

China Energy Transition – Why does it matter?

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Signe Brudeset
Norwegian Ambassador to China



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LI Junfeng

First Director and Director of Academic Committee of National Center for Climate Change Strategy and International Cooperation (NCSC)

President of Chinese Renewable Energy Industries Association (CREIA)

Ninth Annual Zayed Future Energy Prize Lifetime Achievement Award Winner

Mr. Li Junfeng is the First Director General of National Center for Climate Change Strategy and International Cooperation and he currently serving as the Chairman of academic committee of NCSC. He wins Ninth Annual Zayed Future Energy Prize Lifetime Achievement Award in January of the year 2017. He also is a member of National Energy Advisory Council, a member of Expert-committee of National High-tech Program, a member of expert committee of National Ecological and Environmental Protection, a member of expert committee of National Energy Administration Energy Internet, etc. And, he also serves as a consultant of low carbon development for Beijing, Shanghai and Shanxi Provincial People's Government. Meanwhile, he is invited to be the professor and doctoral supervisor by Renmin University of China and other colleges and universities of China.



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高志凯 法学博士
Victor Zhikai GAO, Esq.

Victor GAO is a Chair Professor of Soochow University, Chairman of China Energy Security Institute; Vice President of the Center for China and Globalization; a member of the Beijing Energy Club; a Member of the Global Counsel of Asia Society in New York City; a member of the International Advisory Board of the Energy Intelligence Group in London; an advisor to Saudi Aramco and a member of the Board of Directors of several listed companies in Hong Kong.

Victor Gao has extensive experience in government, diplomacy, securities regulation, legal, investment banking, PE, corporate management and media. Victor was Deng Xiaoping's English interpreter in the 1980s. Victor served as the China Policy Advisor at the Hong Kong Securities and Futures Commission in 1999 and 2000. Victor's prior investment banking experience included senior positions with Morgan Stanley (Vice President of Morgan Stanley Asia, in the Merger, Acquisition and Restructuring Department), CICC (General Manager of the Investment Banking Department, Head of M&A Practice, and Head of CICC Hong Kong Investment Banking Department) and Daiwa Securities (Co-Chairman of China, Executive Vice President and Managing Director). Victor's corporate management experience included senior positions with CNOOC Limited as its Senior Vice President, General Counsel, Company Secretary, Member of the Investment Committee, and Director of CNOOC International and with major Hong Kong companies including PCCW and Henderson Land Group.





FOTO : Erik Burås / STUDIO B13

Therese Trulsen

Therese Trulsen is Chief Representative at Wikborg Rein's Shanghai office and a senior lawyer. She is part of the firm's M&A and corporate practice, and works mainly with cross-border matters related to the Nordics and China. She has over five years of experience from being on the ground in China. Trulsen has extensive experience with regulatory and license requirements for operations and contract structures and handling of disputes arising out of the same. Wikborg Rein is Norway's largest law firm and the only Nordic law firm in China. They have had an office in China with Chinese and Norwegian lawyers since 2002. Wikborg Rein is tier 1 ranked within Energy and Renewables assisting multinational companies in complex technical and legal energy and renewable projects worldwide.



