

**The Outline of Regional Integrated Development of Yangtze River Delta and  
Multi-dimensional Space Resource Subject  
Try to Discuss the Practice of Depth Space Control Power  
Yiming GAI  
Shanghai All-heart Environment Development Center**

**Abstract:** Multi-dimensional Space Resources is an innovative discipline that studies the problems of resources and environment in the process of human development. The practice of Depth Space Control Power can bring thousands of years of peace for human development. Since December, 2019 when China issued *The Outline of Regional Integrated Development of Yangtze River Delta*, what will be the specific situation if we use the theory of multidimensional space resources to interpret the Yangtze River Delta Planning? What is the status quo and development of depth spatial resources industry in the Yangtze River Delta? What is the comparison at home and abroad? Will Depth Space Control Power and industrial advantages be included in the outline? The paper will analyze and discuss the current industrial situation of the Yangtze River Delta from the perspective of geography, space and time.

**Key Words:** Yangtze River Delta Planning, Natural Science, Geopolitics, Economic Development, Resources and Environment, New Discipline

**1. The Outline of Regional Integrated Development of Yangtze River Delta**

The first part of the introduction of *The Outline of Regional Integrated Development of Yangtze River Delta* issued by the **CPC Central Committee** and the **State Council** on December 1, 2019 quoted the speech of General Secretary Xi Jinping at the first **China International Import Expo** on November 5, 2018. The speech stressed that we will make it a national strategy and implement our new development philosophy in real earnest. We will build a modern economic system, and adopt higher standards for reform and opening-up. The region will develop in tandem with the Belt and Road Initiative, the Beijing-Tianjin-Hebei coordinated development area, the Yangtze River Economic Belt and the Guangdong-Hong Kong-Macao Greater Bay Area, and will help improve the overall layout of China's reform and opening-up. The specific content of the **Outline** centers on the guiding ideology of the General Secretary's speech and the scope covers the whole areas of Shanghai, Jiangsu, Zhejiang and Anhui (covering an area of 358 thousand square kilometers). With 27 cities in Shanghai, Nanjing, Wuxi, Changzhou, Suzhou, Nantong, Yangzhou, Zhenjiang, Yancheng, Taizhou, Hangzhou, Ningbo, Wenzhou, Huzhou, Jiaxing, Shaoxing, Jinhua, Zhoushan, Taizhou, and Hefei, Wuhu, Ma'anshan, Tongling, Anqing, Chuzhou, Chizhou, Xuancheng as the center area (covering an area of 225 thousand square kilometers). The radiation drive the high quality development of the Yangtze River Delta. The planning period is 2025 while the future is 2035. There are 12 chapters (44 sections) in the whole paper of the **Outline**, many of which can be related to the content of practicing the depth space control right proposed in the *Multi-Dimensional Space Resource Subject*, and 'ecology' is mentioned in 95 parts of the **Outline** of 30170 words.[1]

## 2. Multi-Dimensional Space Resource Subject

*Multi-Dimensional Space Resource Subject* is an extraordinary, initiative and frontier discipline that stands out in the face of the problems of resources and environment in the process of human development and integrates natural science, geopolitics and economic development. It is the core content of *Multi-Dimensional Space Resource Subject* to divide the breadth and depth of resource utilization. The so-called breadth space resource refers to the resources, such as fossil energy on land, extending on “a line” to the ocean and space indefinitely. The so-called depth space resource, refers to the development of renewable energy and resources, such as wind energy and solar energy, which are inexhaustible and infinite. Therefore, depth development is almost ‘infinite’. In addition, recycling scrap iron and steel, petrochemical products can also be regarded as the utilization of depth space resources characterized as “point -to-point” and ‘indefinite extension’.[2]

In terms of cross coordinates, the breadth space resources are extending continuously on ‘a line’ in horizontal direction from the land space to the ocean and then to the ‘new ocean’, while Depth space resources are extending continuously on ‘a point’ of ‘a line’ in longitudinal direction of breadth space. The ‘depth’ in depth space resources is a new explanation of the law of resource utilization, which is divided into the breadth and depth space according to the resources utilization, refers to sustainable development resources work continuously, rather than how deep the water is. The breadth and depth space in *Multi-Dimensional Space Resources Subject* includes land, ocean and the extension of ‘new ocean’ space.[2]

In *Multi-Dimensional Space Resources Subject*, natural science, geopolitics and economic development all have parallel and related time dimensions. If we divided the problems of natural science, geopolitics and economic development human encountered in social development into breadth and depth space resources for unified research and demonstration. That will bring great practical significance for us to understand and solve resources and environment problems systematically and comprehensively, to accelerate industrial transformation and development, to enhance new productivity advantage and to understand resource utilization scientifically.

In 2014, the book *Multi-Dimensional Space Resource Subject* was published by **China Ocean Press**. In the application theory part of the book, it mainly focuses on specific measures to practice depth space control right, such as how to develop the depth space resource and industry, promote circular economy, build smart grid and carbon trading market, etc.

Thus, If we use *Multi-dimensional Space Resource Subject* to interpret *The Outline of Regional Integrated Development of Yangtze River Delta*, what will be the specific situation? What is the current situation and development of depth space resource industry in the Yangtze River Delta? What's the comparison at home and abroad? How about the control of depth space? Is there any industrial advantage and competitiveness? Here is a discussion and research one by one.

## 3. Explore the Source Industry of Depth Space Resource First

What is human being's biggest doubts over the development of new energy? Even if the

industrial revolution such as new energy vehicles in the downstream is successful, the fossil energy power generation industry in the upstream still cannot solve the environmental and resource problems like climate warming. The downstream new energy industry chain is also in vain and some treatment methods will bring more serious pollution. So what is the current situation of source industry in depth space resource in the upper reaches of the Yangtze River Delta?

The source industry in depth space resource generally refers to the power generation and utilization of renewable energy with the characteristics of 'point' and 'point to point' continuously 'work', such as solar energy, wind energy, water energy, biomass energy, geothermal energy, wave energy, ocean current energy, tidal energy, garbage power and biomass energy, which are developed and utilized on the basis of new technology

