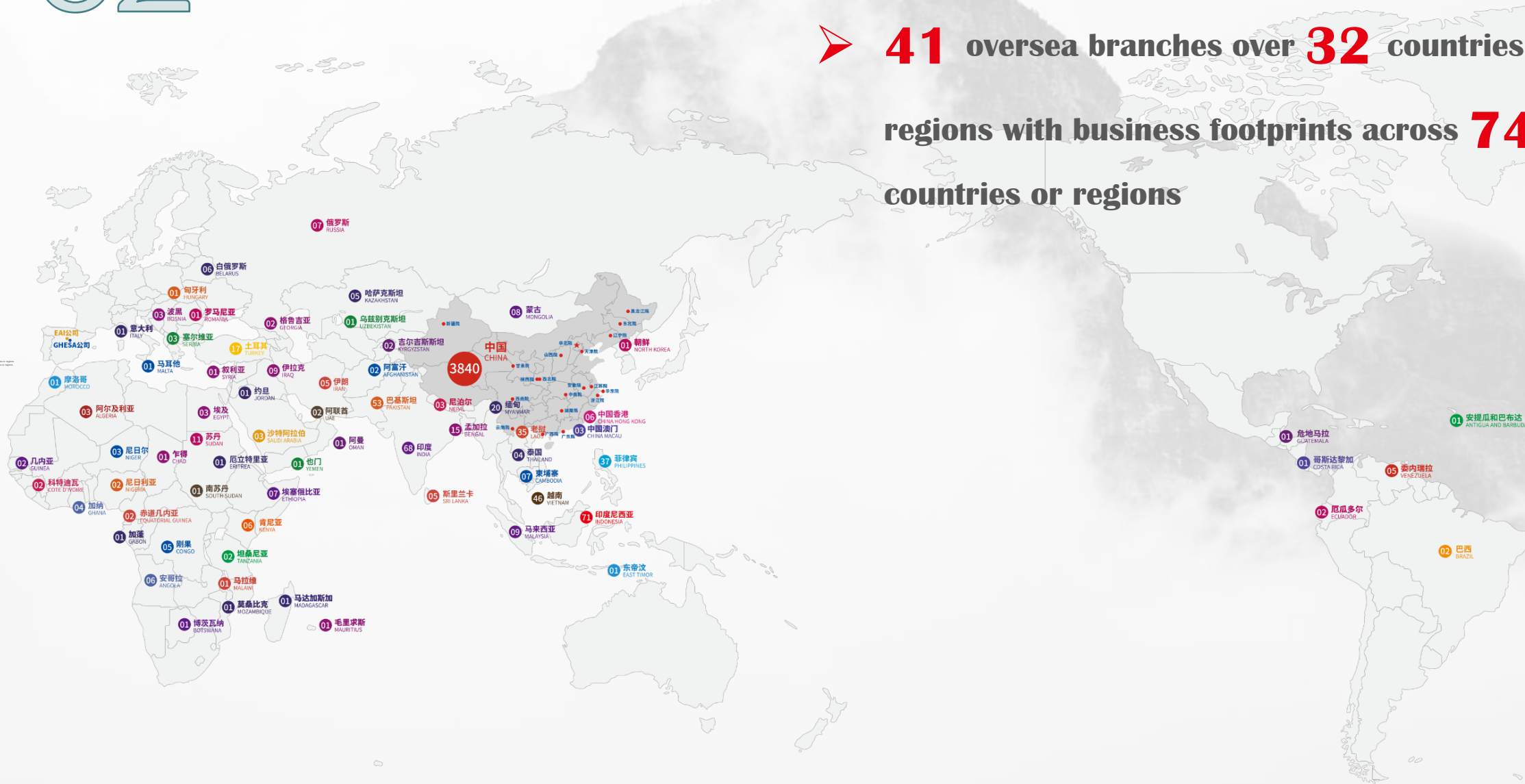
9 awards

It has won 9 National Science and
Technology Progress Awards since 2011

02

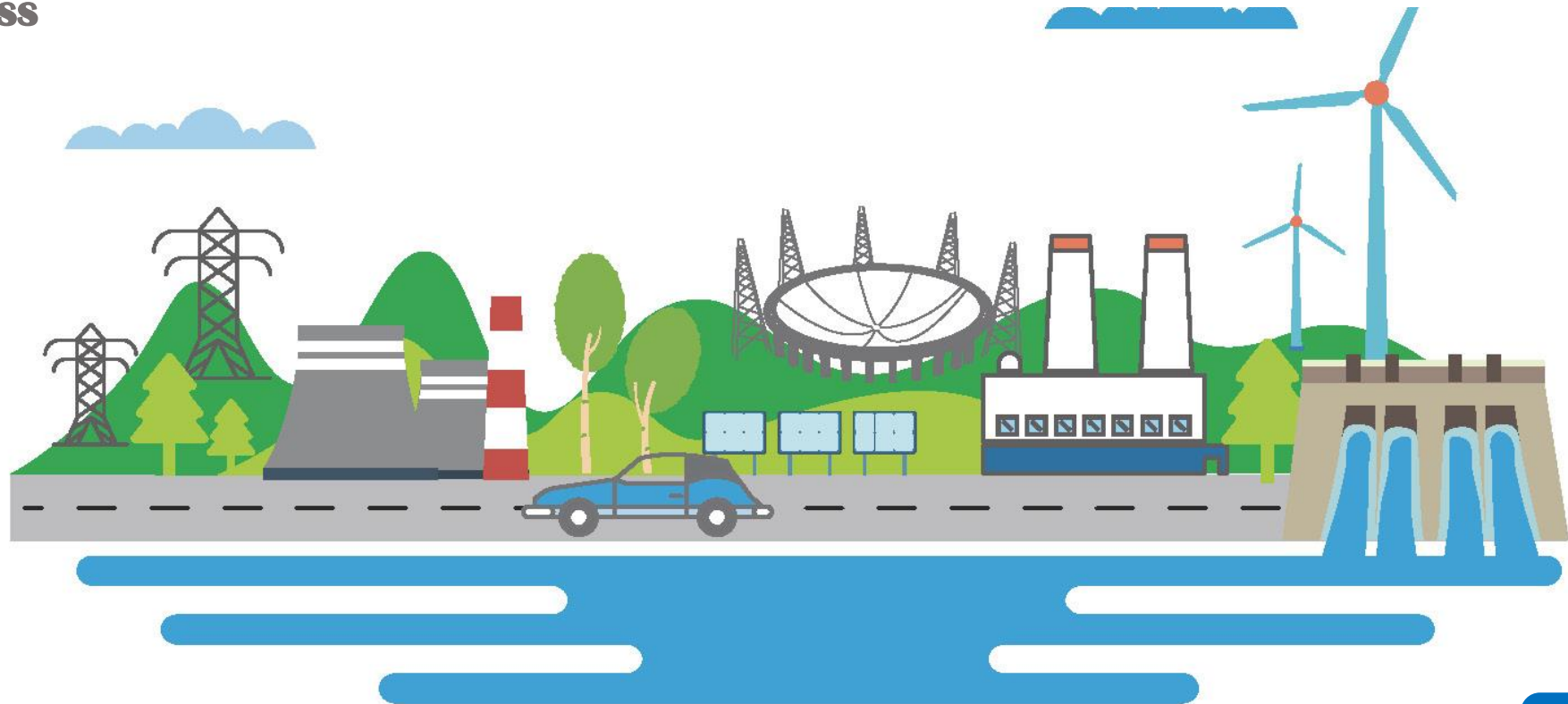
Oversea Business

➤ **41** overseas branches over **32** countries and regions with business footprints across **74** countries or regions