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CHINA

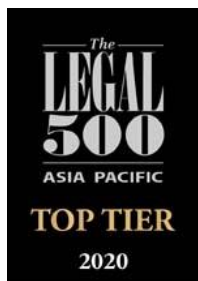
China Energy Transition

Therese Trulsen
Chief Representative
Senior Lawyer

Beijing, 26 October 2020



Wikborg Rein – International law firm from Norway



**A new way of thinking and a willingness to
look at all angles of attack**

— Legal 500

1923

Established
since

18

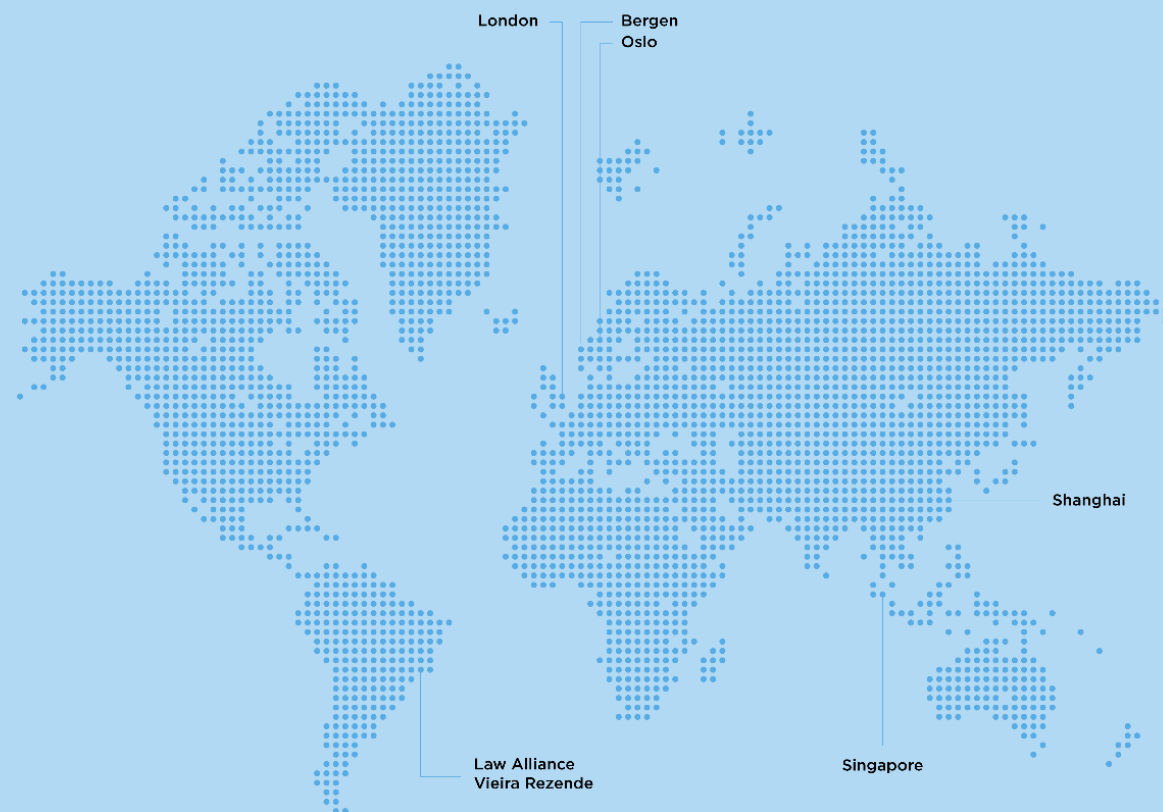
Years in
China

23

Nationalities

345

Employees

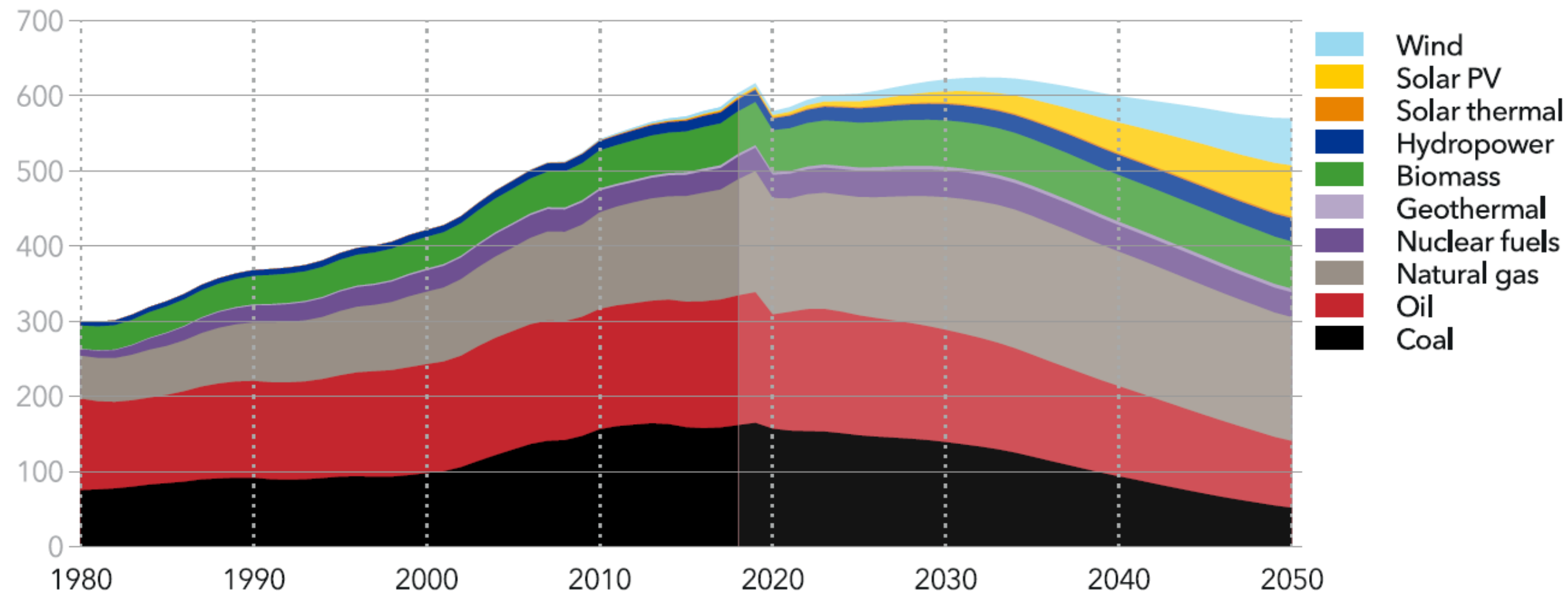


Wikborg Rein – Recent renewables projects and transactions



World primary energy supply by source

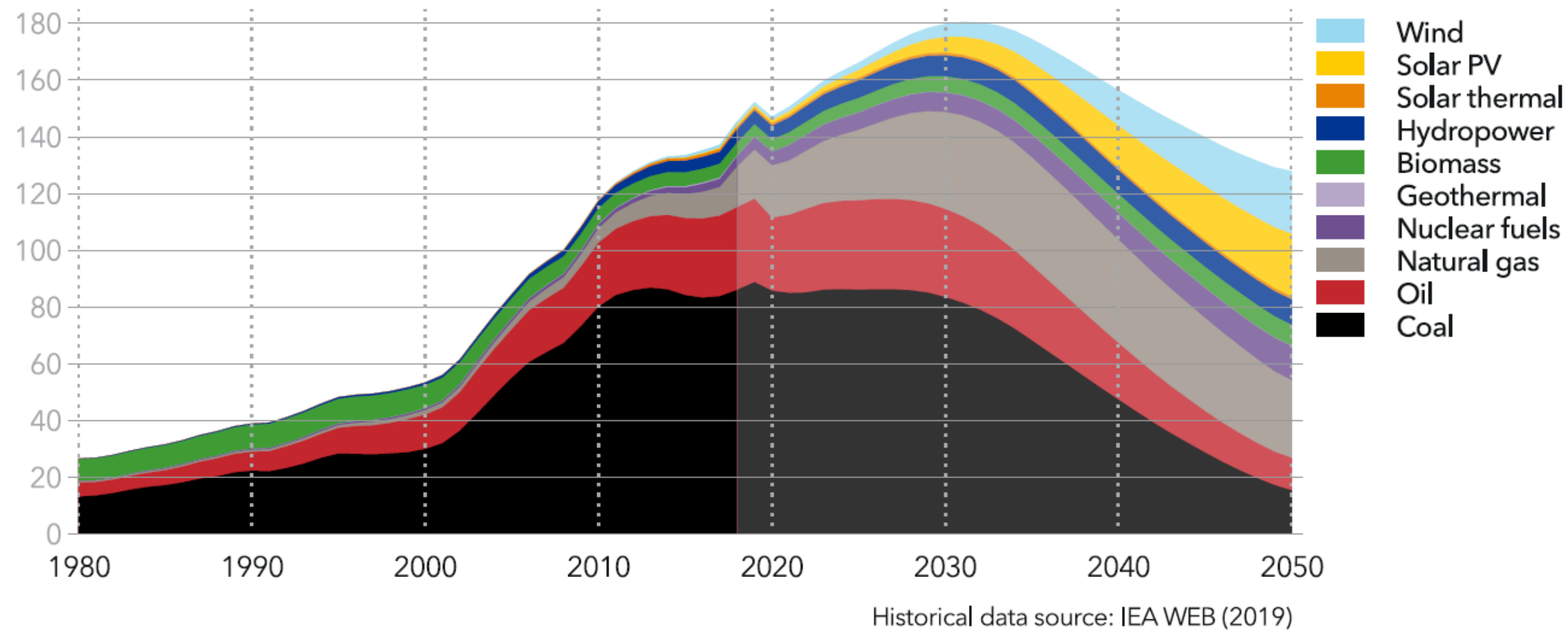
Units: EJ/yr



Historical data source: IEA WEB (2019)

Greater China primary energy consumption by source

Units: EJ/yr



Existing Regulatory Framework

- Currently

- The Renewable Energy Law of 2005
- Other relevant laws, regulations and policies:
 - Chinese Constitution (has incorporated sustainable development under the label of "ecological civilization" as a guiding principle)
 - Five-Year Plan
 - Electric Power Law of 1996
 - Energy Conservation Law of 1997
 - Environmental Impact Assessment Law of 2018
 - Circular Economy Promotion Law of 2018
 - National Development and Reform Commission's 2019 Catalogue of Industries Encouraged for Foreign Investment
 - New Infrastructure Plan of 2020
 - Power grid parity policy
- Future developments:
 - New Energy Law currently being drafted



Draft Chinese Energy Law

- Introduction & overview

- Drafting started 2005
- First draft on hearing in 2007
- Hearing of current draft completed in May 2020
- Overarching draft law setting out principles regulating the entire energy sector
- Key elements of current draft:
 - Marketization
 - Opening up to private enterprises and foreign investment
 - Implementation through regulations and local policies



Draft Chinese Energy Law – International Cooperation

Art. 84:

“The State **strengthens all-round international cooperation** through the conclusion of international treaties, the signing of bilateral or multilateral energy cooperation documents, participation in or establishment of international energy organizations, [...] joint planning, joint development, personnel exchange and information exchange.”

