



CSI-Jinsinan Climate-Friendly Index Methodology Report

Shanghai Jinsinan Institute of Finance

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1 Background

1.1 GLOBAL EFFORTS TO TACKLE CLIMATE CHANGE

Climate change is one of the most pressing challenges facing our world today. There has been a global consensus on accelerating climate action. The Paris Agreement was adopted at the 21st session of the Conference of Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) in Paris in December 2015. Its goal is to keep the rise in the global mean temperature to well below 2°C above pre-industrial levels and preferably to limit the increase to 1.5°C, which would significantly reduce the risks and impacts of climate change. As of March 2021, 194 parties (193 states plus the European Union) have signed the Paris Agreement, in which 147 signatories have achieved ratification of the agreement. Nearly every country has endorsed the Paris Agreement to tackle global climate change.

In November 2021, the Glasgow Climate Pact was reached at the COP26 summit. For the first time, nations are called upon to phase down unabated coal power and inefficient subsidies for fossil fuels. As part of the package of decisions, governments reaffirmed their duty to fulfill the pledge of providing 100 billion dollars annually from developed to developing countries. Nations also completed the Paris Agreement's rulebook relating to market mechanisms and non-market approaches and the transparent reporting of climate actions and support provided or received, including for loss and damage. This has marked a new milestone in tackling climate change globally.

China has actively participated in international cooperation on climate change. In 1992, China became one of the first signatories to the UNFCCC. It has actively participated in and effectively promoted the multilateral

process of climate change issues. In 2002, the Chinese government ratified the Kyoto Protocol. In 2016, China took the lead in ratifying the Paris Agreement and accelerated its effective implementation.

Since announcing its goal to peak carbon emissions before 2030 and achieve carbon neutrality by 2060 ("dual-carbon" goals) in September 2020, China has put in place a "1+N" policy framework with a series of supporting policies for reaching its climate targets. In August 2022, nine ministries, including the Ministry of Ecology and Environment (MEE) and the National Development and Reform Commission (NDRC), jointly announced a list of 23 climate finance pilot zones, further accelerating the development of climate finance in China.

1.2 OPPORTUNITIES AND CHALLENGES OF CLIMATE FINANCE

Climate finance is crucial in addressing climate change and transitioning to a green and low-carbon economy. It has been estimated that the climate finance gap in China is enormous, which has created both opportunities and challenges.

The Climate Policy Initiative (CPI) 's Global Landscape of Climate Finance 2021 shows that total climate finance has grown steadily over the past ten years, reaching USD 632 billion in 2019-2020. Public climate investment increased by 7% in 2017-2018, reaching USD 321 billion. Private climate investment increased by 13% between 2017 and 2018, reaching USD 310 billion.

Several international organizations have estimated the investment needs to reach carbon neutrality. According to the International Monetary Fund (IMF), achieving net-zero carbon emissions by 2050 will require additional global investments amounting to a cumulative USD 12-20 trillion. However, the funding gap is still significant in climate finance.

Driven by domestic and international climate policies, there has been a proliferation of climate financial products in the market. A professional and reliable investment product or strategy is crucial to promote climate action and ensuring investors' returns. There are two broad investment strategies: active and passive. Active investing relies on the experience of professionals to select and construct portfolios. It should be noted that this approach requires that the professionals have investment experience in the climate-relevant sectors complemented by knowledge of climate change, which is critically needed at present. Otherwise, it is likely to lead to investment "greenwashing". An alternative strategy is to passively track an index product developed by a professional climate finance team. The financial performance of such indices is largely good.

Moreover, the portfolio of stocks in these indices integrates climate action and has significant long-term investment value. These indices are developed by professional teams with expertise in climate change, technology, and finance, and thus more forward-looking and objective than active investment. The indices can provide tailored guidance on the market direction to address climate change and factor in climate risks and opportunities compared to other financial indices. Investors are also more likely to receive excess returns.

1.3 DEVELOPMENT OF CLIMATE INDICES

In the coming period, climate finance will be accelerated in the context of global climate change and national dual carbon goals. Climate indices and related products will become increasingly popular.

Internationally, the S&P Dow Jones Indices offers four climate and clean energy indices. STOXX (Europe) has launched the European Climate Impact Index. MSCI has a range of climate indices, including a China climate change index launched in 2020.

Since the dual carbon goals were proposed, several Chinese financial institutions have launched climate-related indices and products from 2021 to 2022. In May 2021, the SSI-SIIFC Climate Finance ESG Index was launched by Sino-Securities Index to assess the performance of listed companies in addressing climate change. In October 2021, the CSI SEEE Carbon Neutral Index was officially launched, which was developed jointly by China Securities Index (CSI) and the Shanghai Environment and Energy Exchange (SEEE). The CSI SEEE Carbon Neutral Index comprises low-carbon firms and carbon reduction pioneers in carbon-intensive sectors. In November 2021, the CSI launched the CSI Carbon Neutral 60 Index, which focuses on the overall performance of listed companies that contribute significantly to carbon neutrality. These climate indices have generally been well recognized by the market domestically and globally.

2 Climate Index Overview

2.1 INTERNATIONAL INDICES

Climate indices have performed well over the long term. Many climate indices often outperform the S&P 500, an index widely regarded as the best measure of the US large-cap stock market. There are three primary approaches to compiling climate indices: negative screening, thematic investment, and integration strategy.

We use negative screening to exclude securities that do not meet the criteria. Thematic investment refers to strategies that identify securities focusing on a specific theme or trend. The integration strategy combines the abovementioned methods to delineate a long-term trend and exclude unqualified securities.

The methodologies for some internationally recognized climate indices are shown in the table below.

Table 2-1 The methodologies for international climate indices

Type	Name	Methodology
Negative screening	S&P Global 1200 Fossil Fuel Free Index	<ul style="list-style-type: none"> ● Including only companies that do not hold reserves of fossil fuels. ● Excluding thermal coal but not companies in metallurgical or coking coal mining. ● Covering industries including oil, gas, coal, consumable fuels, mining, materials, and utilities.
Thematic investments	S&P Global Clean Energy Index	<ul style="list-style-type: none"> ● Companies with at least 25% of revenue from clean energy-related businesses as defined by the RBICS data. ● Companies from general utilities, defined by the GICS sub-industries, generating at least 20% of their power (as measured by S&P Trucost) from renewable sources.
Integration strategy	S&P 500 Net Zero 2050 Paris-Aligned Sustainability Screened Index	<ul style="list-style-type: none"> ● Exclusions are based on a company's business activities and the extent to which a company is linked to violations of international norms and standards such as the United Nations Global Compact (UNGC) principles and involvement in relevant ESG risks.
Integration strategy	STOXX® Europe Climate Impact Index	<ul style="list-style-type: none"> ● Including companies with CDP performance bands A to B- (pre-2016 performance bands A to B). ● Excluding companies violating the UN Global Compact principles or involved in controversial weapons activities, as identified by Sustainalytics. ● Excluding the coal sector (ICB Code 1771) & tobacco sector (ICB Code 3785).
Integration strategy	MSCI China A Climate Change Index	Using the MSCI Low Carbon Transition score and categories to re-weight the constituents of the parent index to increase exposure to companies involved in opportunities associated with transition and decrease exposure to companies exposed to risks associated with the transition. The index excludes companies with <ul style="list-style-type: none"> ● Manufacturing of controversial weapons, ● Very severe ESG controversies, ● Severe environmental disputes, ● Tobacco-related businesses, and ● Thermal coal extraction and mining.
Integration strategy	Carbon Collective's Climate Index	<ul style="list-style-type: none"> ● Firstly, based on the industry guidelines provided by Project Drawdown and the IEA 2050 Zero Carbon Report, the listed companies that build a climate solution are screened, which represent a broad set of industries classified into six categories: clean energy, clean transportation, sustainable buildings, circular economy, green food/agriculture, and health

		<p>industry.</p> <ul style="list-style-type: none"> ● Secondly, based on the financial data, the listed companies whose primary businesses rely on fossil fuels or high-carbon industries rather than a climate solution are excluded. ● Thirdly, with a further refined criterion, the companies that belong to low-carbon industries but whose business activities only have a limited impact on climate solutions are excluded. These companies are mainly from sectors such as utilities, solid waste management, biofuels, carbon capture, water service, LED, veganism, health, military, internet, etc.
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2.2 CHINA'S INDICES

The strategies used by the Chinese climate indices also include negative screening, thematic investment, and integration strategies.

- **Negative screening:** Most indices exclude companies with ESG ratings of B and under B and those with high climate risks. The representative indices in the domestic market are CSI 300 Carbon Neutrality Index and SSE 180 Carbon Efficient Index.
- **Thematic investing:** Several indices tend to invest in low-carbon sectors and carbon-intensive sectors with low-carbon transition pathways. The representative ones in the domestic market are CSI Carbon Neutral 60 Index, CSI SEEE Carbon Neutral Index, CSI CLAMC ESG Green Low-Carbon 100 Index, and SSI State Grid Carbon Neutral 300 Index.
- **Integration strategy:** It is an integration of the two above-mentioned methods. It includes low-carbon securities while excluding securities with high ESG risks. The representative ones in the domestic market are SSI-SIIFC Climate Investment and

Financing ESG Index and CSI China Mainland Low Carbon Economy Index.