### **3.1 Zhejiang Province, Jiangsu Province, Anhui Province and Shanghai**

Almost all of Shanghai's traditional fossil energy needs to be imported from other provinces and foreign countries. In terms of the depth space source of natural resources, wind energy is estimated to have 1.5 million kilowatts of wind power resources if half of the total beach area in Shanghai is used to develop wind power.[3]In addition, the potential of far-reaching wind energy resource is huge. Shanghai is rich in solar energy, biomass energy and other renewable energy reserves. More than half of the city's electricity now uses 'green power' structures such as nuclear power, hydropower and natural gas power generation, but the proportion of renewable new energy power generation such as wind and solar energy is relatively small.The wind farm beside Donghai Bridge in Shanghai is the first offshore wind farm in China. At present, the installed capacity of the first and second phases of the wind power project beside the Donghai Bridge is 200 thousand kW, and the scale of wind power projects under construction and planned development projects in the coastal areas of Lingang and Fengxian are 400 thousand kW. The wind power resources in depth space and deep sea of Shanghai have much greater wind power development capacity than that in the beach and shallow sea.In the international North Sea area of the Atlantic Ocean, offshore wind power is moving from coastal areas to deep sea areas and becoming the mainstream of wind power in European coastal countries. Deep sea wind power usually has a water depth of more than 50 meters. Shanghai's coastal waters in the East China Sea are still less than 50 meters deep 80 kilometers away from the coastline. This means that we need to break through the power generation distance of traditional offshore wind power and add new power generation and transmission equipment.Shanghai smart grid technology research collaborative innovation center founded by **Shanghai University of Electric Power** is committed to the research and development of deep sea floating fans. The far-reaching offshore wind power project has achieved significant results in stages, laying a foundation for the follow-up large-scale development of offshore wind farms in deepwater and open sea areas.[4]

Most of the traditional breadth space fossil energy resources in Zhejiang need to be imported from other provinces and foreign countries because the energy self-sufficiency rate is less than 5%. Zhejiang possesses rich natural resources of depth space source wind energy, Zhoushan, Ningbo, Taizhou, Wenzhou and other coastal areas are quite rich in wind energy resources. Zhejiang is rich in solar energy, water energy, biomass energy and other renewable energy reserves. It is one of the

provinces with the most complete types of renewable power development in China. In 2018, the province's renewable energy generating capacity is 41.5 billion kwh, including 22.31 billion kwh of non water renewable energy generating capacity, which just meets the national annual assessment requirements for the proportion of non water renewable power in Zhejiang. In 2020, it is necessary to build 3.6 million kilowatts of offshore wind power at the end of the 13th and the beginning of the 14th five year plan. [5] Zhejiang's new round of offshore wind farm project planning, with a preliminary scale of 20 million kilowatts, will provide more than 50 billion degrees of clean and renewable power every year, and strive to build a full industrial chain development model of million kilowatt application of offshore wind power plus marine ranch and land industrial base. To explore and start the construction of a far-reaching offshore wind power demonstration project in the adjacent area, focus on the environmental impact of the construction and operation of offshore wind power on the marine ecological environment, safe navigation of ships and other aspects, promote the construction of the big data information platform of offshore wind power, aim at the 100 billion market of offshore wind power in province and the trillion market in country, focus on adjusting the power structure in province and drive the high-quality development of Zhejiang's marine economy.[5]

The first offshore wind farm established in Zhejiang Province is located in Liuheng Island, Zhoushan City, Zhejiang Province, with a planned sea area of about 50 square kilometers and an installed capacity of 252 megawatts. It is estimated that the annual power generation will exceed 750 million kwh, 200 thousand tons of standard coal, 510 thousand tons of carbon dioxide and 3682 tons of sulfur dioxide can be saved each year.[6]

Jiangsu province is the core area of photovoltaic and offshore wind power development in China, and the coastal wind power base is one of the eight wind power bases in China. Most of the traditional wide space fossil energy resources in Jiangsu province also need to be imported from other provinces and foreign countries. Dongtai, Rudong and Dafeng in Jiangsu Province have unique advantages in wind power generation resources. Dongsha, which is located near the east end of Dongtai and Dafeng, is a rare ideal site for building large-scale offshore wind farms in the world. Jiangsu Province is rich in solar energy, wind energy, biomass energy and other renewable energy reserves. Renewable energy power generation in Jiangsu Province mainly includes solar photovoltaic power generation, wind power generation, garbage power generation and biomass power generation. In 2018, the installed capacity of power generation in Jiangsu province is 126573.8 thousand kilowatts, of which the installed capacity of renewable energy is 23510.5 thousand kilowatts, accounting for 18.6% of the total installed capacity. By the end of November 2019, the installed power generation capacity of the province is 132978.2 thousand kilowatts, of which the installed renewable energy capacity is 26716.6 thousand kilowatts, accounting for 20.1% of the total installed capacity. [7] From the perspective of renewable energy power generation structure, as of November 2019, the installed capacity of wind power in the province is 10110.9 thousand kilowatts, accounting for 37.85% of the total installed capacity of renewable energy, the installed capacity of solar photovoltaic power generation is 14715 thousand kilowatts, accounting for 55.08% of the total installed capacity of renewable energy; the installed capacity of garbage power generation is 1297.7 thousand kilowatts, accounting for 4.86% of the total installed

capacity of renewable energy; The installed capacity of biomass power generation is 593 thousandkilowatts, accounting for 2.22% of the total installed capacity of renewable energy. From January to November 2019, the power generation capacity of Jiangsu Province is 460.506 billion kilowatts, of which the renewable energy generation capacity is 40.533 billion kilowatts, accounting for 8.80% of the power generation capacity of Jiangsu Province. [7] Jiangsu is regarded as the ‘important town’ of the national wind power industry. Only Binhai Small Town Rudong has an installed capacity of more than 1.8 million kilowatts, accounting for 81.4% of the annual social power consumption. The intertidal wind farm, the ‘Double Tenth’ offshore wind farm, the offshore booster station platform and the single large-scale offshore wind farm are all the wind farms explored and constructed in Jiangsu Province before the national level.[8]

Anhui Province has relatively large coal reserves of fossil energy in breadth space, but it also faces the situation of decreasing coal reserves. Anhui is rich in renewable energy resources such as solar energy, wind energy, water energy and biomass energy. It is reported that by may 2019, the total installed capacity of wind power and photovoltaic power generation in Anhui Province will exceed 14 million kilowatts, accounting for nearly a quarter of the total installed capacity. [9]With the continuous increase of the proportion of new energy power generation, Anhui Electric Power Company of the State Grid strives to improve the consumption and utilization of new energy through the deployment and operation of power grid load forecasting and analysis, optimization of unit startup and shutdown mode, etc.Facing the pressure of Anhui photovoltaic and wind power generation, Anhui Electric Power Co., Ltd. has taken many measures to ensure the comprehensive energy consumption capacity and the safe and stable operation of the power grid. As of February 2020, the installed capacity of new energy in Anhui Province is 15.69 million kilowatts, up 14% year on year.The largest wind power and photovoltaic power generation in Anhui Province exceeded 8 million kilowatts for the first time, reaching 8.15 million kilowatts, accounting for 48% of the province's electricity load, a record high.[10]

Since 2019, six wind power projects have been completed in Anhui Province, including Lake viewing project inChaohu and XiaoxianGuanshan project in Xiehe, with an additional installed capacity of 280000 kilowatts. The total installed capacity of wind power grid connected project has reached 770000 kilowatts, and the power generation capacity has exceeded 1 billion kwh for the first time.Jinzhai and Wuhu Sanshan photovoltaic power stations and a number of distributed photovoltaic power generation projects have been built, with an additional installed capacity of 300000 kilowatts. The total installed capacity of photovoltaic power generation has reached 450000 kilowatts, and the generating capacity has exceeded 100 million kilowatt hours. Four projects have been completed, including Wanneng Huainan domestic waste incineration project, guangdahanshan agricultural and forestry biomass project and Shanying paper mill sludge incineration power generation project. The installed capacity of new power generation is 140000 kilowatts, the accumulated installed capacity of biomass power generation is 680000 kilowatts, and the power generation capacity is 2.58 billion kilowatt hours. [11]

In Anhui Province, solar photovoltaic power generation, wind power generation, biomass power generation and other renewable energy power generation are generally showing an accelerated development trend.