Art. 86:

“The State **strengthens bilateral and multilateral investment and trade cooperation in the field of energy [...].**”

Art. 88:

“The State **encourages international exchanges and cooperation** in energy science and technology, education and personnel training to promote the research, application and transformation of advanced energy science and technology.”



Renewables projects we assist with



**Hydro
power**



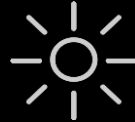
**Power
grid**



**Onshore
wind**



**Offshore
wind**



**Solar
power**



**District
heating**



**Technology and
infrastructure**



**International investments
in renewables**



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Ansvarsforhold: Denne presentasjonen inneholder en overordnet beskrivelse av enkelte regler i norsk rett. Den utgjør ikke juridisk rådgivning, og ingen forretningsmessige beslutninger bør baseres på den.
Foto: Wikborg Rein, Erik Burås/STUDIO B13, Ilja Hendel, Helge Hansen/Montag, Gettyimages

Zhu Xinlei



Zhu Xinlei is the Greater China Country Manager of Rystad Energy, oversees overall business operations in Greater China area, including two office locations in Beijing and Shanghai. Before joining Rystad Energy, Zhu Xinlei worked for IHS Markit as senior customer executive, managing key Channel Partners in Mainland China and Taiwan (2015-2019). In 2014, Zhu Xinlei was the MCC Chief Representative in Equatorial Guinea, representing MCC Group to develop Iron & Steel and infrastructure construction market in West Africa. Zhu Xinlei has over 10 years Sea oil-fields onsite working experience across 20+ countries including America, Britain, Brazil and Norway.

Zhu Xinlei has volunteered as the club Business Manager / Head of Secretariat at Beijing Energy Club since 2013. Zhu Xinlei holds Full-time MIT-Tsinghua International MBA degree.





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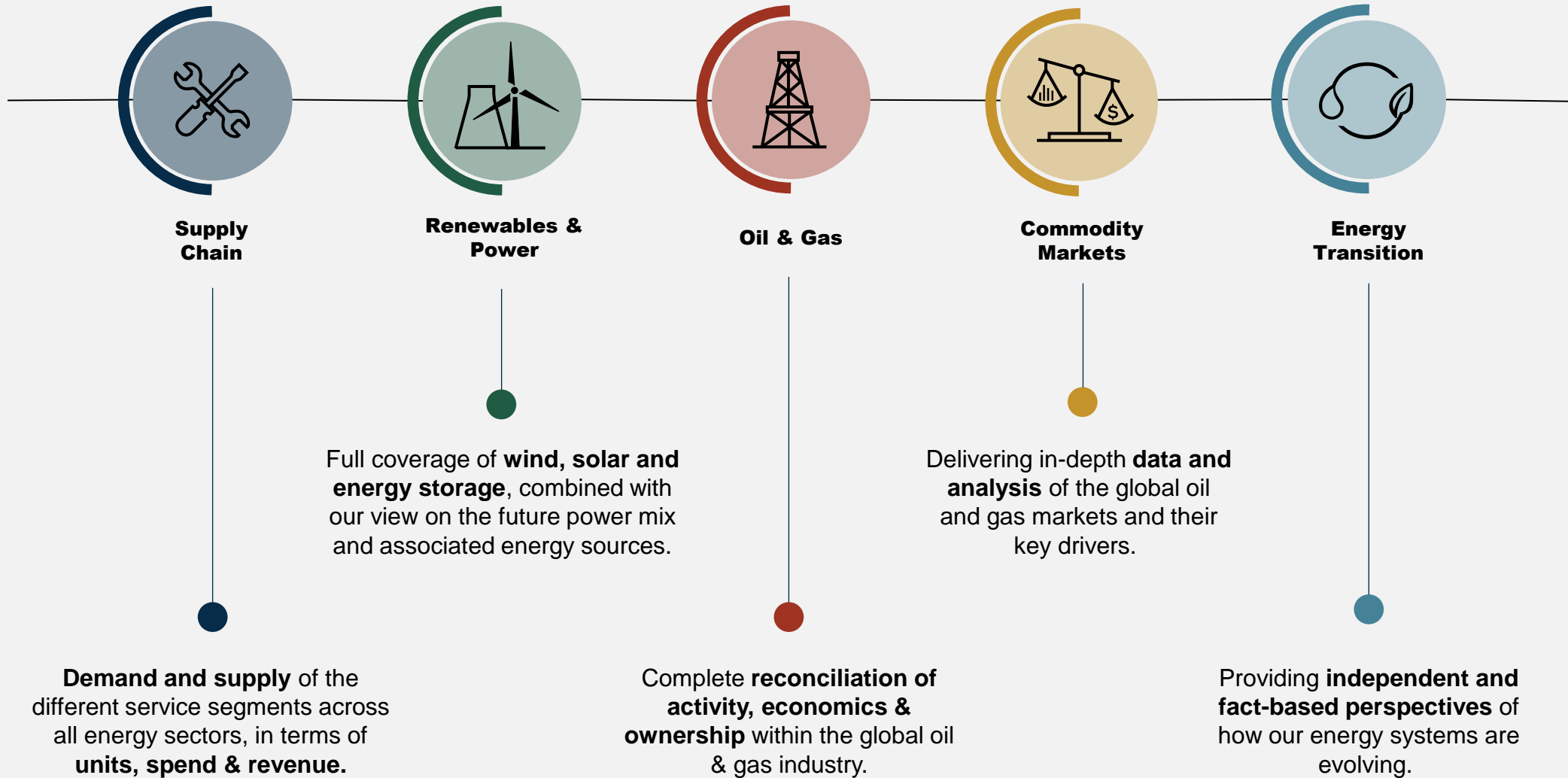
CHINA ENERGY TRANSITION WHY DOES IT MATTER