Table 2-2 The methodology of domestic climate indices

Strategy	Name	Launch time	Methodology
Negative screening	CSI 300 Carbon Neutrality Index	2022/03/07	<ul style="list-style-type: none"> ● Excluding companies with a CSI ESG rating of B or lower.
	SSE 180 Carbon Efficient Index	2016/10/8	<ul style="list-style-type: none"> ● Excluding companies with a carbon footprint of over 1000 tonne CO₂/ USD mln in the past year.
Thematic investing	CSI Carbon Neutral 60 Index	2021/11/09	<ul style="list-style-type: none"> ● Selecting 60 companies from low-carbon sectors (70%), such as clean energy and energy storage, and carbon-intensive sectors field with great emission reduction potential (30%), such as thermal power generation.
	CSI SEEE Carbon Neutral Index	2021/10/21	<ul style="list-style-type: none"> ● Excluding companies with CSI ESG scores in the sector's bottom 10%. ● Selecting low-carbon companies or carbon-intensive ones with great emission reduction potential. ● Assigning weights for low-carbon and carbon-intensive sectors with great emission reduction potential according to their contributions to carbon neutrality. ● Sorting companies by the scores of carbon-neutral contributions and selecting 100 companies as the index constituents.
	CSI CLAMC ESG Green Low-Carbon 100 Index	2021/12/13	<ul style="list-style-type: none"> ● Assigning a comprehensive score to each company based on its ESG score (40%), CSI carbon emission reduction score (40%), and the proportion of green revenue (20%). ● Selecting one-third of the companies with the highest comprehensive scores within each industry. ● With further adjustments to the remaining companies, a total number of 100 companies are selected.
	SSI State Grid Carbon Neutral 300 Index	2021/4/30	Excluding companies with: <ul style="list-style-type: none"> ● Average daily turnover over the past year ranked in the bottom 20%. ● A relatively low CSI ESG rating. ● Exposed to high environmental risks. Selecting companies in: <ul style="list-style-type: none"> ● The non-fossil energy industry, such as

			<p>hydropower, photovoltaic, and wind power.</p> <ul style="list-style-type: none"> ● The industries of new energy vehicles, energy conservation, and environmental protection. ● The industries of fossil fuel power generation, petrochemical, chemical, building materials, iron and steel, non-ferrous metals, papermaking, and transportation with the score ranked in the top 30% in the SSI Carbon Neutral Evaluation System. ● Carbon-neutrality service sectors such as carbon monitoring, carbon trading, and carbon finance.
Integration strategy	SSI-SIIFC Climate Investment and Financing ESG Index	2021/06/28	<ul style="list-style-type: none"> ● Excluding companies in the bottom 20% of the environmental risk score in the SSI ESG ranking. ● Based on the SSI ESG and carbon neutral assessment, ranking the listed companies with a focus on three dimensions of climate solutions, climate change impact, and environmental performance. The top 100 companies with the highest comprehensive scores are selected to form the index constituents.
	CSI China Mainland Low Carbon Economy Index	2022/1/21	<ul style="list-style-type: none"> ● Excluding companies with average daily turnover over the past year ranked in the bottom 20%. ● Selecting companies with over 50% of revenue from low-carbon businesses such as clean energy, energy saving, energy storage, clean production, and waste disposal. ● Ranking candidate companies by their average daily market capitalization over the past year and selecting the top 50 securities as constituents.

Data source: CSI、SSI official website

The climate-related indices have outperformed the CSI 300 index in recent years and are growing rapidly. It is expected that climate-related indices and products can play a positive role in diverting the market and investors toward climate investments.

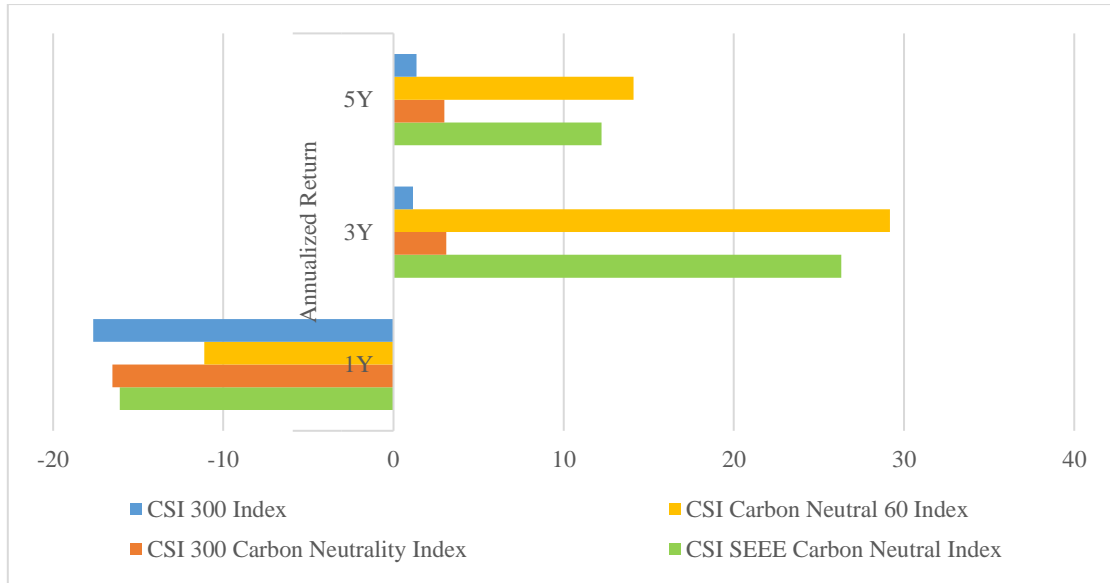


Figure 2-1 Annualized returns of climate-related indices vs. CSI 300

Note: Data source CSI and SSI official websites, query time September 2022, unit: %

It should be noted that most of the existing climate indices place outsized weight on certain sectors, such as renewable energy and new energy vehicles. Some climate indices include low-carbon enterprises and pioneers in carbon-intensive industries. There are few climate indices focusing on a wide range of low-carbon industries. And the classification criteria for low-carbon industries are not clear enough.

Therefore, it is essential to develop a climate index that focuses on a wide range of climate-related activities, tapping into the potential of climate-friendly investment. Meanwhile, it is useful to improve the classification criteria of low-carbon sectors.

3 General Rules

3.1 CHARACTERISTICS

The CSI-Jinsinan Climate-Friendly Index (the "Index") covers a wide range of sectors that can contribute to the fight against climate change. It

aims at helping investors explore investment opportunities in climate-friendly industries. The Index has distinct advantages over other similar (e.g., carbon neutral, low carbon, etc.) indices in the Chinese market.

- **Global consensus:** The Index is based on a comprehensive catalog of economic activities related to climate change following internationally recognized standards.
- **Deep decarbonization:** The Index only focuses on low-carbon sectors and intends to exclude carbon-intensive industries.
- **Broad-based sectors:** The Index captures a broad range of investment opportunities across various industries related to climate change mitigation and adaptation.
- **Forward-looking:** The index covers listed companies that can provide climate solutions. The inclusion of climate adaptation companies fills a gap in the domestic indices in China.

The CSI-Jinsinan Climate-Friendly Index can help investors identify climate-friendly assets, facilitate the implementation of corporate climate solutions, and stimulate technological innovation. It will allow investment and financing to play a positive role in addressing climate change and promote the green and low-carbon transition of the economy, facilitating the achievement of the dual carbon goals.

3.2 CLASSIFICATION PRINCIPLES

According to the UNFCCC, mitigation and adaptation are two ways to tackle global climate change, and they can mutually reinforce each other. Because of the equal importance of mitigation and adaptation, this Index covers companies in both areas. In addition, the mitigation dimension is divided into carbon emission reduction and carbon sinks.

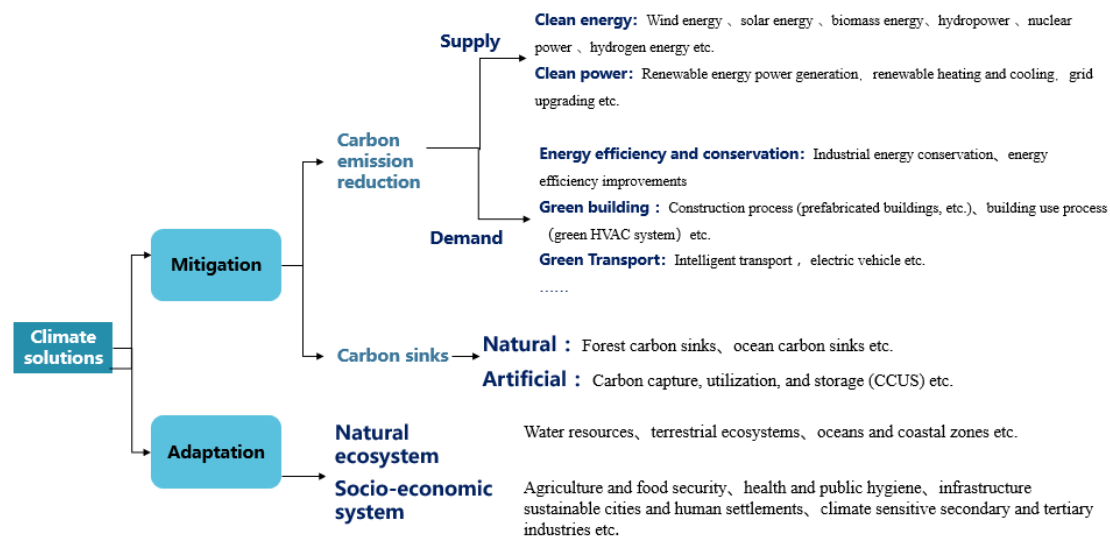


Figure3-1 Industries related to addressing climate change challenges

Carbon emission reduction refers to the economic activities that can avoid or reduce greenhouse gas (GHG) emissions, including production process and product innovation, which ultimately can help stabilize GHG concentrations in the atmosphere. The economic activities in this category can be divided into supply-side and demand-side solutions. The supply-side solutions focus on new energy and clean electricity. The demand-side solutions primarily involve new materials and technologies needed for production in the industry, construction, and transportation.

Carbon sinks refers to removing carbon dioxide from the atmosphere. The activities are divided into nature-based and artificial solutions. The

nature-based solutions include the development of forest and ocean carbon sinks. The artificial solutions use technologies such as carbon capture, utilization, and storage (CCUS) .