02

Overseas Business



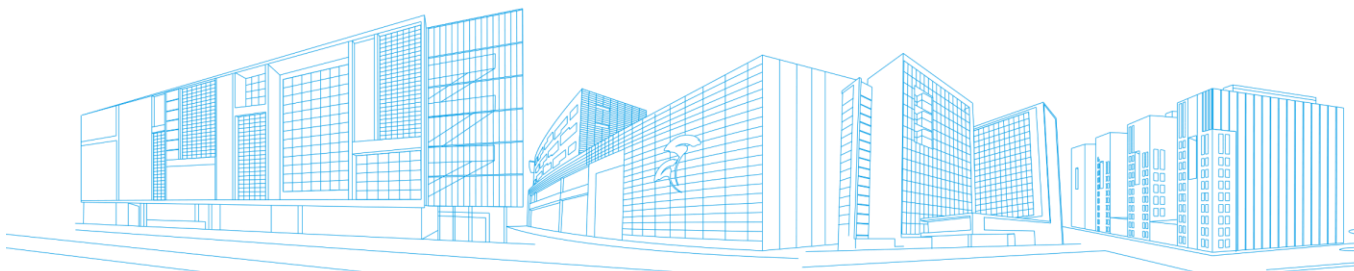
- **Core Business in world-class fossil fuel power plants, power transmission and transformation, renewable power plants, green hydrogen, energy storage, integrated intelligent energy, etc.,**

02

Oversea Business

➤ **8000 million** oversea EPC contract value in 2020, with average increase rate of more than 40% in 3 years in a row.

➤ more than **3500 million** oversea renewable contracts, accounting for 45.75% of the total international business contract, with a year-on-year growth of 97.06%



R&D ACHIEVEMENTS

- **Electric Power Engineering Handbook** covers all specialties in electric power survey and design field, including fossil fuel power engineering, power transmission and transformation engineering and general engineering;
- In-depth analysis on the current situation, power policies and electricity prices of **65 countries along the Belt and Road**, providing reference for bilateral energy cooperation.



Functional Investments



- Successfully completed the **acquisition of EAI and GHESA in Spain**, which is the largest overseas acquisition of engineering design company by Chinese enterprises so far, and has successfully realized the strategic deployment of business layout in developed markets.

Financing Resources

- Excellent relationships with banks and various financing institutions. So far, CPECC has been granted a **total credit limit of about RMB 30 billion yuan** and has been **rated top level** in a number of influential cooperate credit ratings.

Highest rating in Enterprise's International Credit Evaluation





- **Construction of Zijing Energy (Hong Kong) international investment and financing platform;**
- **Consolidation of solid capital and credit foundation for international business development and a strong guarantee for overseas financing capability.**

04

Future Cooperation with Z/Yen



- **Mutual complementarity in financing solution providing;**
- **Consulting service and information exchange;**
- **Renewable energy, green hydrogen and energy storage, etc.**

CORPORATE CULTURE

- **Closely connected with the development strategies of Energy China and CPECC, the company fosters unified awareness with common values, unites the employees with bright vision, enhances relationships with harmonious culture. The Company endeavors to build a cohesive and live corporate culture to boost the soft power and the brand value, and ultimately to establish a world-class multinational engineering company.**

Core values	Pioneering and Enterprising, Team-Cooperative, Honest and Trustworthy, Efficient and Practical
Business Philosophy	Customer-centered
Service Concept	Quick Response
Concept of Engineering Construction	Integrated Solution
Customer Philosophy	To succeed Together



Thanks!

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Comments, Questions & Answers





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Forthcoming Events

- Tue, 01 Mar (15:00-15:45) The Discount Process Is The Problem!
- Thu, 03 Mar (11:00-11:45) Cybersecurity - How To Keep Yourself Safe Online
- Tue, 08 Mar (11:00-11:45) What Tips The Balance Between A Larger Us And A Them-And-Us?

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