### 3.2 Smart Grid and Carbon Trading

The Yangtze River Delta is the largest power consumption area in China, accounting for 17% of the total. As can be seen from the current situation of energy utilization in three provinces and one city. The reserves of traditional fossil energy in the Yangtze River Delta are very limited, and the absolute proportion of renewable energy utilization and development is also not high. With the increasing pressure of resources and environment, the demand for renewable energy is increasing. How to solve this contradiction? In addition to further develop and utilize local wind energy, solar photovoltaic, biomass energy and other deep space renewable energy resources, the western region in China is the largest wind energy, solar photovoltaic and other deep space renewable energy resource power generation base, and West-East Electricity Transmission Project can largely alleviate the power shortage in the Yangtze River Delta. Smart grid and carbon trading market are important links to solve the problems of local renewable energy access and West-East Electricity Transmission. Smart grid has an indispensable strategic significance for the interconnection of renewable energy power such as wind energy and solar energy, the stability of the grid, and the east transmission of large-scale renewable energy power generated by wind energy and solar energy in the western region of the country. It is also the guarantee of renewable energy access to the grid and west east transmission technology and equipment in the Yangtze River Delta. Moreover, the cost of West-East Electricity Transmission Project is lower than that of gas transmission from west to East and traditional fossil energy utilization, which also protects the environment. China's smart grid mainly focuses on the intelligent equipment and the construction of strong grid with UHV as the backbone. It is predicted that by 2030, the installed capacity of clean energy will account for more than 55% of the total installed capacity, and the proportion of electric energy to the end energy consumption will increase to about 30%. [12]

Three provinces and one city in the Yangtze River Delta fully respond to the national strategy of integrated development, fully learn from the power development experience of the world's advanced urban agglomerations, benchmark the international level, accelerate the integration of regional power resources, promote the integrated development of power interconnection level in the Yangtze River Delta and improve the service level of power supply quality in intelligent interaction through lean operation and maintenance. After years of efforts, China has initially formed a Yangtze River Delta with Chinese characteristics and even the whole country's intelligent interconnected power grid system, and has made remarkable achievements at different stages.

Carbon trading is an important trade market support for the development of renewable energy through financial and trade means, market-oriented operation of renewable energy access to the Internet and West-East Electricity Transmission, promotion of traditional energy and renewable energy interest trading, improvement of enthusiasm of both sides. As the largest carbon emission power industry, in all the carbon emission trading systems in the world, it is the first to be included in the carbon emission trading and regulation. At the end of 2017, China's power generation industry first launched the carbon trading market, including more than 1700 enterprises, with emissions exceeding 3 billion. In the future, it will gradually expand to steel, cement, chemical industry and other related industries. [13] Shanghai environmental energy exchange is the first

environmental energy trading platform in China, mainly engaged in carbon trading services in energy resources and environment, such as carbon emission trading, carbon finance, China Certified voluntary emission reduction trading. It is one of the seven carbon trading right emission pilot platforms in China. At present, it has become one of the environmental exchanges with the largest scale and business volume in the country, and all the data of market development are in the forefront of the same industry in the country. The construction of carbon trading market will effectively promote energy conservation, emission reduction and economic development through the combination of market and government guidance.

### **3.3 Solar photovoltaic enterprises in Yangtze River Delta---Stand Out From the Crowd**

Solar photovoltaic power generation is the most important form of power generation in the deep space source resources solar power generation that market oriented.

China accounts for 16 of the top 20 photovoltaic enterprises in the world, among which 2/3 of them are related to the Yangtze River Delta. The performance of the top 20 global photovoltaic enterprises includes solar photovoltaic power generation and manufacturing of solar photovoltaic equipment. Photovoltaic power generation is a super strong solar energy utilization and development industry in China and the Yangtze River Delta enterprises have absolute competitive advantage.

The list of *'Top 20 Global Photovoltaic Enterprises 2019'* released by **PVP 365** in 2019. According to the list, among the top 20 global photovoltaic enterprises in 2019, there are totally 10 photovoltaic enterprises with sales and production centers or registration in the Yangtze River Delta, **GCL, Atlas, Trina, Jinko, JASO, EDRI, Chint, Risen, SunGrow, Talesun** is one of the **top in the world.** [14]

Now the installed capacity of solar photovoltaic in China is the first in the world. On January 7, 2019, the **National Development and Reform Commission(NDRC)** and the **National Energy Administration** issued *Notice on Actively Promoting The Work of Non Subsidized Parity Grid Access for Wind Power and Photovoltaic Power Generation.* The circular pointed out that with the large-scale development of wind power and photovoltaic power generation and the rapid progress of technology, the conditions for parity with coal benchmark feed in tariff (without state subsidies) have been basically met in regions with excellent resources, low construction costs, good investment and market conditions.[15] That is to say, the price of photovoltaic power generation and coal-fired power generation has initially had the basis of direct competition in the market economy. Due to the rigidity of coal price, the price of photovoltaic power generation on the Internet has been blocked from falling. Its terminal consumer price is guaranteed by the price of electricity. The average construction cost of photovoltaic power stations put into operation in 2017 is 45% lower than that in 2012. [15] With the progress of science and technology, the price of photovoltaic power generation will have more room to decline. Therefore, it has been a foregone conclusion that photovoltaic power generation will eventually replace coal-fired power generation.

According to the report of *China's 2050 Photovoltaic Development Prospect*, the total installed capacity of China's photovoltaic power generation will reach 730 GW and 3000 GW respectively in 2025 and 2035, and by 2050, the data will reach 5000 GW. Solar photovoltaic power generation will become the largest power source in China, accounting for about 40% of the

national electricity consumption in that year. [16] According to the actual situation of the Yangtze River Delta, the depth space source resources of solar photovoltaic power generation still possess promising development potential.