Climate adaptation refers to the activities that help reduce existing and future climate risks, prevent the risks from being increased and diversified, and enhance the resilience of the socio-economic system and natural ecosystem to climate change. China's National Climate Change Adaptation Strategy 2035 is concerned with climate adaptation activities in ecosystem and socio-economic system. The ecosystem includes water resources, terrestrial ecosystems, and marine and coastal zones. The socio-economic system includes agriculture and food security, health and healthcare, infrastructure and major engineering projects, urban and residential environments, and sensitive secondary and tertiary industries such as finance and tourism.

Climate change has already happened and is irreversible. Greenhouse gas emissions are expected to increase for a prolonged period. Both mitigation and adaptation activities are critical in addressing climate challenges. Mitigation is the focus of the capital market, but it takes some time to materialize. Adaptation becomes instrumental in responding to actual or anticipated climate change impacts.

Therefore, to address climate change challenges in a more comprehensive manner, the Index includes three categories of climate-related economic activities: carbon emission reduction, carbon sink enhancement, and climate adaptation.

4 Methodology

The Index takes all A-share listed companies as candidates. To select climate-friendly economic activities, we compile a tailored taxonomy following five mainstream climate finance taxonomies for preliminary

screening. Then we apply an exclusionary and liquidity filter to the remaining candidates, leaving 100 listed companies that are considered to be climate-friendly. We then assign weights to these companies and maintain the portfolio regularly. The Index is designed to help investors better capture opportunities in climate-friendly investment across a wide range of sectors with a forward-looking perspective, facilitate the implementation of corporate climate solutions, and stimulate climate technology innovation. The index-making process is shown in Figure 4-1.



Figure 4-1 Index Compilation Process

4.1 INCLUSIONARY FILTER

There is no consensus on climate-friendly economic activities. To deal with this challenge, we use several mainstream climate finance taxonomies as the basis for selecting climate-friendly activities. Specifically, by merging relevant taxonomies, identifying consistent activities, and mapping these activities to the CSI industrial classification, we build a tailored taxonomy that is applicable in China and aligned with international practices. We use this taxonomy as the inclusionary filter for the Index.

currently promoting cooperation on harmonizing their green bond standards. It is, therefore, essential to refer to their official taxonomies.

1. *Green Bond Endorsed Projects Catalogue (2021 Edition)*

The *Green Bond Endorsed Projects Catalogue (2021 Edition)* (the "*Green Bond Catalogue*") is an official taxonomy published jointly by the PBC, NDRC, and CSRC. Other similar Chinese official taxonomies include the *Green Industry Guidance Catalogue (2019 Edition)* and the *Statistical Classification of Energy Conservation, Environmental Protection, and Clean Industry (2021 Edition)*. Particularly, the 2019 document forms the basis of the other two documents. In this sense, the *Green Bond Catalogue* is China's latest and most developed green finance catalogue.

The *Green Bond Catalogue* is an official guideline that defines the scope and a list of projects eligible for green bonds. It covers economic activities related to climate mitigation and adaptation and broader environmental protection activities. Since the Index concentrates on climate finance, we choose only climate-related activities from the *Green Bond Catalogue*.

2. *The EU Taxonomy*

The EU has been at the forefront of sustainable finance. *The EU Taxonomy* is a tool issued by the European Commission to guide sustainable economic development. It specifies relevant technical screening criteria for economic activities and is one of the most important documents for building a sustainable financial system.

The EU Taxonomy establishes six environmental objectives: climate change mitigation, adaptation, sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, and protection and restoration of biodiversity and ecosystems.

As the Index centers around climate change, only the economic activities of climate change mitigation and adaptation are retained.

In summary, we take the two official taxonomies advocated by China and the EU as the basis for the Index.

4.1.1.2 SUPPLEMENTAL TAXONOMIES

In addition to the main taxonomies, some renowned taxonomies are also considered to supplement the main ones. These include the *Climate Bonds Taxonomy* by the CBI, the *Common Principles for Climate Mitigation Finance Tracking* by multilateral development banks, including the World Bank, and the *Climate Solutions* by Project Drawdown.

1. *Climate Bonds Taxonomy*

The *Climate Bonds Taxonomy* is a professional guidance on climate finance developed by the CBI. Founded in 2009, the CBI is the only investor-focused, nonprofit international organization dedicated to mobilizing the bond market to tackle climate change.

The *Climate Bonds Taxonomy* identifies the assets and projects that contribute to climate mitigation and adaptation. It works on providing investors with the tools to capture climate investment opportunities in a way that promotes the implementation of climate investment decisions and reduces capital costs.

2. *Common Principles for Climate Mitigation Finance Tracking*

The *Common Principles for Climate Mitigation Finance Tracking* is a guidance developed jointly by multilateral development banks and the International Development Finance Club. It aims to provide financial institutions in different regions of the world with transparent and consistent guidelines to track climate finance.

In addition, the *Common Principles* sets out the context of vulnerabilities related to climate change and the intent to address the

identified vulnerabilities. However, the *Common Principles* does not include specific criteria for climate adaptation activities. Therefore, we cannot use it as a reference for the inclusionary filter to determine adaptation activities. It is worth noting that all other reference taxonomies already include adaptation activities.

3. Climate Solutions

Climate Solutions is a set of guidelines developed by Project Drawdown® to help the world achieve climate goals faster, safer, and more equitably. It covers various climate-related economic activities in three connected areas: reducing sources to bring emissions of greenhouse gases to zero, supporting sinks to uplift nature's carbon cycle, and improving society to foster equality for all. It **quantifies the emission reductions of key sectors under different scenarios, which have greatly enhanced the objectivity and quality of our research.**

Overall, our tailored taxonomy balances policy requirements with market needs. The main taxonomies adequately reflect professionalism and expertise, while the supplemental ones complete the details from a practical angle. The combination of the five taxonomies ensured the integrity of our methodology.

4.1.2 Merging taxonomies

Using the five taxonomies, we can sort out the economic activities most relevant to climate finance, i.e., those targeting climate change mitigation and adaptation. Merging these taxonomies leads to **229 economic activities** potentially related to climate change.

The 229 economic activities are further grouped according to the key tasks outlined in China's *Action Plan for Carbon Dioxide Peaking before 2030*. There are nine categories identified in this step, and some of the economic activities under each category are as follows.

- Clean energy: wind energy, solar energy, biomass, hydropower, nuclear power, and hydrogen energy.
- Energy efficiency: manufacturing of energy-saving and efficiency-enhancing equipment and energy efficiency enhancement.
- Green industry: manufacturing of equipment for the use of non-conventional water sources, construction, and operation of carbon dioxide capture, utilization, and storage projects.
- Green transportation: construction and operation of intelligent transportation systems, construction and operation of shared transportation facilities.
- Green building: construction of low-energy buildings, application of renewable energy in buildings.
- Circular economy: waste heat and pressure utilization, recycling, and harmless disposal of waste.
- Agriculture, forestry, husbandry, and fishery: seed resource protection, green and organic agriculture, green husbandry, forest resource cultivation and preservation, and ecological restoration.
- Green technology: low-carbon data centers, certification, and promotion of green and low-carbon products.
- Others: climate education and climate insurance.

4.1.3 Levels of consensus

We determine the level of consensus for each economic activity across the reference taxonomies. If an economic activity is included in one taxonomy, it will be given 1 point and 0 otherwise. **We then assign a consensus score to each activity by adding up its points across the reference taxonomies.** The consensus score is then used to determine the level of consensus for each economic activity.

- An economic activity that appears in all taxonomies, i.e., with a score of 5, is of high consensus.
- An economic activity that appears in four taxonomies, i.e., with a score of 4, is of moderate consensus.
- An economic activity that only appears in two or three taxonomies, i.e., with a score of 2 or 3, is of low consensus.
- An economic activity that appears in only one taxonomy, i.e., with a score of 1, is of no consensus.

The economic activities with a consensus score less than or equal to 3 are regarded divergent. The level of consensus for each economic activity is shown in Table 4-2.

Table 4-1 Examples of Consistency Level Assessment for Economic Activities

Economic Activities	If the taxonomy covers the corresponding economic activity, award 1 point					Consensus Score	Consensus Level
	<i>Green Bond Endorsed Projects Catalogue (2021 Edition)</i>	<i>The EU Taxonomy</i>	<i>Climate Bonds Taxonomy</i>	<i>Common Principles for Climate Mitigation Finance Tracking</i>	<i>Climate Solutions</i>		
Manufacturing of key components of new energy vehicles and its industrialization	1	1	1	1	1	5	High consensus
Construction and operation of hydrogen energy utilization facilities	1	1	1	0	1	4	Moderate consensus
Construction, maintenance, and operation of ecological function areas	1	1	0	1	0	3	Low consensus
Low-carbon data center	0	1	0	0	1	2	Low consensus
Conservation agriculture	0	0	0	0	1	1	No consensus

High and moderate consensus activities mainly involve clean energy and energy efficiency, which means the contributions of these industries to addressing climate change are widely recognized both at home and abroad. Therefore, these activities are included in our tailored taxonomy directly. Divergent activities (low or no consensus) are subject to further analysis. The irrelevant activities in China and those that need to transit from carbon-intensive to low-carbon production modes are screened out.

The 55 high consensus activities and 39 moderate ones are all included in our taxonomy, while proportionately fewer divergent activities are included as their consensus scores decrease. The process resulted in a total of 170 economic activities.