Rystad Energy

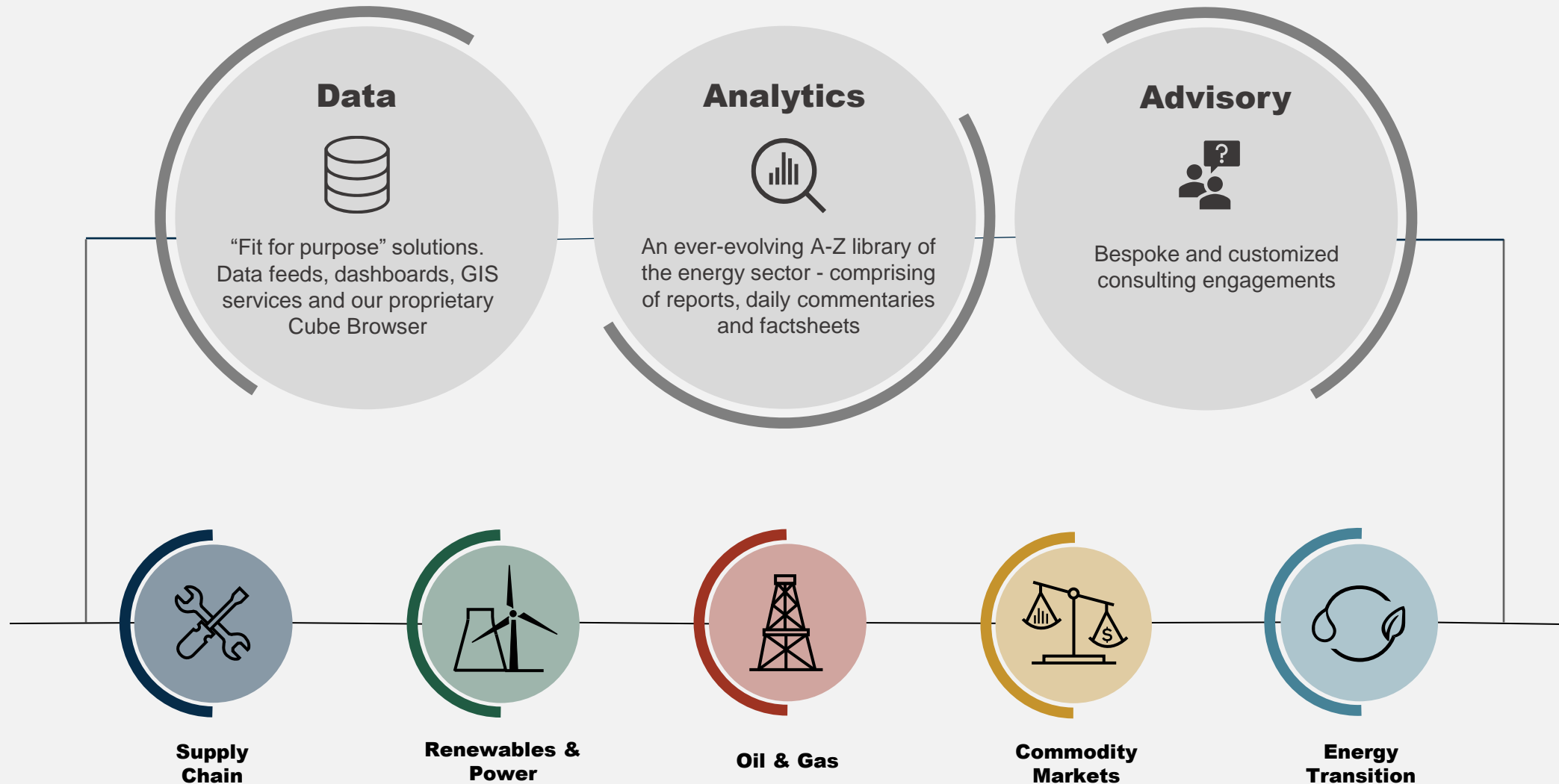
We are a **global independent** energy research and business intelligence company, providing **data, analytics and advisory** services to clients exposed to the energy industry.