Why are Zhejiang and Jiangsu the gathering places of solar photovoltaic industry? Industry insiders have made a survey, according to the proportion of four data of light resources, average electricity price of enterprises, number of enterprises and number of photovoltaic policies in each province, the sum of the four ratios leads to the score and ranking. Zhejiang, Guangdong and Jiangsu rank the top three, and Zhejiang ranks the first with a score of 17.1, indicating that Zhejiang and Jiangsu have a good development in solar photovoltaic industry Objective conditions.[17]

#### **4. Further Discussion Over the Downstream Industrial Chain of DepthSpaceResources**

##### **4.1 Current Situation of New Energy Automobile Industry**

Most of the oil extracted at home and abroad is used as energy, and most of these energy is refined into gasoline and diesel. It has been refined into a wide range of energy resources for gasoline and diesel, and the natural resources formed in hundreds of millions of years have become harmful substances such as carbon dioxide to pollute the environment through one-off consumption. The difference between one-time work (consumption) of breadth space resources and depth space resources lies in the time dimension of these two resources. The formation of breadth space resource needs hundreds of millions of years of time dimension formation, while the formation of depth space resources, such as solar energy and wind energy is 'instant' and the continuous 'work' of a 'point' or 'point to point'. The time dimension is much shorter.

In order to deal with the ever-changing climate and environmental problems, China has started the '**double integral**' management of gasoline and diesel vehicles, and will partially eliminate gasoline and diesel vehicles. The Yangtze River Delta region has become the main new force in the development of new energy vehicle industry in China and even in the world. In Shanghai, Zhejiang, Jiangsu and Anhui have formed a new energy vehicle industry base and business group with high, medium and low grades, characterized with foreign, Chinese, state-owned and private investment and operation.

On January 7, 2019, Shanghai Tesla super factory officially started construction in the **Port Industrial Zone**. The total investment of the project is 50 billion yuan, with the first phase investment 16 billion yuan. The Model 3 model will be mass produced by the end of 2019 and targeted the annual output of 250000 pure electric vehicles in 2020. According to reports, Tesla Model 3's 100km acceleration time is only 3.5 seconds, and it can drive up to 975km on a single charge, setting a new record for pure electric vehicles. Tesla is not a car in the general sense, but more four wheels plus a computer. It has the most advanced automatic driving system in the world, which can identify overpasses and surpass the ability to slow down. It has a strong competitiveness in the global automobile industry. [18]

In October 2018, Shanghai Jiading's **SAIC Volkswagen New Energy Automobile Factory** broke ground and started construction. In the past two years, **Volkswagen** has launched a number of new energy products, including **Lavida Bev, Passat PHEV, etc. MEB** platform products of



new electric vehicles will officially enter China in 2020. **MEB** platform is a platform specially developed by **Volkswagen** for large-scale production of pure electric vehicles. **SAIC Volkswagen MEB** plant project has an investment of 17 billion yuan and planned a production capacity of 300000 sets. According to the CEO of **Volkswagen Group**, the total number of **Volkswagen** pure electric vehicles in the world is expected to reach 22 million by 2028, of which more than 50% will come from China. [19]

Tesla Shanghai plant phase I is similar to **SAIC Volkswagen MEB** plant in terms of investment scale and production capacity. **Tesla's** Shanghai plant was built in less than a year and mass produced at an astonishing speed. According to reports, the construction speed of **SAIC Volkswagen MEB** plant is not slow in fact. In November 2019, the first trial production sample vehicle officially went offline. It took only 13 months from commencement to production capacity. Compared with **Tesla's** super plant, **SAIC Volkswagen MEB** plant also has its own advantages in technology and design concept. It is reported that although **Tesla's** Shanghai plant initially planned 250 thousand units of production capacity, actually 250 thousand units of production capacity will take a long time to climb. **Elon Musk** also said that the weekly production of **Tesla's** Shanghai plant at the initial stage may only be 3000 units, while the maximum weekly production rate of **SAIC Volkswagen MEB** plant can reach 7200 units, more than double that of **SRA**. [20]

Both Shanghai **Tesla** super factory and **SAIC Volkswagen** represent the middle and high-end vehicles in the new energy vehicle production in the Yangtze River Delta. Zhejiang Hangzhou Geely, Wenzhou VM Motor, Anhui Hefei Jianghuai, Wuhu Chery and other vehicle enterprises represent the mid-range and economic vehicles in the Yangtze River Delta new energy vehicle production.

**Geely Holding** headquarters, located in Hangzhou, Zhejiang Province, is a global enterprise. At the end of 2015, Zhejiang **Geely Holding Caocao** special vehicle was officially launched and became China's first new energy vehicle sharing travel platform with online car **Hailing license**. Now **Geely Holding** has gathered the world's top new energy R&D team of more than 2500 people, obtained hundreds of core patents and realized the independent research and development of China's new energy technology system and solutions. Through four technology paths (pure electric technology, hybrid technology, alternative fuel and hydrogen fuel cell technology), the new leap from following technology to leading technology has been realized preliminarily. By 2025, half of **Geely's Volvo** car sales will come from pure electric vehicles. **Geely** has also made significant progress in the industrialization of new energy commercial vehicles and methanol vehicles. London electric vehicles have gradually become the global leader in the field of urban transport with zero emissions. The **Geely** battery electric vehicle of 'Caocao special vehicle' has driven more than 10 million kilometers. [21] **VM Motor Automobile Co., Ltd** (Wenzhou Zhejiang Province) obtained the investment of RMB 23 billion from **Baidu** group, linear capital and other institutions in 2019 and built the VM Motor new energy automobile intelligent industrial park with a daily output of 200 sets. [22]

**JAC, Chery** and other brand cars in Anhui Province are famous brand cars which are mainly economical. **JAC**(Anhui Province) has a national enterprise technology center and a national industrial design center for new energy vehicles. **JAC** began to develop new energy vehicles in

2002 and took the lead in realizing industrialization in the industry in 2007. At present, **JAC** new energy vehicle products have developed from one generation to seven generations and accumulated mature technology. In 2018, the sales of new energy passenger vehicles in **JAC** reached 64 thousand with an increase of 125.28% year on year. **JAC Volkswagen** new energy vehicle project is the first project of Sino-foreign joint venture new energy vehicle, while **Chery** Automobile( in Wuhu, Anhui Province )is also the first group of enterprises in the industry to develop and produce new energy vehicles. In 2018, **Chery's** new energy vehicle sales reached 60754, with an annual growth rate of 102%. Hefei, Anhui Province is also the manufacturing base of **NIO** automobile. According to the 13th five year plan for the development of automobile and new energy vehicle industry in Anhui Province, the production and sales volume of new energy vehicles in Anhui will be 200 thousand by 2020 and large-scale export will be realized. Production and sales will account for more than 10% of the total production and sales of new energy vehicles in China and more than 20% of independent brands in China. [23]

#### **4.2 Current situation of New Energy Industry**

On October 22, 2019, the 9th **Global Top 500 New Energy Enterprises Summit** jointly launched by *China Energy News* and **China Energy Economic Research Institute** was held in Taiyuan, Shanxi Province, and the highly concerned list of top 500 new energy enterprises in 2019 was released at the same time. The event has been successfully held for eight times since 2011. New energy enterprises included in the list include new energy equipment manufacturing industry and new energy power generation industry.