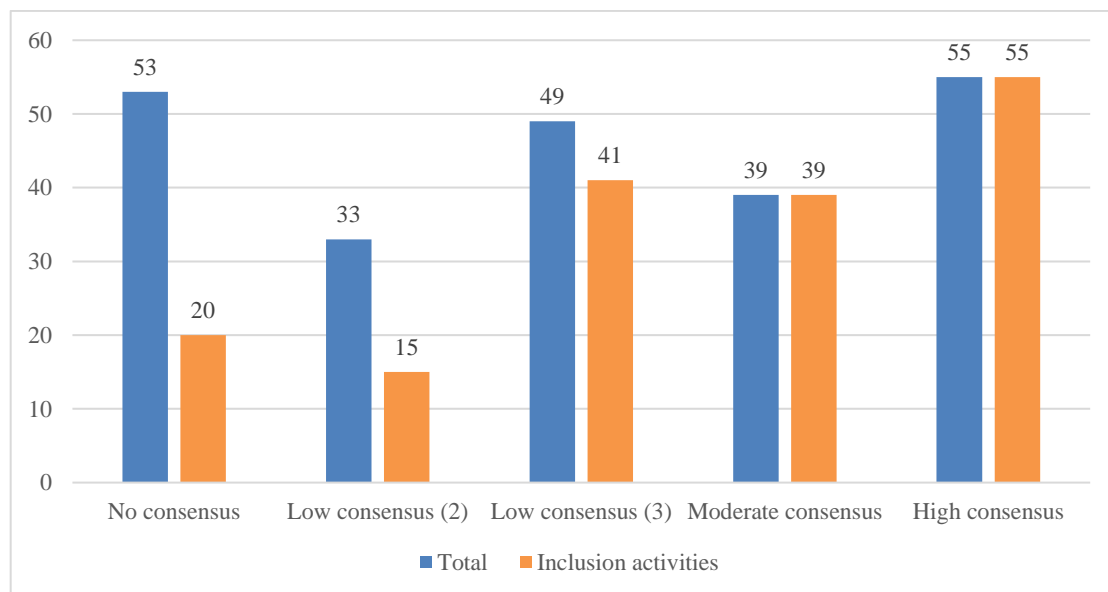


Figure 4-1 Inclusion of Climate-Friendly Economic Activities

4.1.4 Mapping

We mapped the 170 economic activities to all CSI sub-industries, selected low-carbon industries, and identified companies that carry out climate-friendly activities based on their ESG score, green revenue proportion, and other indicators. Examples of mapping are as follows.

Table 4-2 Examples of Mapping Economic Activities to Industries (including activity descriptions)

Economic Activities	Mapping to CSI sub-industries								Activity Description	Consensus Score	Consensus Level
	Code	Sub-Industry	Code	Sub-Industry	Code	Sub-Industry	Code	Sub-Industry			
Manufacturing of key components of new energy vehicles and its industrialization	25101010	Auto System Components	25101030	Auto Electronics & Motormeters	25102010	Passenger Vehicles	25104010	Auto Dealers	Manufacturing of core components of new energy vehicles, including batteries, motors and their control systems, electrical accessories, plug-in hybrid special engines, electromechanical coupling systems, and energy recovery systems, the construction and operation of their industrial facilities, and the trading and purchasing of new and clean energy vehicles.	5	High consensus
Construction and operation of hydrogen energy	55101060	Other New Energy Power							Technical setting and hydrogen energy utilization regarding clean production of	4	Moderate consensus

utilization facilities									hydrogen, safe and efficient storage of hydrogen, hydrogen refueling stations, hydrogen fuel cell vehicles, power generation via hydrogen fuel cells, and hydrogenated natural gas.		
Low-carbon data center	50202010	Data Center							Greenfield data centers that meet international best practices in energy efficiency or are powered mainly by on-site renewable energy.	2	Low consensus
.....											

The economic activities are mapped to 79 CSI sub-industries, which are further classified into carbon emission reduction, climate adaptation, and carbon sink enhancement according to their ways of addressing climate change.

The final list of industries is shown in Table 4-4 below.

Table 4-3 The 79 CSI Sub-Industries

No.	Code	Sub-Industry	Category	Consistency Score
1	55101070	Power Grid	Carbon emission reduction	5
2	55101040	Wind Power	Carbon emission reduction	5
3	55101030	Nuclear Power	Carbon emission reduction	5
4	55101020	Hydropower	Carbon emission reduction	5
5	25203010	Leisure Equipment & Products	Carbon emission reduction	5
6	25201050	Kitchen & Bathroom Appliances	Carbon emission reduction	5
7	25201040	Lighting Devices	Carbon emission reduction	5
8	25201020	Brown Goods	Carbon emission reduction	5
9	25201010	White Goods	Carbon emission reduction	5
10	25104010	Auto Dealers	Carbon emission reduction	5
11	25103010	Motorcycles & Other Vehicles	Carbon emission reduction	5
12	25102010	Passenger Vehicles	Carbon emission reduction	5
13	25101030	Auto Electronics & Motormeters	Carbon emission reduction	5
14	20702020	Marine Ports	Carbon emission reduction	5
15	20701070	Public Transportation	Carbon emission reduction	5
16	20701050	Railway Transportation	Carbon emission reduction	5
17	20701040	Shipping	Carbon emission reduction	5
18	20403020	Ships & Other Shipping Equipment	Carbon emission reduction	5
19	20403010	Railway Equipment	Carbon emission reduction	5
20	20402080	Other Special Machinery	Carbon emission reduction	5
21	20303030	Other Power Storage Equipment	Carbon emission reduction	5

22	20303020	Battery Components & Materials	Carbon emission reduction	5
23	20303010	Batteries	Carbon emission reduction	5
24	20301020	Wind Power Equipment	Carbon emission reduction	5
25	20301010	Photovoltaic Equipment	Carbon emission reduction	5
26	20203010	Building Products	Carbon emission reduction	5
27	20201020	Infrastructure Construction	Carbon emission reduction	5
28	15502020	Paper Products	Carbon emission reduction	5
29	15502010	Forest Products	Carbon sink enhancement	5
30	15501020	Paper Packaging	Carbon emission reduction	5
31	15501010	Metal, Glass & Plastic Packaging	Carbon emission reduction	5
32	15402020	Other Non-Metal Materials	Carbon emission reduction	5
33	15402010	Glass Fiber	Carbon emission reduction	5
34	15401020	Glass	Carbon emission reduction	5
35	60101010	Real Estate Development	Carbon emission reduction	5
36	20701010	Express Delivery	Carbon emission reduction	5
37	20302030	Power Distribution Equipment	Carbon emission reduction	5
38	20201010	Housing Construction	Carbon emission reduction	5
39	55101060	Other New Energy Power	Carbon emission reduction	4
40	55101050	Photovoltaic Power	Carbon emission reduction	4
41	20502010	Energy Saving & Recycling	Carbon emission reduction	4
42	20301030	Other Power Equipment	Carbon emission reduction	4
43	45102010	System Integration Services	Carbon emission reduction	4
44	20302010	Grid Automation Equipment	Carbon emission reduction	4
45	55104010	Municipal Environmental Sanitation	Carbon emission reduction	4
46	50201020	Communication System, Equipment & Components	Carbon emission reduction	4
47	50101010	Telecom Operation Services	Carbon emission reduction	4
48	45102020	Cloud Computing Services	Carbon emission reduction	4
49	30202040	Fishery Products	Climate adaptation	4
50	30202030	Livestock Products	Climate adaptation	4

51	30201020	Seed Industry	Climate adaptation	4
52	30201010	Agricultural Products	Climate adaptation	4
53	25201060	Appliance Parts & Other Appliances	Carbon emission reduction	4
54	20601050	Other Commercial Services & Supplies	Carbon emission reduction	4
55	20501010	Solid Waste Treatment	Carbon emission reduction	4
56	20302020	Power Transmission & Transformation Equipment	Carbon emission reduction	4
57	20401030	Pumps & Compressors	Carbon emission reduction	4
58	20501020	Sewage Treatment	Climate adaptation	4
59	45101010	General Software	Carbon emission reduction	4
60	20401040	Motors & Industrial Control Automation	Carbon emission reduction	3
61	20402060	Farm Machinery	Carbon emission reduction	3
62	50301010	Digital Marketing & Advertising	Carbon emission reduction	3
63	50303040	Interactive Media	Carbon emission reduction	3
64	50303050	Other Digital Media	Carbon emission reduction	3
65	45101020	Industry Application Software	Carbon emission reduction	3
66	55103010	Water Services	Climate adaptation	3
67	20502030	Ecological Restoration	Carbon sink enhancement	3
68	25402010	Academic Education	Climate adaptation	3
69	25402020	Training, Education & Other Education Services	Climate adaptation	3
70	25101010	Auto System Components	Carbon emission reduction	3
71	40201010	Multi-Sector Holdings	Climate adaptation	2
72	40401020	Multi-Line Insurance	Climate adaptation	2
73	50202010	Data Center	Carbon emission reduction	2
74	15201010	Copper	Carbon emission reduction	2
75	15203020	Tungsten & Molybdenum	Carbon emission reduction	2
76	15203030	Lithium	Carbon emission reduction	2
77	15201030	Lead & Zinc	Carbon emission reduction	2
78	15201040	Cobalt & Nickel	Carbon emission reduction	2
79	20201030	Garden Engineering	Carbon sink enhancement	1

4.2 EXCLUSIONARY FILTER

We use CSI ESG scores as an exclusionary screening for the companies that pass the inclusionary filter to identify climate-friendly companies and enhance the risk resistance of the Index.

ESG reflects sustainability at the company level. It evaluates companies from the environmental protection, social responsibility, and corporate governance aspects, aiming to identify returns and risk factors beyond financial information. The evaluation can reveal the influence of ESG factors on a company's sustainable operations, which helps investors understand the risks and opportunities of ESG.

The CSI ESG Rating System consists of 3 dimensions—environment (E), social (S), and governance (G), covering 13 themes, 22 sub-themes, and nearly 200 indicators. The environment dimension reflects the impact of a company's production and operation on the environment, revealing the environmental risks and opportunities faced by the company. The social dimension focuses on the company's relationship with stakeholders and performance of social responsibility, revealing the social risks and opportunities. The governance dimension considers whether the company possesses the ability of good governance or faces potential governance risks. Specific ESG evaluation indicators are shown in Tables 4-5 below.