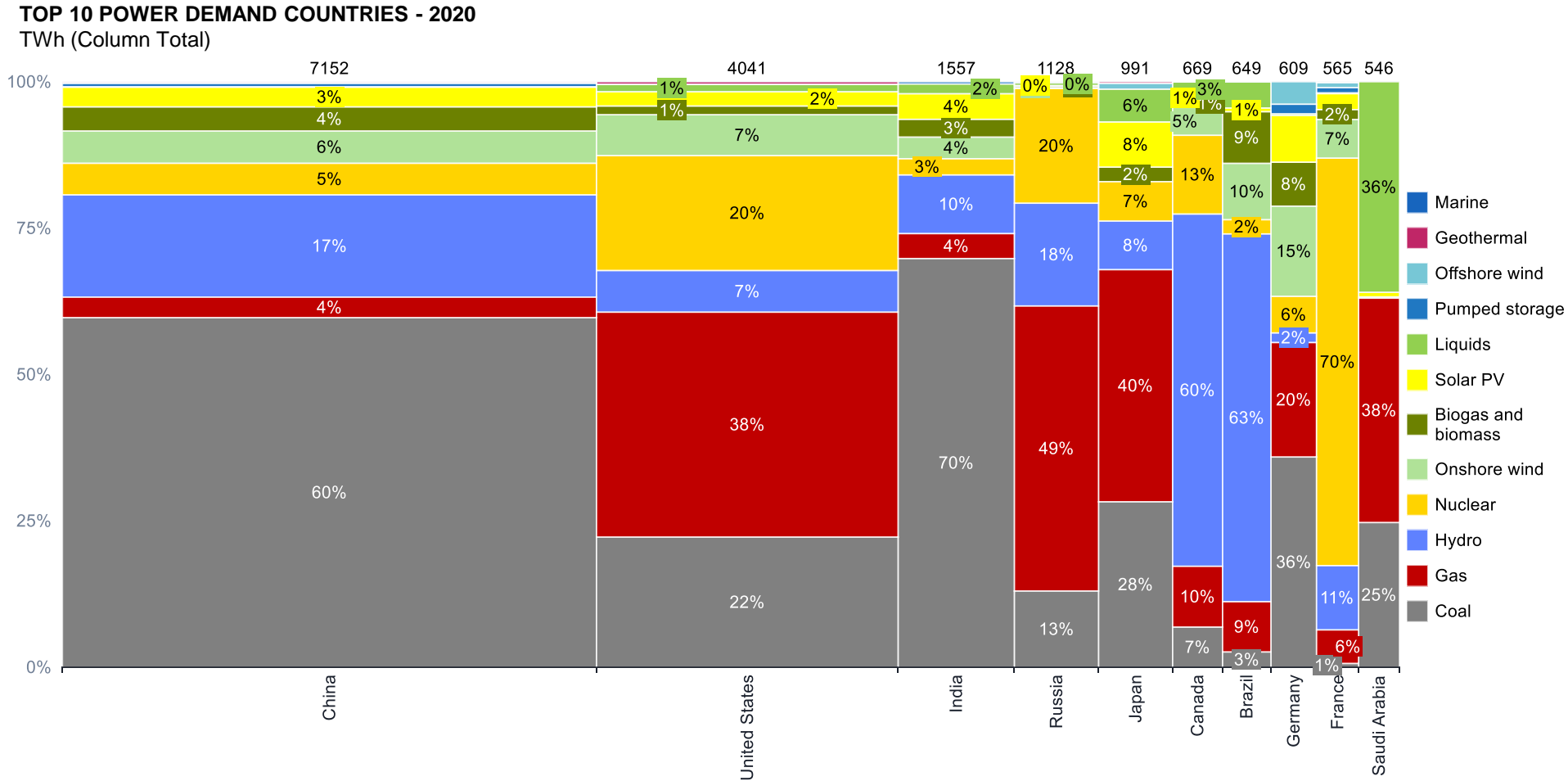
Our Energy Themes



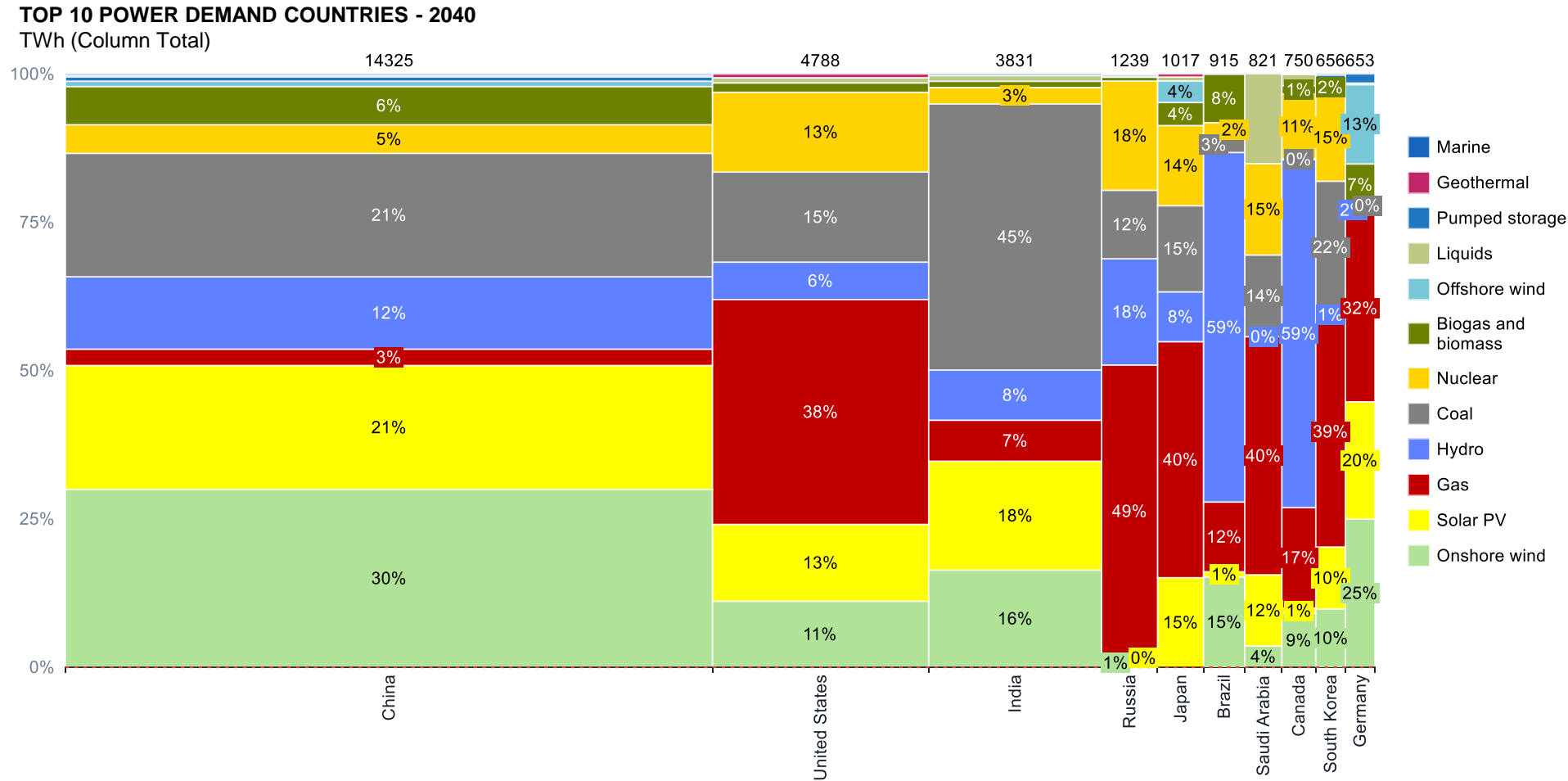
Delivery channels to meet your business needs



Today, Coal, Gas and Hydro are the main source of Power for top 10 power demand countries