Three Chinese companies were ranked among the top 20 '**Global Top 500 New Energy Enterprises in 2019**', namely **GCL** Group ranked first, **Jinko** Energy ranked sixth and **Tianneng International** ranked 17th. The three enterprises all possess production bases or marketing departments in the Yangtze River Delta.

**GCL Group**, ranked No. 1, has set up China regional management centers in Shanghai and Suzhou. With Yangtze River Delta as its business center and radiate at home and abroad, **GCL** has been ranked in the top three new energy enterprises in the world for three consecutive years and ranked first in the new energy industry among the top 500 Chinese enterprises for many consecutive years. **GCL's** total installed capacity of photovoltaic power station ranks the second in the world. Today, the popularization and utilization of solar energy in the world has a direct relationship with **GCL's** vigorous promotion. At least 30% of the world's high-efficiency photovoltaic materials have a common label-**GCL** intelligent manufacturing. **GCL** develops, constructs and operates large-scale ground, mountain, desert, agricultural light and other types of sun around the world. At present, the total installed capacity of the power station has leaped to the second place in the world. The industrial map of solar photovoltaic now spread all over the United States, Japan, Australia, India and other parts of the world. [24]

**Jinko Energy**, ranked No. 6, was founded in 2006. In June 2009, it acquired Zhejiang Sun Valley and started the production of battery chips and components. The company's global marketing center is located in Shanghai Pudong New Area and its production bases are located in Haining, Zhejiang Province and Shangrao, Jiangxi Province. Its Headquarter is in the Cayman Islands. As one of the few solar photovoltaic manufacturers with vertical integrated industrial

chain in the world, its business covers the production of high-quality silicon ingots, silicon wafers, and battery chips as well as the manufacturing of high-efficiency single polycrystalline photovoltaic modules. **Jinko** marketing network covers Europe, North America and Asia Pacific with more than 20 countries, including Germany, Italy, France, Czech Republic, Belgium, the United States, Mexico, Israel, Australia, Japan and China and other major photovoltaic markets.

**TiannengInternational** was officially established in 1986 and ranked 17th. The group's headquarters is located in Changxing, Zhejiang Province, which is the '**Green Power Energy Center of China**' at the junction of Jiangsu, Zhejiang and Anhui provinces. It is within 200 kilometers from Shanghai, Hangzhou, Nanjing, Suzhou and Wuhu. **TiannengInternational** is mainly engaged in researching, manufacturing and sales of power batteries such as lead-acid, NiMH and lithium ion, electronic appliances for electric vehicles, wind energy and solar energy storage batteries. [25] After more than 20 years of development, it has become one of the largest electric vehicle power battery suppliers in China.

In recent years, '**Tianneng**' trademark has been recognized as a well-known trademark in China and a famous trademark in Zhejiang Province. It is also rated as one of the top ten enterprises in terms of industrial efficiency, top 500 private enterprises, advanced collective in light industry, top 100 manufacturing enterprises in Zhejiang Province and top 10 potential enterprises in China in 2008 by Forbes.

Among the top 50 new energy enterprises in the top 500, 15 are Chinese enterprises, including 7 major production bases and marketing headquarters in the Yangtze River Delta, accounting for nearly 1 / 2.

#### **4.3 "Point toPoint" DepthSpace Resource Circular Economy Industrial Chain**

Waste classification and the recycling of waste materials such as steel, glass, rubber, paper and plastic can be summarized into the depth space resource "point to point" resource utilization. The resource utilization of "point to point" in the Yangtze River Delta has also made gratifying achievements. Here are just two examples.

Since July 2, 2019, Shanghai has officially stepped into the era of strict '**Waste Classification**' and take the lead in implementing classified waste collection in cities of the Yangtze River Delta. The implementation of '**Waste Classification**' collection and utilization is conducive to reducing land occupation, reducing environmental pollution and turning waste into treasure. For instance, one ton of waste plastic can be recycled into 600 kg of diesel oil. Recycling one ton of waste paper can save 17 trees and 800 kg of good paper can be produced, 240 kg of soda ash can be saved, 75% of paper pollution emissions can be reduced and 40 to 50% of paper energy consumption can be saved. [26] Waste with no recycling value can also be incinerated for power generation and truly turn waste into treasure. Jiangsu, Zhejiang and Anhui province will also speed up the comprehensive and strict collection and utilization of '**Waste Classification**'.

**TiannengGroup'sIndustrial Park of Circular Economy**, located in Huzhou, Zhejiang Province, has vigorously developed circular economy and created a closed-loop green industrial chain with its own characteristics through technological innovation, industrial transformation and upgrading. The recovery rate of metal, plastic and residual acid of **Tianneng** waste battery is over 99%, 99% and 100%, respectively. The industrial water meets the national secondary urban water

standard through sewage treatment with the reuse rate reaching 100%. The treated water can be used to water flowers and fish. [27] In the 500 thousand stores of **Tianneng** across the country, consumers can exchange used batteries for new ones by making up the difference on the basis of discount. The group attaches great importance to scientific research and technological innovation. It has successively undertaken 2 National Science and technology support plans, 35 national policy guidance projects, 1584 authorized patents, including 125 invention patents and participated in the formulation of more than 40 international, national and industrial standards. Scientific and technological progress has improved the capacity of cleaner production. All the waste water and exhaust gas in the eight production bases of **Tianneng Group** (in Zhejiang, Jiangsu, Anhui and Henan Province) have been effectively disposed and the production can be completed without discharge and pollution. [28]

## **5. Integrated Development and Global Competitiveness of the Yangtze River Delta**

### **5.1 The Coordinated Cooperation of Yangtze River Delta Integration Promotes Common Prosperity and Development**

Whether it is smart grid, new energy vehicles or new energy industries, the utilization of depth space resources has been all manifested in common cooperation and development in the Yangtze River Delta and formed the linkage mode of Shanghai, Zhejiang, Jiangsu and Anhui. Take new energy vehicles for example. Like **VM Motor New Energy Vehicle**, who has located its headquarters in Shanghai, invested its intelligent industrial park in Wenzhou, Zhejiang Province, gathered its core supply chain in Jiangsu Province and spread its sales network all over the Yangtze River Delta and even China. While **NIO Auto Mobile** has cooperated with **JAC** to build all aluminum body factory in Hefei, Anhui Province, with its three factories respectively located in Nanjing, Changshu and Kunshan, in Jiangsu Province, besides it also invested a new production and manufacturing base in Shanghai. [29]