Table 4-4 CSI ESG Rating System

Dimension	Theme	Sub-theme
Environment (E)	Climate Change	Carbon Emissions
	Pollution & Waste	Pollution & Waste Discharge
	Natural Resources	Water Resources
		Biodiversity & Land Use
	Environmental Management	Environmental Management System
	Environment Opportunities	Environment Opportunities
Green Finance		
Social (S)	Stakeholders	Employee
		Supply Chain

		Customer
	Social Responsibility Management	Social Responsibility Management
	Social opportunities	Charities
		Corporate Contribution
Governance (G)	Shareholder Rights	Minority Shareholder Protection
		Controlling Shareholders' Behavior
	Governance Structure & Operation	Institutional Setting
		Institutional Operation
		Incentive & Restraint Mechanism
	Information Disclosure	Disclosure Quality
	Corporate Governance Risk	Corporate Governance Risk
Management Performance	Financial Risks	
	Financial Quality	

The CSI ESG scores include AAA, AA, A, BBB, BB, B, CCC, CC, C, and D from highest to lowest, showing the ESG performance of the evaluated company relative to its peers.

Considering the purpose of the Index and the rules of other similar CSI indices, we exclude candidate companies with no ESG scores or ESG scores of B or below (including B, CCC, CC, C, and D).

We also exclude those companies whose revenues mainly come from controversial products such as tobacco, military supplies, and alcohol.

4.3 LIQUIDITY FILTER

To improve the risk resistance of the Index, companies that pass the exclusionary filter need to have sufficient liquidity. The specific requirements are as follows:

- Only the constituent companies ranking among the top 90% by the average daily trading value of the remaining securities over the past year are eligible for inclusion.

4.4 PORTFOLIO CONSTRUCTION

Companies passing the exclusionary and liquidity filter are divided into three categories: carbon emission reduction, climate adaptation, and carbon sink enhancement. They are then ranked by the arithmetic average of their rankings of average market capitalization over the last year and of the green revenue proportion in the last year. The top 100 companies were selected as the constituents, including 85 companies in the category of carbon emission reduction, 10 in the category of climate adaptation, and 5 in the category of carbon sink enhancement.

The CSI green revenue share measures the ratio of a company's revenue derived from green businesses as described in the *Statistical Classification of Energy Conservation, Environmental Protection, and Clean Industry (2021 Edition)*. This document and the *Green Bond Catalogue*, one of our reference taxonomies, are both based on the *Green Industry Guidance Catalogue (2019 Edition)* and complement each other, covering the clean energy industry, energy conservation and environmental protection industry, and clean production industry. The details are shown in Tables 4-6 below.

Table 4-5 Sectors for Calculating CSI Green Revenue Share

Industry	Sector
Clean Energy Industry	Solar Energy
	Wind Energy
	Biomass
	Hydropower
	Nuclear Power
	Smart Grid
	Other Clean Energy
	Clean and Efficient Utilization of Traditional Energy
Energy Conservation and Environmental Protection Industry	Energy Efficiency
	Advanced Environmental Protection
	Resource Recycling
	Green Transportation, Ship and Equipment Manufacturing
Clean Production Industry	Clean Production & Material Manufacturing
	Clean Production Equipment Manufacturing & Facility Construction

	Clean Production Technology Services
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The CSI green revenue share is calculated in reference to the *Statistical Classification*. If a company generates any revenue from one of the green industries described in the document, the ratio of such revenue will be its green revenue share; if the company generates revenue from more than one green industry, the sum of the ratio of each stream of revenue will be its green revenue share; if the company does not engage in any green business, the green revenue share will be zero.

The percentage of stocks in each of the three categories is determined by the weighted sum of the consensus scores of the 170 identified economic activities and their mapping to the 79 CSI sub-industries. Specifically, for climate activities matching with multiple CSI sub-industries, the weighted sums of the consensus score and number of matches for each economic activity are then added up under the three categories of carbon emission reduction, climate adaptation, and carbon sink enhancement. The ratio of the sum of each category to the total of all categories is the weight ratio of that category. These weight ratios are rounded for convenience.

The weight ratios are shown in Table 4-7.

Table 4-6 Rules for Determining Constituents

Type	Weighted sum of consistency score	Weight ratio of consistency score (original)	Weight ratio of consistency score (rounded)
Carbon emission reduction	651	85%	85%
Climate adaptation	68	9%	10%
Carbon sink enhancement	46	6%	5%
Total	765	100%	100%

4.5 WEIGHT ASSIGNMENT

The weights of the constituents in the Index are based on their market capitalization to ensure the investment value of the Index. The formula for the Index is shown below:

$$\text{Current Index} = \frac{\text{Current Total Adjusted Market-Cap}}{\text{Divisor}} \times 1000.$$

In this form, Current Total Adjusted Market-Cap = \sum (Security Price \times Number of Free Float Adjusted Shares \times Weight Factor). The value of the Weight Factor is between 0 and 1. The weight of each constituent is capped at 5%.

According to the *Guidelines No. 1 of the Shanghai Stock Exchange for Application of Self-Regulation Rules for Funds—Development of Index Funds* and the *Guideline No. 1 of the Shenzhen Stock Exchange for Securities Investment Fund Business—Development of Index Funds*, the weight of a single constituent security of an index shall not exceed 15%. In addition, the cumulative weight of the top 5 constituent securities shall not exceed 60%. Based on our calculation, if unchecked, the maximum weight of a single constituent security of the Index would exceed 10% and approach the prescribed limit. Therefore, the maximum weight is capped at 5% concerning the weight schemes of similar indices to cover the companies in broad industries in a more balanced way.

4.6 DYNAMIC ADJUSTMENT

4.6.1 Periodical Review

The Index will be adjusted and rebalanced semi-annually, and the adjustment will be effective from the first trading day after the 2nd Friday in June and December. A new weight factor will be assigned to each constituent at each rebalancing date and will become effective also from

the adjustment effective dates. Weight factors generally stay unchanged until the next rebalancing date.

4.6.2 Ongoing Review

Under special circumstances, we will adjust the Index when necessary. For example, delisted companies will be removed from the constituents. In case of acquisitions, mergers, and spin-offs of constituents, the Index will be adjusted according to the *Index Calculation and Maintenance Methodology of CSI*.

5 Analysis of Index Performance

5.1 MARKET VALUE AND LIQUIDITY

There are 100 constituent companies in the Index. As of June 2022, their average daily total market capitalization over the past year was 6.5 trillion RMB, and their average daily turnover was 89.61 billion RMB. With a funding size of 10 billion RMB, the maximum position-building period is 8.3 days. The liquidity of the Index is sufficient.

5.2 LISTING BOARDS

The SSE Main Board recorded the highest weight of 34.2%, corresponding to 38 constituents. It is followed by the SZSE Main Board, with a weight of 33.0% for 23 constituents.

Table 5-1 Listing Boards of the Current Constituents

Boards	Weight	Number of stocks
SSE STAR Market	8.8%	13
SSE Main Board	34.2%	38
SZSE GEM	24.0%	26
SZSE Main Board	33.0%	23

Data from: CSI. As of: 2022-6-30

5.3 CATEGORIES OF CONSTITUENTS

The category of carbon emission reduction covers 85 constituent stocks, with a cumulative weight of 97.4%; the category of climate adaptation covers 10, and the category of carbon sink enhancement covers 5, with a cumulative weight of 1.8% and 0.9%, respectively.

Table 5-2 Categories of Constituents

Category	Number of Constituents	Weight
Carbon Emission Reduction	85	97.40%
Photovoltaic Equipment	24	31.10%
Battery Components & Materials	14	19.30%
Wind Power Equipment	8	5.40%
Wind Power	6	3.20%
Solid Waste Treatment	6	1.70%
Photovoltaic Power	4	1.40%
Energy Saving & Recycling	4	1.20%
Hydropower	4	6.80%
Battery	3	6.90%
Lithium	3	9.00%
Other Special Machinery	3	2.80%
Nuclear Power	2	3.70%
Power Grid	1	0.20%
Grid Automation	1	3.70%
Other Power Storage Equipment	1	0.60%
Auto System Components	1	0.20%
Climate Adaptation	10	1.80%
Sewage Treatment	6	0.70%
Water Services	4	1.00%
Carbon sink enhancement	5	0.90%
Garden Engineering	3	0.60%
Ecological Restoration	2	0.30%

Data from: CSI. As of: 2022-6-30

5.4 TURNOVER RATE

The Index is a thematic index that covers a relatively constant pool of eligible constituents. Still, some constituents have changed due to significant changes in the green revenue share. The average turnover rate of the constituents is 19.5%, which has increased in recent periods.

Table 5-3 Historical Turnover Rates

Date	Turnover Rate
------	---------------

20171211	11.00%
20180611	10.00%
20181217	4.00%
20190617	8.00%
20191216	5.00%
20200615	5.00%
20201214	14.00%
20210615	66.00%
20211213	22.00%
20220613	50.00%

Data from: CSI. As of: 2022-6-30

5.5 WEIGHT OF CONSTITUENTS

The top 10 constituents of the Index have a cumulative weight of 41.7%, and all fall into the category of carbon emission reduction due to investors' enthusiasm for companies in this category. Climate adaptation and carbon sink enhancement, though equally important as carbon emission reduction, have not received proper attention from the market. Given their essential role in addressing climate change and the future development of the Index, it is forward-looking to include companies in these categories.