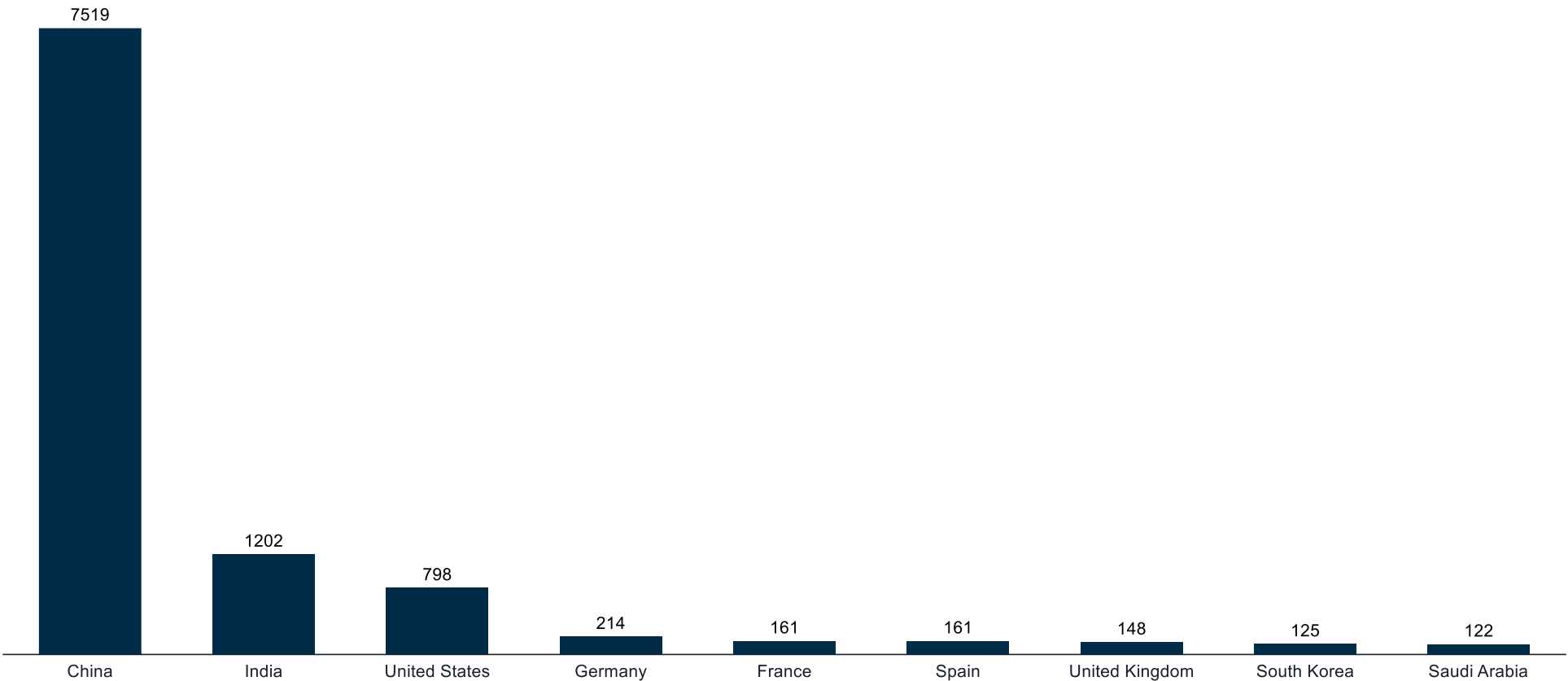


By 2040, Solar, Onshore Wind and Gas will displace traditional sources of power



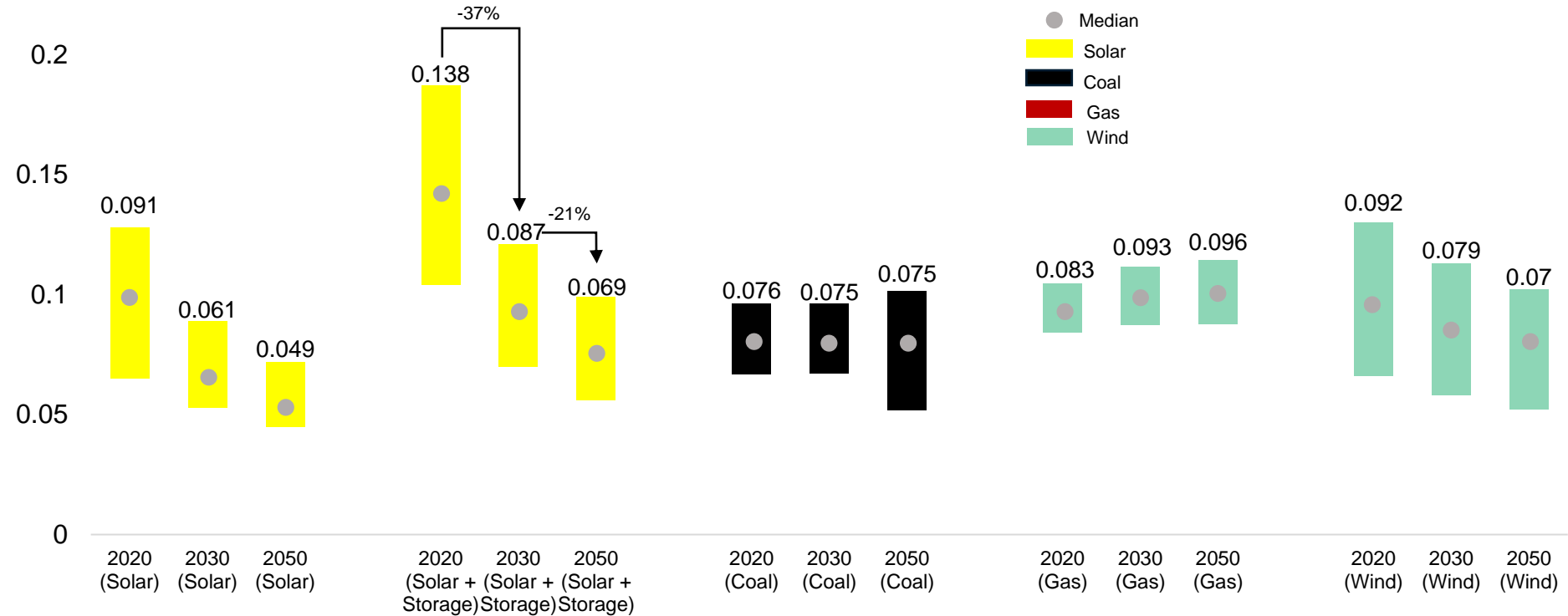
Top Growth in Renewables Power Generation

TOP 10 2020-2040 RENEWABLES GROWTH
TWh



By 2030, Solar PV will be lower in cost than coal and by 2050, even with batteries

Levelised cost of electricity (LCOE)
USD/kWh

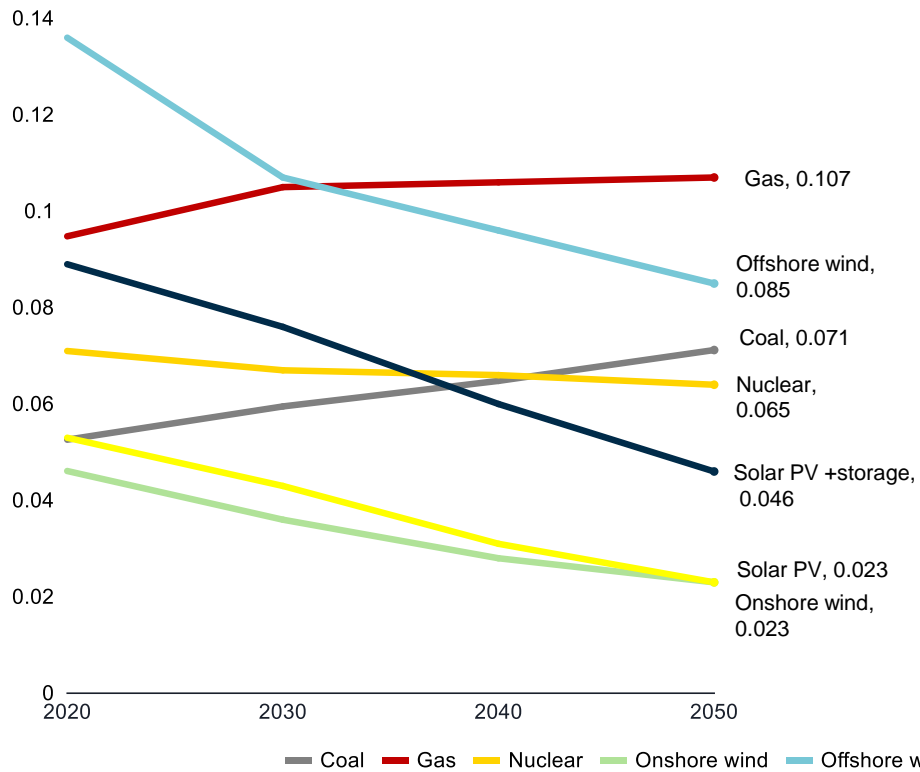


In contrast, traditional forms of energy (coal and gas) are being displaced, primarily due to:

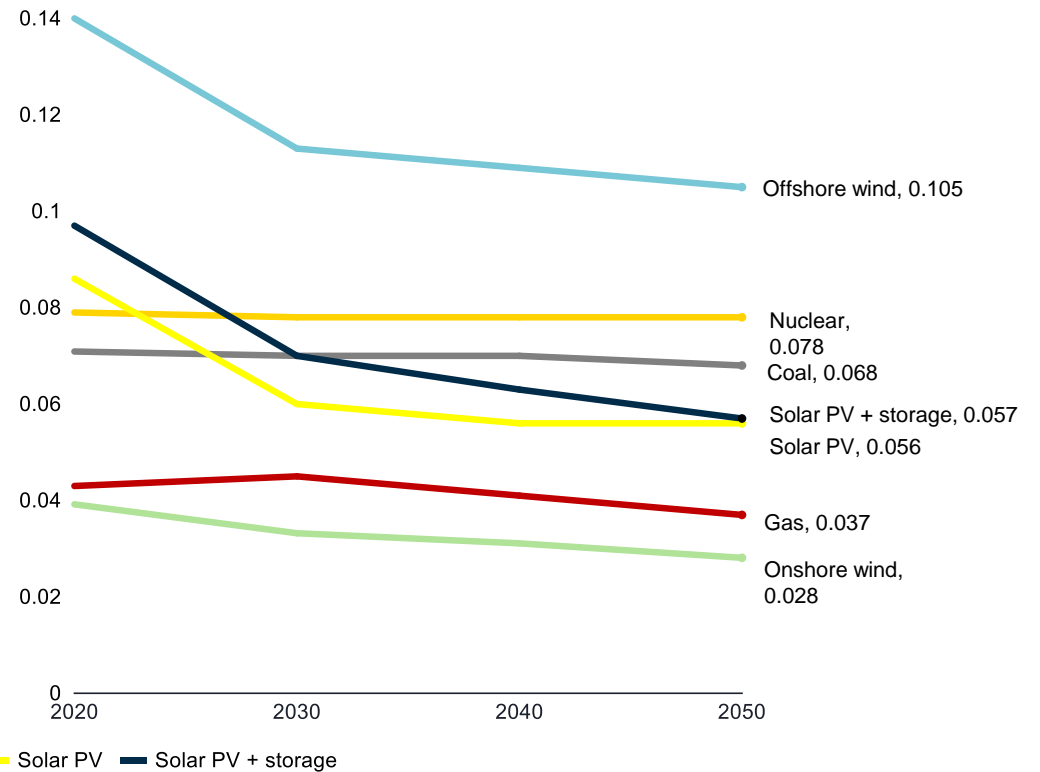
- Potential rise in carbon pricing
- Introduction of carbon mitigation policies that are indirectly factored into LCOE through higher rates of weighted average cost of capital

Solar PV and onshore wind leads LCOE in China, while Gas and Onshore wind leads in US