The Integrated Regional Development of the Yangtze River Delta has lengthened the industrial chain and promoted the position of the depth space resource industry in the pillar industry of the urban industrial chain. **SAIC Volkswagen Ningbo Base** is one of the 200 enterprises and production bases of **SAIC Group** in the Yangtze River Delta. Since **SAIC Volkswagen Ningbo Base** was put into operation in 2013, the first pillar industry in Ningbo is only petrochemical industry. With the production of Ningbo base, an automobile city has been built up and led to the concentration of parts manufacturing, training, testing and other industrial chain links. In 2017, automobile industry has become the first pillar industry in Ningbo. The development of **SAIC Group** in the past 30 years is inseparable from the synergy brought by The integrated regional development of the Yangtze River Delta. **SAIC** new energy vehicles will technically build a global industry benchmark of new energy vehicle model by 2020, with a special investment of more than 20 billion yuan and more than 30 new energy vehicles will be released, and an annual sales target of more than 600 thousand new energy vehicles. [29]

Industrial cooperation in the Yangtze River Delta is not only reflected in the scope of the Yangtze River Delta, but also shows the characteristics of international cooperation and investment. Take Zhejiang **Geely** for example. On July 3, 2015, **Zhejiang Geely Holding Group**

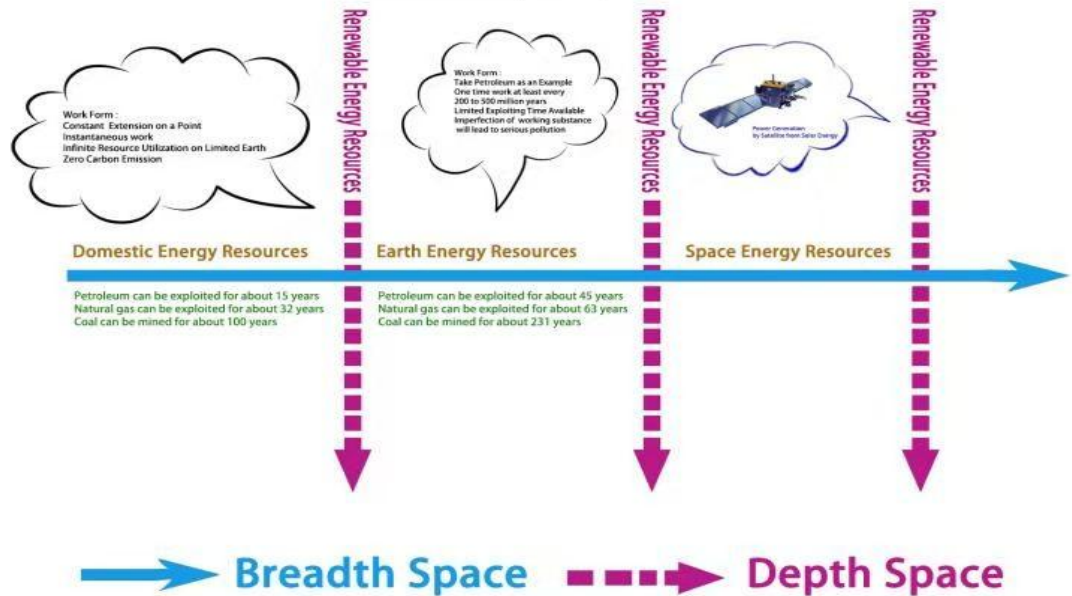
**and Carbon Recycling International(CRI)** held a signing ceremony in Reykjavik, Iceland. Jointly develop, produce and promote the use of 100% methanol fuel vehicles in China, Iceland and other regions of the world. **CRI**, with its technology of renewable energy and recycling carbon dioxide emissions into methanol, is dedicated to the research, development and production of renewable energy to provide green and clean energy for cars and ships, etc. According to reports, the first batch of 150 Geely seascape methanol vehicles has put into operation in Jinzhong, Shanxi Province and run 5.8 million kilometers in a year, with the largest single vehicle running 90 thousand kilometers. In March 2017, **Geely Holding Group's** London taxi company held a new factory completion ceremony in **Anstey(UK)**. It brings together top engineers from all over the world to focus on building a new lightweight electric commercial vehicle. [30]

### **5.2 Outline and Deal with Resources and Environment Problems such as Climate Warming**

In the *Integrated Regional Development of the Yangtze River Delta*, there are 95 points referring to 'ecological' construction. Besides, strengthening the 'ecological' construction is also an important content of **General Secretary Xi Jinping**, 'focusing on the implementation of the new development concept and building a modern economic system'.

The situation of global warming is becoming more and more serious. Environmental scientists have shared the same opinion on 9 identified climate critical points as follows, 1. Frequent aridity of Amazon rainforest, 2. Reduction of Arctic Sea ice area, 3. Slowdown of Atlantic circulation since 1950, 4. Forest fires and insect pests in North America, 5. Global coral reef die, 6. Accelerated melting and loss of Greenland ice cover, 7. Thawing of permafrost, 8. West Antarctica Part of the ice sheet is melting and losing ice, 9. The east of Antarctica is melting, The more critical points the climate reaches, the faster the global warming, the more irreversible loss of the world environment. [31]

**Breadth Space Energy Resources**  
**Take petroleum, natural gas and coal as examples**  
**And Depth Space Energy Resources**  
**Take Renewable Energy as an Example**  
**Relationship Diagram**



The figure shows the comparison and work of breadth space resources (taking oil, natural gas and coal as examples) and depth space resources (taking renewable energy as examples). The breadth space resource utilization is a continuous extension of a line, while the depth space resource utilization is a continuous extension of a ‘point’ on the wide space line. This is the characteristics of breadth and depth space resources utilization. The domestic energy resources are available for human exploitation in a wide range of space resources, excluding high-cost exploitation reserves. Oil can be exploited for about 15 years, natural gas for about 32 years and coal for about 100 years. The earth's energy resources are also available for human exploitation, excluding high-cost exploitation reserves. Oil can be exploited for about 45 years, natural gas for about 63 years and coal for about 231 years. The breadth space resources, taking oil as an example, is a one-time work (consumption) formed in a period of at least 2 million to 500 million years. The reserves available for exploitation are limited and the incomplete work will result in great waste, carbon dioxide and other harmful gases emission and serious environmental pollution. The work form of depth space resources is the continuous extension of a ‘point’ (work in an instant). The limited edition of the earth for resource utilization is infinite and the carbon emission is zero, while the nature of the work done by resources is different from that of the breadth space resources and the emission of harmful gases is almost zero. At present, the use of space energy is mainly satellite energy, solar energy and renewable energy.