Table 5-4 Top 10 Constituents

No.	Code	Name	CSI Sub-Industry	Weight	Category
1.	601012	LONGi Green Energy Technology Co., Ltd.	Photovoltaic equipment	5.0%	Carbon emission reduction
2.	600900	China Yangtze Power Co., Ltd.	Hydropower	5.0%	Carbon emission reduction
3.	300750	Contemporary Amperex Technology Co., Ltd.	Battery	5.0%	Carbon emission reduction
4.	002812	Yunnan Energy New Material Co., Ltd.	Battery components and materials	4.8%	Carbon emission reduction
5.	002466	Tianqi Lithium Corporation	Lithium	4.1%	Carbon emission reduction
6.	002129	TCL Zhonghuan Renewable Energy Technology Co., Ltd.	Photovoltaic equipment	3.9%	Carbon emission reduction

7.	002460	Ganfeng Lithium Co., Ltd.	Lithium	3.9%	Carbon emission reduction
8.	600406	NARI Technology Co., Ltd.	Grid automation	3.7%	Carbon emission reduction
9.	300274	Sungrow Power Supply Co., Ltd.	Photovoltaic equipment	3.6%	Carbon emission reduction
10.	688599	Trina Solar Co., Ltd.	Photovoltaic equipment	2.7%	Carbon emission reduction

Data from: CSI. As of: 2022-6-30

By comparing the Index with the CSI SEEE Carbon Neutral Index and the CSI Carbon Neutral 60 Index, we find that their top three most held stocks are identical only with different weights. All their top 10 constituents come from photovoltaic equipment, hydropower, battery, and similar industries, meaning the new energy sector remains a market focus.

The Index, however, differs from the other two by excluding carbon-intensive companies and focusing only on low-carbon sectors. As a result, the three indices also differ in the selection of companies and the subsequent multi-dimensional analysis.

Table 5-5 Top 10 Constituents by Index

CSI Jinsinan Climate Friendly					SEEE Carbon Neutral					Carbon Neutral 60				
Code	Name	CSI Sub-Industry	Weight	Category	Code	Name	CSI Sub-Industry	Weight	Category	Code	Name	CSI Sub-Industry	Weight	Category
601012	LONGi Green Energy Technology Co., Ltd.	Photovoltaic Equipment	5.0%	Carbon emission reduction	300750	Contemporary Amperex Technology Co., Ltd.	Battery	9.7%	Deeply low carbon	300750	Contemporary Amperex Technology Co., Ltd.	Battery	9.4%	Deep low-carbon
600900	China Yangtze Power Co., Ltd.	Hydropower	5.0%	Carbon emission reduction	601012	LONGi Green Energy Technology Co., Ltd.	Photovoltaic Equipment	6.0%	Deep low-carbon	601012	LONGi Green Energy Technology Co., Ltd.	Photovoltaic Equipment	8.4%	Deep low-carbon
300750	Contemporary Amperex Technology Co., Ltd.	Battery	5.0%	Carbon emission reduction	600900	China Yangtze Power Co., Ltd.	Hydropower	4.8%	Deep low-carbon	600900	China Yangtze Power Co., Ltd.	Hydropower	6.6%	Deep low-carbon
002812	Yunnan Energy New Material Co., Ltd.	Battery components and materials	4.8%	Carbon emission reduction	601899	Zijin Mining Group Co., Ltd.	Gold	4.7%	High carbon but with emission reduction potential	002594	BYD Co., Ltd.	Passenger Vehicles	6.4%	Deep low-carbon
002466	Tianqi Lithium Corporation	Lithium	4.1%	Carbon emission reduction	002594	BYD Co., Ltd.	Passenger Vehicles	4.6%	Deep low-carbon	300274	Sungrow Power Supply Co., Ltd.	Photovoltaic Equipment	3.9%	Deep low-carbon
002129	TCL Zhonghuan Renewable Energy Technology Co., Ltd.	Photovoltaic Equipment	3.9%	Carbon emission reduction	300274	Sungrow Power Supply Co., Ltd.	Photovoltaic Equipment	2.8%	Deep low-carbon	300124	Shenzhen Inovance Technology Co., Ltd.	Motors & Industrial Control Automation	3.5%	Deep low-carbon
002460	Ganfeng Lithium Co., Ltd.	Lithium	3.9%	Carbon emission reduction	300124	Shenzhen Inovance Technology Co., Ltd.	Motors & Industrial Control Automation	2.6%	Deep low-carbon	600438	Tongwei Co., Ltd.	Photovoltaic Equipment	3.4%	Deep low-carbon
600406	NARI Technology Co., Ltd.	Grid automation	3.7%	Carbon emission reduction	600438	Tongwei Co., Ltd.	Photovoltaic Equipment	2.4%	Deep low-carbon	601899	Zijin Mining Group Co., Ltd.	Gold	3.3%	High carbon but with emission reduction potential
300274	Sungrow Power Supply Co., Ltd.	Photovoltaic Equipment	3.6%	Carbon emission reduction	600585	Anhui Conch Cement Co., Ltd.	Cement & Concrete	2.4%	High carbon but with emission reduction potential	002466	Tianqi Lithium Corporation	Lithium	2.8%	Deep low-carbon
688599	Trina Solar Co., Ltd.	Photovoltaic Equipment	2.7%	Carbon emission reduction	002271	Beijing Oriental Yuhong Waterproof Technology Co., Ltd.	Building Products	2.1%	High carbon but with emission reduction potential	300014	Eve Energy Co., Ltd.	Battery	2.7%	Deep low-carbon

Data from: CSI. As of: 2022-6-30

5.6 ANALYSIS OF INDUSTRIES

The final portfolio for the Index covers 20 CSI sub-industries. The top three industries in terms of the number of included companies are photovoltaic equipment, battery components and materials, and wind power equipment, all falling into the category of carbon emission reduction. This reflects investors' interest in the new energy sector. In comparison, the industries mapping to the categories of climate adaptation and carbon sink enhancement are more diversified regarding the number of companies included in each industry.

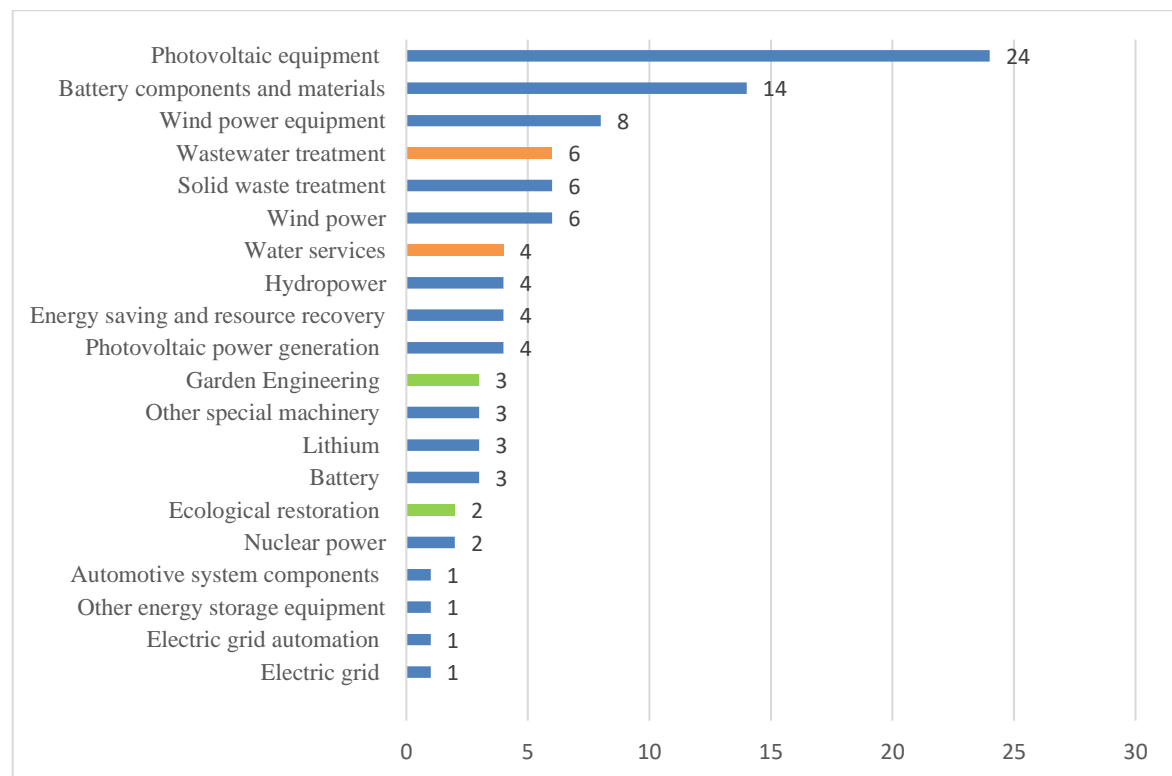


Figure 5-1 Industries of Constituents

Note: blue denotes the carbon emission reduction category, orange the climate adaptation category, and green the carbon sink enhancement category.

Data from: CSI. As of: 2022-6-30

5.7 GEOGRAPHICAL DISTRIBUTION

Regarding locations, the companies included in the portfolio distribute across China in 24 provinces, municipalities, and autonomous regions. Jiangsu has the highest number of constituent companies, followed by Guangdong, Zhejiang, and Beijing, all of which have more than ten constituent companies. The figure for Shanghai is 5, ranking fifth; that for Chongqing, Hubei, Sichuan, and Tianjin is 3 to 4, and that for other provinces and municipalities is 1 to 2.