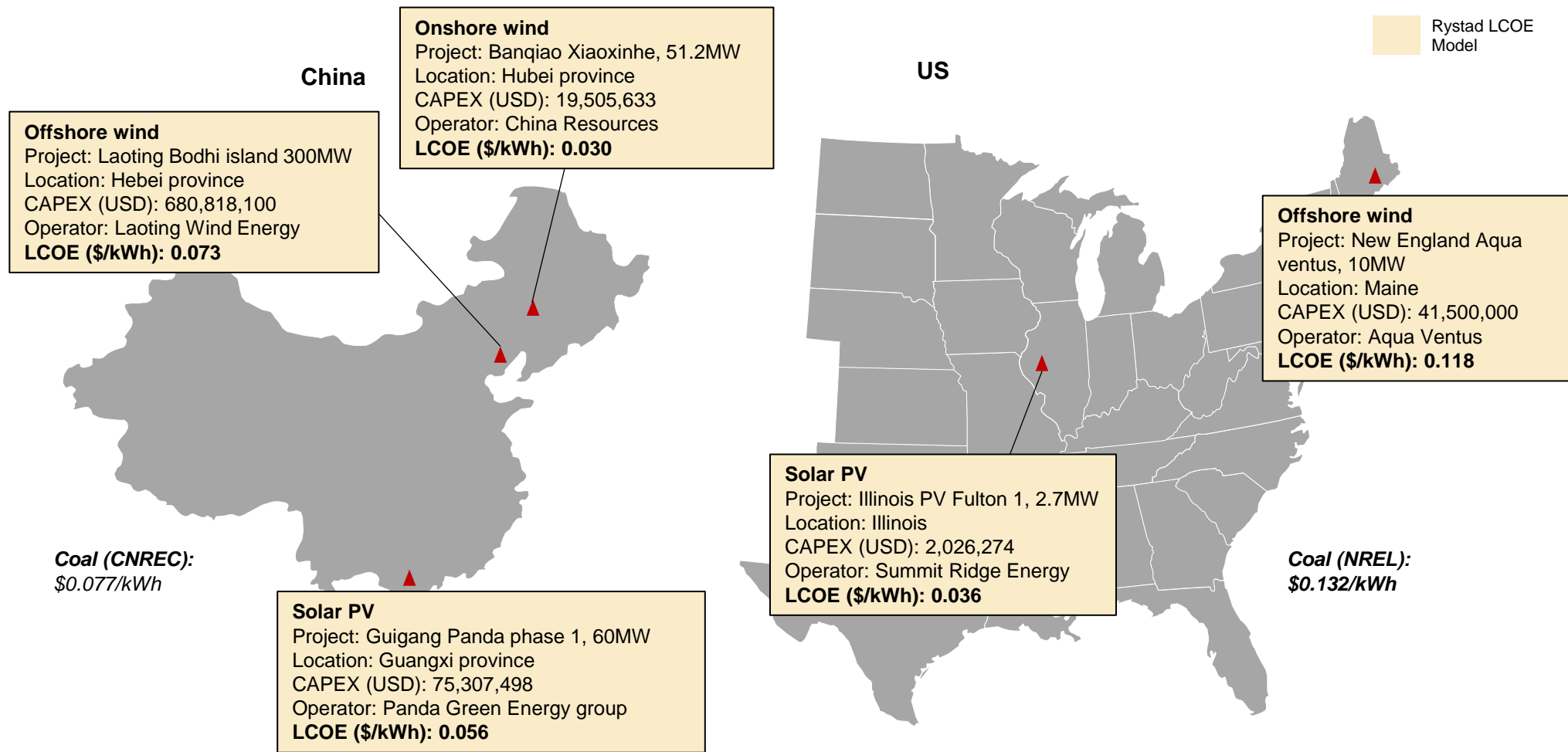
LCOE in China, 2020 to 2050
USD/kWh



LCOE in United States, 2020 to 2050
USD/kWh



LCOE for renewable energy projects in the last 3 years are lower than coal



Source: Rystad Energy research and analysis, Renewable Cube

China dominates the



Lithium -- Tianqi Lithium owns more than half of world's lithium production



Cobalt -- Chinese companies virtually controls 70% of world's Cobalt production

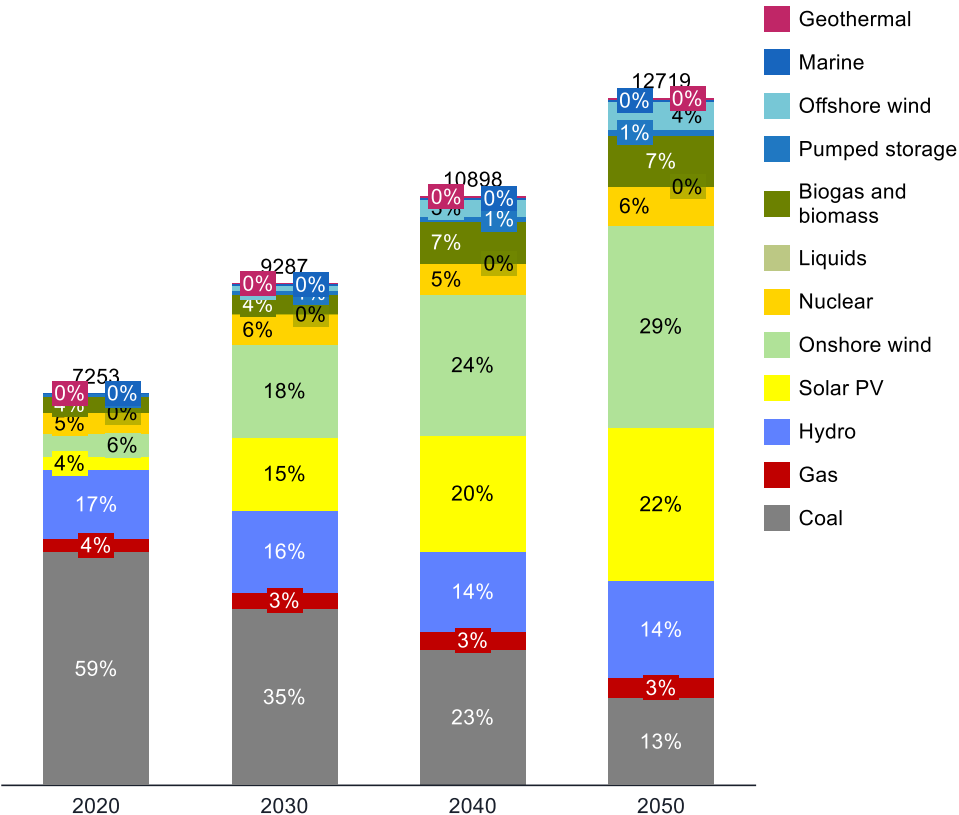
Graphite
Neodymium
Terbium
Indium
Dysprosium
Praseodymium



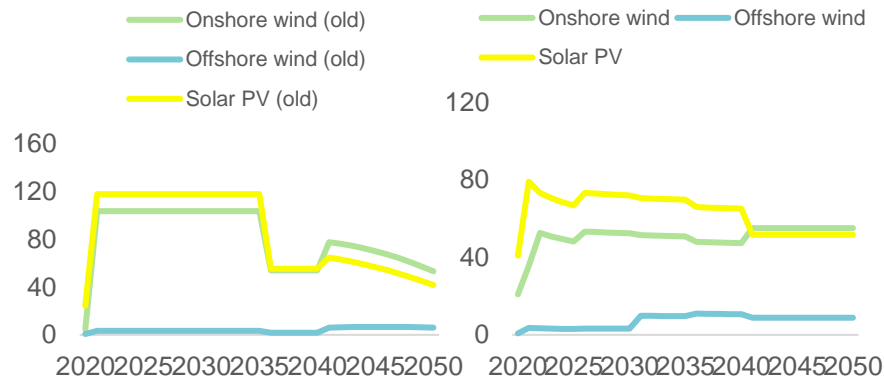
China produces nearly 85 percent of world's rare earth oxides and almost 90 percent of rare earth metals.

Wind and solar will displace coal in China and will be the cheapest form of energy by 2050

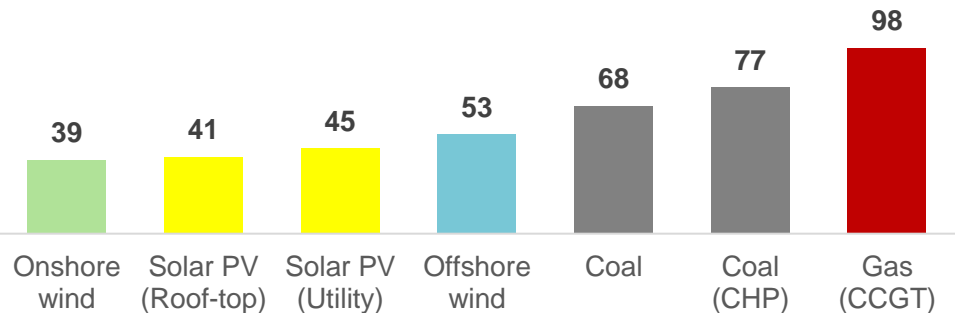
CHINA POWER MIX
TWh/year



WIND AND SOLAR PV CAPACITY ADDITION
GW/year



Levelized Cost of Electricity (LCOE) by technology in 2050
USD/MWh



Source: Rystad Energy research and analytics, CNREC, CF China

Q&A



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Norwegian Ambassador



Li Junfeng
President, Chinese
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(CREIA)



Victor Gao
Former Interpreter for
Mr. Deng Xiaoping,
Chairman of China
Energy Security
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