**5.3 Ecological Construction Emphasized in the Outline and the Mission of Yangtze River Delta**

The Yangtze River Delta plays an important strategic role in the overall national modernization construction and all-round opening pattern with the total economic volume accounts for about a quarter of the whole country. It is also the highland of the deep development of the national space resources industry and gathered about 1/3 of the new energy capacity of the whole country. [32] Also, it is one of the regions with the strongest innovation ability, the most active economic development and the highest degree of openness in China. If energy conservation, emission reduction and the layout of depth space resources industry have been well done in the Yangtze River Delta, it will be of great significance to lead the national energy conservation and emission reduction, cope with climate warming and improve the layout of depth space resource industry. We should practice the ecological work mentioned in the *Outline of the Yangtze River Delta* and exercise in-depth space control. In response to global warming, the Yangtze River Delta region can actively play a leading role in China.

#### 5.4 National Strategy on Energy Resources and World Situation

According to the *CREO 2018* report released by **China National Renewable Energy Center**, China's total fossil energy consumption will peak in 2020. With the improvement of power generation economy, China will usher in the peak of large-scale construction of photovoltaic and wind power in the next 10 years. The installed capacity of new photovoltaic is about 80-160 GW per year and the installed capacity of new wind power is about 70 to 140 GW per year. By 2050, wind and solar energy will become the absolute main force of China's energy system. From 2025 to 2035, more jobs will be created than those in traditional energy industries such as thermal power plants. At present, the market carbon price of China's carbon trading pilot is not high enough. At least in the short term, we need to further introduce carbon tax and carbon trading base price policies to support future emission reduction targets. [33]

On December 2, 2019, the 25th session of the conference of the parties to the *United Nations Framework Convention on Climate Change* officially opened in Madrid, Spain. According to the annual *Emission Gap Report* issued by the **United Nations Environment Programme**, even if all the unconditional commitments in the current *Paris Agreement* are fulfilled, the global temperature is still likely to rise by 3.2°C, resulting in a broader and more devastating climate impact. According to the report, the total carbon emissions of the G20 are as high as 78% of the world's total carbon emissions, but only five member countries have committed to achieve the long-term net zero emission target and the remaining 15 have not yet issued relevant timetables. At the opening ceremony of the climate change conference, **Secretary General of UN Guterres** said loudly, 'no action will be the way to surrender, are we really going to be treated as a generation of people who bury their heads in the sand and are indifferent when the earth burns?' [34]

World environmental scientists believe that we are in a 'planetary emergency' and may be heading for a greenhouse earth.

On November 30, 2019, according to media reports, the **European Parliament** passed a resolution to declare a 'climate and environmental emergency' to fight against the climate crisis. The goals of the resolution include reducing greenhouse gas emissions to zero by 2050. [35] Ursula von der Leyen, chairman of the **European Commission**, asked **EU Member States** to

commit to raising their 2030 emission reduction target from the current 40% to ‘at least 50% and strive to reach 55%’. [36] In **Davos** this year, **Ursula von der Leyen** also warned other large fossil fuel producing countries to find ways to price carbon emissions domestically, otherwise they might face the **EU's** planned carbon tax on imports. [37] If the EU imposes carbon taxes on countries whose carbon emissions have not yet been priced, the products exported by these countries to the EU will be affected economically.

### **5.6 Our Common Future**

From the above discussion in sections 3 and 4, we can basically understand the basic development overview and development trend of the Yangtze River Delta, the depth space resources source industry and the downstream industry chain.

The process of new energy revolution is a long-term process that will take 20 or even 30 years. It is a process that requires the Yangtze River Delta region’s continuous and active efforts. It is also a process that requires national comprehensive planning and coordination to promote the development of depth space resource source industry and downstream industrial chain production and trade between Yangtze River Delta regions and even across the country.

The 20th century is a century in which oil is the main energy source. Oil economy and oil finance are dominant. Therefore, Kissinger used to say, ‘whoever controls oil controls all countries’ and ‘whoever controls currency controls the global economy’. Under the double pressure of resource shortage and environmental pollution, especially under the heavy pressure of environmental problems, the 21st century is a century in which renewable new energy resources are the main resources and renewable energy economy and finance will play a leading role. ‘In the future, whoever can scientifically and reasonably develop and utilize the depth space resources, energy and other resources according to needs, who will have the key to harmonious development with nature and the key to peace as well as the basic material foundation to control the fate of the world and human beings.’ [2]



## References

- [1] Outline of Regional Integrated Development for the Yangtze River Delta [EB / OL] issued by the CPC Central Committee and the State Council.  
[http://www.gov.cn/zhengce/2019-12/01/content\\_5457442.htm?tdsourcetag=s\\_pcqq\\_aiomsg](http://www.gov.cn/zhengce/2019-12/01/content_5457442.htm?tdsourcetag=s_pcqq_aiomsg) (2019/12/1)
- [2] Yiming Cai. Multi-dimensional Space Resource Subject[M]. Beijing: Ocean Press, 2014: pp3-4, P39
- [3] RongjingDeng Summary of New Energy Utilization and Industrial Development in the Yangtze River Delta [J] Contemporary social science perspective the fifth phase in 2009 P8
- [4] The Layout of Floating Offshore Power Stations in China is Far-Reaching. Shanghai takes the lead in water test and wind power development [EB / OL].<http://cegreen.org/article-2074.html> (2020.3.10)
- [5] Cai Gang, director of Zhejiang Energy Bureau: Seize the Important Window Period to Promote the Development of Offshore Wind Power [EB / OL]<http://news.bjx.com.cn/html/20190905/1005083.shtml> (2020.3.10)
- [6] Xinhua News Agency Hangzhou, Zhejiang Province: Wind Farms Built on the Sea [EB / OL]  
[http://www.xinhuanet.com/2019-04/01/c\\_.htm](http://www.xinhuanet.com/2019-04/01/c_.htm) (2020.3.10)
- [7] Analysis on the Development Status of Jiangsu New Energy Power Generation Market in 2019 [EB / OL]  
[http://www.sohu.com/a/362452575\\_](http://www.sohu.com/a/362452575_) (2020.3.10)
- [8] What is the Base Gas of Photovoltaic and Wind Power of Each 10GW Installed in Jiangsu Province before 2020 (environmental protection online) [EB / OL] <http://news.bjx.com.cn/html/20191219/1029894.shtml> (2020.3.10)
- [9] Li zhiruan, Jianchao State Grid, Anhui Electric Power Guarantee, New Energy Full Consumption [EB / OL]<http://www.cec.org.cn/zdlhuiyuandongtai/dianwang/2019-05-09/190909.html> (2020.3.10)
- [10] New Energy Power Generation in Anhui Province Accounts for 48% of the Total Power Load [EB / OL]  
<http://news.cableabc.com/society/20200218874197.html> (2020.3.10)
- [11] Anhui new energy power generation increased by 70% year on year [EB/OL]  
<http://www.hjxdl.com/news/5850.html> (2020.3.10)
- [12] Wang Xuhui Promotes Re Electrification to Promote Clean and Efficient Energy Transformation [EB / OL]. [Http://paper.people.com.cn/zgnyb/html/2018-03/12/content\\_.htm](http://paper.people.com.cn/zgnyb/html/2018-03/12/content_.htm) (2020.3.10)
- [13] Full Text of XieZhenhua's Speech at cop24 China Enterprise Side Meeting [EB / OL].  
[Http://www.ideacarbon.org/news\\_free/47923/?PC=PC](http://www.ideacarbon.org/news_free/47923/?PC=PC) (2020.3.3)
- [14] 365 photovoltaic top 20 global photovoltaic enterprises in 2019 [EB / OL].  
[Http://m.askci.com/news/20191128/1434261155070.shtml?Clicktime=1575258799](http://m.askci.com/news/20191128/1434261155070.shtml?Clicktime=1575258799) (2020.3.10)
- [15] Notice of the National Energy Administration of the national development and Reform Commission on actively promoting the work related to the non subsidy parity of wind power and photovoltaic power generation on the Internet [EB / OL]. [Http://www.nea.gov.cn/2019-01/10/c\\_.htm](http://www.nea.gov.cn/2019-01/10/c_.htm) (2020.3.25)
- [16] Why should photovoltaic power generation replace coal power generation sooner or later? [EB/OL].<http://guangfu.bjx.com.cn/news/20191220/1030062.shtml> (2020.3.10)
- [17] Where are the most photovoltaic enterprises distributed in 34 provincial administrative regions of China? [EB/OL].<https://news.solarbe.com/201804/08/285665.html> (2020.3.10)
- [18] Car earthquake! Tesla announced all night! Nightmare of domestic car? [EB/OL].[http://m.sohu.com/a/298594649\\_245553](http://m.sohu.com/a/298594649_245553) (2020.3.10)
- [19] The first ID. car is offline [EB / OL]. <https://baijiahao.baidu.com/s?Id=164962453583391162&Wfr=Spider&for=PC> (2020.3.10)
- [20] The construction speed of SAIC Volkswagen MEB plant is comparable to that of Tesla new energy