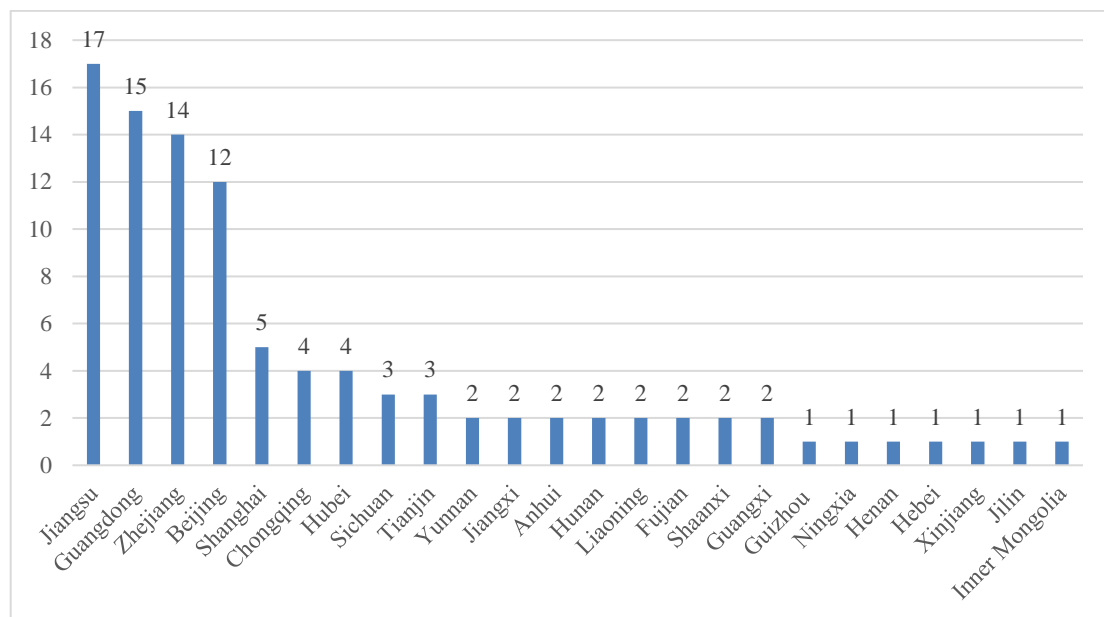


Figure 5-2 Geographical Distribution of Constituent Companies

Data from: CSI. As of: 2022-6-30

5.8 INDEX RETURN

Since China announced the "dual carbon" goals in September 2020, it is reasonable to measure the performance of climate indices (including carbon-neutral and low-carbon indices) after that. CSI adjusts the constituents in June and December each year, so the base date is set to December 31, 2020, and the base value is set at 1,000 points.

According to our measurements, the Index has performed as well as other similar thematic indices, all outperforming the CSI 300 Index.

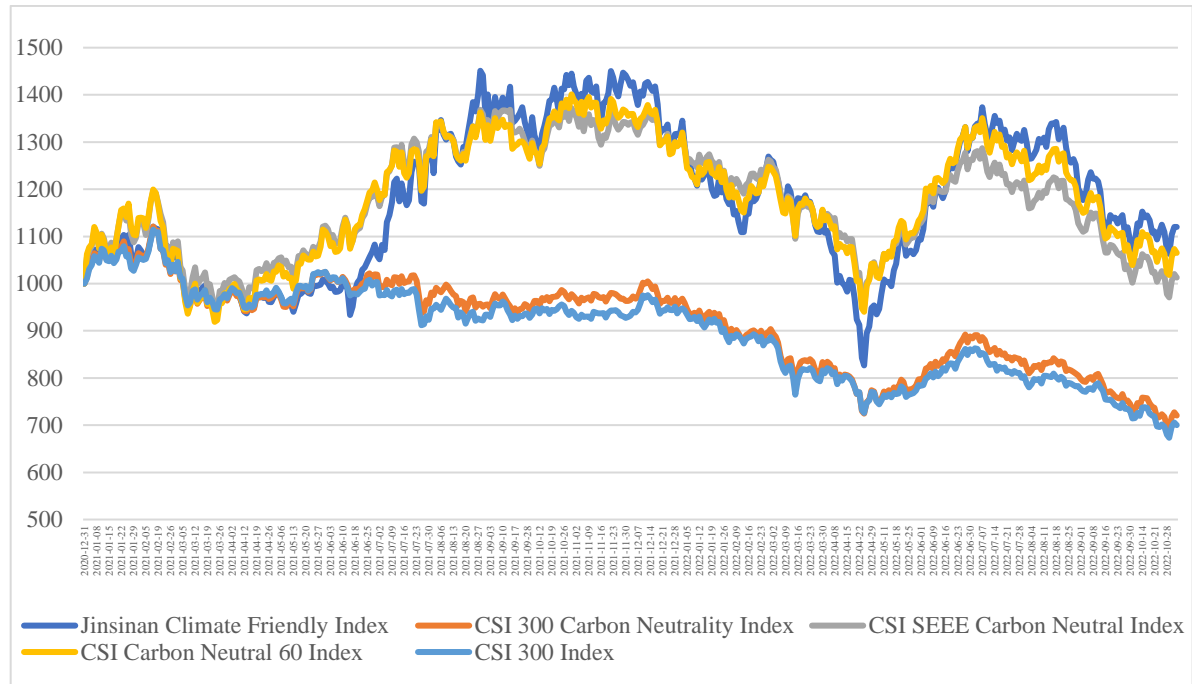


Figure 5-3 Comparison of Different Climate Indices

Data from: CSI. Period: 2020.12.31-2022.11.03

The Index has generated excess returns and a higher Sharpe ratio than other similar indices in the past two years. Its financial performance is highly competitive.

Figure 5-6 Index Returns

	Jinsinan Climate Friendly	CSI 300 Carbon Neutrality	SEEE Carbon Neutral	CSI Carbon Neutral 60	CSI 300
2021	26.1%	-5.4%	22.4%	21.2%	-6.6%
2022	-13.5%	-24.9%	-21.6%	-17.3%	-25.8%
Annualized Yield	6.6%	-16.9%	0.7%	3.6%	-18.3%
Annualized Volatility	33.1%	20.8%	27.9%	30.0%	19.6%
Sharpe Ratio	0.200	-0.815	0.027	0.121	-0.931

Data from: CSI. Period: 2020.12.31-2022.11.03

6 Conclusion

The Index represents climate-friendly companies while exhibiting competitive financial performance. In the future, we plan to establish an investment fund that tracks the Index and engages financial institutions in supporting climate solution companies, making the Index an essential tool for addressing the challenges of climate change.

Appendix: Constituent List in the latest period

No.	Code	Name	Weight	Sub-Industry	Category
1	601012	LONGi Green Energy Technology Co., Ltd.	5.0%	Photovoltaic Equipment	Carbon Emission Reduction
2	600900	China Yangtze Power Co., Ltd.	5.0%	Hydropower	Carbon Emission Reduction
3	300750	Contemporary Amperex Technology Co., Ltd.	5.0%	Battery	Carbon Emission Reduction
4	002812	Yunnan Energy New Material Co., Ltd.	4.8%	Battery components and materials	Carbon Emission Reduction
5	002466	Tianqi Lithium Corporation	4.1%	Lithium	Carbon Emission Reduction
6	002129	TCL Zhonghuan Renewable Energy Technology Co., Ltd.	3.9%	Photovoltaic Equipment	Carbon Emission Reduction
7	002460	Ganfeng Lithium Co., Ltd.	3.9%	Lithium	Carbon Emission Reduction
8	600406	NARI Technology Co., Ltd.	3.7%	Grid automation	Carbon Emission Reduction
9	300274	Sungrow Power Supply Co., Ltd.	3.6%	Photovoltaic Equipment	Carbon Emission Reduction
10	688599	Trina Solar Co., Ltd.	2.7%	Photovoltaic Equipment	Carbon Emission Reduction
11	601985	China National Nuclear Power Co., Ltd.	2.5%	Nuclear Power	Carbon Emission Reduction
12	002459	JA Solar Technology Co., Ltd.	2.5%	Photovoltaic Equipment	Carbon Emission Reduction
13	002709	Guangzhou Tinci Materials Technology Co., Ltd.	2.3%	Battery components and materials	Carbon Emission Reduction
14	300450	Wuxi Lead Intelligent Equipment Co., Ltd.	2.2%	Other Special Machinery	Carbon Emission Reduction
15	600905	China Three Gorges Renewables (Group) Co., Ltd.	2.1%	Wind Power	Carbon Emission Reduction
16	603659	Shanghai Putailai New Energy Technology Co., Ltd.	1.9%	Battery components and materials	Carbon Emission Reduction
17	601615	Mingyang Smart Energy Group Co., Ltd.	1.7%	Wind Power Equipment	Carbon Emission Reduction
18	603806	Hangzhou First Pv Material Co., Ltd.	1.6%	Photovoltaic Equipment	Carbon Emission Reduction
19	002074	Guoxuan High-Tech Co., Ltd.	1.6%	Battery	Carbon Emission Reduction
20	002340	Gem Co., Ltd.	1.5%	Battery components and materials	Carbon Emission Reduction

21	300316	Zhejiang Jingsheng Mechanical & Electrical Co., Ltd.	1.5%	Photovoltaic Equipment	Carbon Emission Reduction
22	300769	Shenzhen Dynanonic Co., Ltd.	1.4%	Battery components and materials	Carbon Emission Reduction
23	002202	Xinjiang Goldwind Science & Technology Co Ltd	1.3%	Wind Power Equipment	Carbon Emission Reduction
24	003816	CGN Power Co., Ltd.	1.3%	Nuclear Power	Carbon Emission Reduction
25	300568	Shenzhen Senior Technology Material Co., Ltd.	1.2%	Battery components and materials	Carbon Emission Reduction
26	002192	YOUNGY Co., Ltd.	1.1%	Lithium	Carbon Emission Reduction
27	688005	Ningbo Ronbay New Energy Technology Co., Ltd.	1.1%	Battery components and materials	Carbon Emission Reduction
28	300751	Suzhou Maxwell Technologies Co., Ltd.	1.0%	Photovoltaic Equipment	Carbon Emission Reduction
29	688116	Jiangsu Cnano Technology Co., Ltd.	1.0%	Battery components and materials	Carbon Emission Reduction
30	300763	Ginlong Technologies Co., Ltd.	0.9%	Photovoltaic Equipment	Carbon Emission Reduction
31	603185	Wuxi Shangji Automation Co., Ltd.	0.9%	Photovoltaic Equipment	Carbon Emission Reduction
32	300037	Shenzhen Capchem Technology Co., Ltd.	0.9%	Battery components and materials	Carbon Emission Reduction
33	601865	Flat Glass Group Co., Ltd.	0.9%	Photovoltaic Equipment	Carbon Emission Reduction
34	600732	Shanghai Aiko Solar Energy Co., Ltd.	0.8%	Photovoltaic Equipment	Carbon Emission Reduction
35	300919	CNGR Advanced Material Co., Ltd.	0.8%	Battery components and materials	Carbon Emission Reduction
36	002850	Shenzhen Kedali Industry Co., Ltd.	0.8%	Battery components and materials	Carbon Emission Reduction
37	600674	Sichuan Chuantou Energy Co., Ltd.	0.8%	Hydropower	Carbon Emission Reduction
38	300118	Risen Energy Co Ltd	0.8%	Photovoltaic Equipment	Carbon Emission Reduction
39	300724	Shenzhen SC New Energy	0.7%	Photovoltaic Equipment	Carbon Emission Reduction
40	688598	KBC Corporation Co., Ltd.	0.7%	Photovoltaic Equipment	Carbon Emission Reduction
41	688063	Pylon Technologies Co., Ltd.	0.6%	Other Power Storage Equipment	Carbon Emission Reduction
42	000591	CECEP Solar Energy Co., Ltd.	0.6%	Photovoltaic Power	Carbon Emission Reduction