market to welcome the strongest new car and new technology (2019-12-8) [EB / OL].  
<https://baijiahao.baidu.com/s? Id = 1643028957078562080 &Wfr = Spider & for = PC> (2020.3.10)

[21] GEELY [EB/OL]. <http://zgh.com/new-energy-pathway/> (2020.3.10)

[22] 2019 new energy automobile industry ranking  
[EB/OL]. <https://www.xsgou.com/energy/2020/0228/177061.html> (2020.3.10)

[23] production and sales of new energy vehicles in Anhui Province of China News Network doubled [EB / OL]. <https://baijiahao.baidu.com/s? Id = 1626069243182691670> (2020.3.10)

[24] [EB/OL]. <http://www.gcl-power.com/site/industrial> (2020.3.10)

[25] Tianneng International Group Co., Ltd. [EB / OL].  
<http://b2b.huangye88.com/gongsi/1945567/company'detail.html> (2020.3.10)

[26] significance of garbage classification to social and economic development [EB / OL].  
<https://wenda.so.com/q/1515738905215061> (2020.3.10)

[27] Tianneng group's circular economy industrial park once again won "praise" from the central media [EB / OL]. <https://www.maigoo.com/news/500352.html> (2020.3.10)

[28] Zhejiang Daily: Tianneng group creates circular economy, protects the environment and promotes green development [EB/OL]. [http://ah.ifeng.com/a/20160818/4881923\\_.shtml](http://ah.ifeng.com/a/20160818/4881923_.shtml) (2020.3.10)

[29] Shanghai First Financial Media Co., Ltd. Yangtze River Delta integration helps the formation of new energy vehicle industry cluster [EB / OL]. <http://baijiahao.baidu.com/s? Id = 1602257308586766480 &Wfr = Spider & for = PC> (2020.3.10)

[30] Geely Holding Group invests in Iceland carbon cycle International Co., Ltd. [EB / OL].  
<http://www.ciccps.org/news/shownews.asp? Id = 639> (2020.3.11)

[31] source: the threat of global warming [EB / OL]. [https://www.sohu.com/a/374420294\\_](https://www.sohu.com/a/374420294_) (2020.3.10)

[32] how to integrate the development of new energy industry in the East Yangtze River Delta? Experts: adjust measures to local conditions, work division and cooperation, news[EB/OL].  
[https://www.thepaper.cn/newsdetail'forward'\\_\(March 10, 2020\)](https://www.thepaper.cn/newsdetail'forward'_(March%2010,%202020))

[33] China National Renewable Energy Center: China Renewable Energy Outlook 2018 [EB / OL].  
<http://guangfu.bjx.com.cn/news/20181023/936114.shtml> (2020.3.10)

[34] opening of the United Nations Climate Change Conference: this time it's really "on fire"! [EB/OL].  
<https://www.huanbao-world.com/a/vocs/157429.html> (2020.3.10)

[35] EU declared climate emergency and called on all countries to fight against climate crisis [EB / OL].  
<https://www.4hw.com.cn/p/420523.html> (2020.3.10)

[36] EU announces climate emergency to improve emission reduction target [EB / OL].  
<http://www.ftchina.com/story/001085343? Archive> (2020.3.10)

[37] EU: China will face border tax if it does not implement domestic carbon tax [EB / OL].  
<http://www.ftchina.com/story/001086085? From = timeline &isappinstalled = 0> (2020.3.10)

2020. 4. 20

English Translation: Yang Li

English Proofreading: Ziwei Chen

### **Brief Introduction of the Author**

Yiming Cai, male, researcher professor, the originator of the Multi-Dimensional Space Resources Theory. Legal representative and director of Shanghai All-heart Environment Development Center.

### **Copyright Notice**

*The Outline of Regional Integrated Development of Yangtze River Delta and Multi-dimensional Space Resource Subject Try to Discuss the Practice of Depth Space Control Power* is a work declared by Shanghai All-heart Environment Development Center, and has received a copyright registration certificate supervised by the National Copyright Administration of Shanghai, with the work registration certificate number: 沪作登字-2021-A-02090540. The purpose of publishing this article is to share innovative research results with environmental protection enthusiasts and enthusiastic readers, as well as related personnel. You are welcome to reproduce this article; meanwhile please be sure to give credit to the source and maintain the integrity of the article. If any infringement is found, legal responsibility will be pursued according to relevant laws and regulations.

If you are interested in learning more about the content, please visit the official website of Shanghai All-heart Environment Development Center. Website: <http://www.xyhj-ahe.com/> Shanghai All-heart Environment Development Center is a non-profit, private company that focuses on environmental protection and sustainable development.

Shanghai All-heart Environment Development Center

2021/9/9