43	300035	Hunan Zhongke Electric Co Ltd	0.6%	Battery components and materials	Carbon Emission Reduction
44	002610	Jiangsu Akcome Science & Technology Co., Ltd.	0.6%	Photovoltaic Equipment	Carbon Emission Reduction
45	300850	Luoyang Xinqianglian Slewing Bearings Co., Ltd.	0.6%	Wind Power Equipment	Carbon Emission Reduction
46	600236	GUANGXI GUIGUAN ELECTRIC POWER Co., Ltd.	0.6%	Hydropower	Carbon Emission Reduction
47	600110	Nuode Investment Co., Ltd.	0.6%	Battery components and materials	Carbon Emission Reduction
48	300393	Jolywood (Suzhou) Sunwatt Co., Ltd.	0.5%	Photovoltaic Equipment	Carbon Emission Reduction
49	601016	CECEP Wind-Power Corporation	0.5%	Wind Power	Carbon Emission Reduction
50	688388	Guangdong Jia Yuan Technology Shares Co., Ltd.	0.5%	Battery components and materials	Carbon Emission Reduction
51	002531	Titan Wind Energy (Suzhou) Co., Ltd.	0.5%	Wind Power Equipment	Carbon Emission Reduction
52	688390	Jiangsu GoodWe Power Supply Technology Co., Ltd.	0.5%	Photovoltaic Equipment	Carbon Emission Reduction
53	600008	Beijing Capital Eco-Environment Protection Group Co., Ltd.	0.5%	Water service	Climate Adaptation
54	300776	Wuhan DR Laser Technology Corp., Ltd.	0.5%	Photovoltaic Equipment	Carbon Emission Reduction
55	600025	Huaneng Lancang River Hydropower Inc.	0.5%	Hydropower	Carbon Emission Reduction
56	688680	Shanghai HIUV New Materials Co., Ltd.	0.4%	Photovoltaic Equipment	Carbon Emission Reduction
57	603218	Riyue Heavy Industry Co., Ltd.	0.4%	Wind Power Equipment	Carbon Emission Reduction
58	002487	Dajin Heavy Industry Co Ltd.	0.4%	Wind Power Equipment	Carbon Emission Reduction
59	603588	Beijing Geoenvirom Engineering & Technology, Inc.	0.4%	Solid Waste Treatment	Carbon Emission Reduction
60	603568	Zhejiang Weiming Environment Protection Co., Ltd.	0.4%	Solid Waste Treatment	Carbon Emission Reduction
61	300070	Beijing OriginWater Technology Co., Ltd.	0.4%	Sewage Treatment	Climate Adaptation
62	600481	Shuangliang Eco-Energy Systems Co., Ltd.	0.4%	Energy Saving & Recycling	Carbon Emission Reduction



63	002266	ZHEFU Holding Group Co., Ltd.	0.4%	Energy Saving & Recycling	Carbon Emission Reduction
64	000035	China Tianying Inc.	0.4%	Solid Waste Treatment	Carbon Emission Reduction
65	688516	Wuxi Autowell Technology Co., Ltd.	0.4%	Photovoltaic Equipment	Carbon Emission Reduction
66	601908	Beijing Jingyuntong Technology Co Ltd	0.4%	Photovoltaic Equipment	Carbon Emission Reduction
67	601778	Jinko Power Technology Co., Ltd.	0.4%	Photovoltaic Power	Carbon Emission Reduction
68	000598	Chengdu Xingrong Environment Co., Ltd.	0.4%	Water service	Climate Adaptation
69	300457	Shenzhen Yinghe Technology Co., Ltd	0.3%	Other Special Machinery	Carbon Emission Reduction
70	688006	Zhejiang HangKe Technology Incorporated Company	0.3%	Other Special Machinery	Carbon Emission Reduction
71	600821	Nyoccr Co., Ltd.	0.3%	Photovoltaic Power	Carbon Emission Reduction
72	688408	Arctech Solar Holding Co., Ltd.	0.3%	Photovoltaic Equipment	Carbon Emission Reduction
73	003035	China Southern Power	0.3%	Energy Saving & Recycling	Carbon Emission Reduction
74	300772	Zhejiang Windey Co., Ltd.	0.3%	Wind Power Equipment	Carbon Emission Reduction
75	601200	Shanghai Environment Group Co., Ltd.	0.3%	Solid Waste Treatment	Carbon Emission Reduction
76	688339	Beijing SinoHytec Co., Ltd.	0.3%	Battery	Carbon Emission Reduction
77	600452	Chongqing Fuling Electric Power Industrial Co Ltd	0.2%	Power Grid	Carbon Emission Reduction
78	300355	Inner Mongolia M-Grass Ecology And Environment (Group) Co., Ltd.	0.2%	Garden Engineering	Carbon sink enhancement
79	600163	Zhongmin Energy Co., Ltd.	0.2%	Wind Power	Carbon Emission Reduction
80	002310	Beijing Orient Landscape Co Ltd	0.2%	Garden Engineering	Carbon sink enhancement
81	601619	Ningxia Jiaze Renewables Corporation Limited	0.2%	Wind Power	Carbon Emission Reduction
82	603305	Ningbo Xusheng Group Co., Ltd	0.2%	Auto System Components	Carbon Emission Reduction
83	301155	Jiangsu Haili Wind Power Equipment Technology Co., Ltd.	0.2%	Wind Power Equipment	Carbon Emission Reduction
84	300536	Wuhan Nusun Landscape	0.2%	Garden Engineering	Carbon sink enhancement
85	300197	Shenzhen Techand Ecology & Environment Co., Ltd.	0.2%	Ecological Restoration	Carbon sink enhancement

86	603396	Yingkou Jinchun Machinery Co., Ltd.	0.1%	Photovoltaic Equipment	Carbon Emission Reduction
87	601827	Chongqing Sanfeng Environment Group Corp., Ltd.	0.1%	Solid Waste Treatment	Carbon Emission Reduction
88	001289	China Longyuan Power Group Corporation Limited	0.1%	Wind Power	Carbon Emission Reduction
89	002534	Xizi Clean Energy Equipment Manufacturing Co., Ltd.	0.1%	Energy Saving & Recycling	Carbon Emission Reduction
90	601158	Chongqing Water Group Co Ltd	0.1%	Water service	Climate Adaptation
91	600874	Tianjin Capital Environmental Protection Group Co Ltd	0.1%	Sewage Treatment	Climate Adaptation
92	601330	Dynagreen Environmental Protection Group Co., Ltd.	0.1%	Solid Waste Treatment	Carbon Emission Reduction
93	600032	Zhejiang Provincial New Energy Investment Group Co., Ltd.	0.1%	Photovoltaic Power	Carbon Emission Reduction
94	603359	Dongzhu Ecological Environment Protection Co., Ltd.	0.1%	Ecological Restoration	Carbon sink enhancement
95	603693	Jiangsu New Energy Development Co., Ltd.	0.1%	Wind Power	Carbon Emission Reduction
96	300422	Guangxi Bossco Environmental Protection Technology Co., Ltd.	0.1%	Sewage Treatment	Climate Adaptation
97	600168	Wuhan Sanzhen Industry Holding Co., Ltd	0.1%	Water service	Climate Adaptation
98	688101	Suntar Environmental Technology Pte Ltd.	0.1%	Sewage Treatment	Climate Adaptation
99	301127	Wuhan Tianyuan Environmental Protection Co., Ltd.	0.1%	Sewage Treatment	Climate Adaptation
100	300774	BGT Group	0.03%	Sewage Treatment	Climate Adaptation

Data from: CSI. As of: 2022-6-30

Team members

Research council:

Mingkang Liu	Expert Council Member, Green Finance Forum of 60 & SHJIF Former Chairman of China Banking Regulatory Commission
Shuanghui Liao	Chairman of Green Finance Forum of 60 & SHJIF Chief Economist, Green Finance Forum of 60 & SHJIF
Junjie Zhang	Director, Initiative for Sustainable Investment at Duke Kunshan University Director, Center of Green Finance, Green Finance Forum of 60 & SHJIF
Binbin Yin	General Manager, Shanghai Liantai Fund Distribution Co., Ltd

Research Team:

Donghui Liu	Director, Research and Development Center, Green Finance Forum of 60 & SHJIF
Xueying Xiong	Researcher, Green Finance Forum of 60 & SHJIF
Mingming Xue	Researcher, Green Finance Forum of 60 & SHJIF
Pingfan Jia	Research Intern, Green Finance Forum of 60 & SHJIF
Xiaofeng Ye	Research Intern, Green Finance Forum of 60 & SHJIF
Yifei Lu	Research Intern, Green Finance Forum of 60 & SHJIF

Operations Team:

Mengying Chen	Operations Supervisor, Media Information Center, Green Finance Forum of 60 & SHJIF
Yuanyuan Li	Office Visual Designer of SHJIF