

**Rock Environment and Energy Institute  
(REEI)**

2020 Annual Report

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## 1. Introduction

Rock Environment and Energy Institute (REEI), founded in July 2012 in Beijing and registered as non-for-profit organization in Shunyi Bureau of Civil Affairs in April 2018, is an independent think tank working on environment and energy policy research. We focus on energy transition policy and discuss how to achieve a low-carbon transition of China's energy system and formulate the policy analysis from three significant pillars, social justice, environmental sustainability and public health, aimed to promote multi-party participation and open-minded policy debates.

### Vision:

We are devoted to promoting the establishment of environmental policymaking mechanism based on procedural justice and critical reasoning, so as to make our society more inclusive, just and sustainable.

## 2. Institution Building

### 2.1 Council



Figure 1: The Third Meeting of The First Council

According to the articles of association of Rock Environment and Energy Institute in Shunyi District, Beijing, the institution has five directors and one supervisor. In 2020, the organization held the third and fourth meetings of the first Council online in May and August, respectively, with five directors, one supervisor and all staff attending.

On May 15, 2020, the third meeting of the first Council of REEI was successfully held. The directors put forward suggestions for the development of the institution, reached an agreement on regular informal discussions between project teams and the directors, completed the preliminary combing of the organization strategy, and determined the theme

of the fourth meeting. On August 12, 2020, the fourth meeting of the first Council of REEI was successfully held. Participants discussed the short-, medium- and long-term impact of COVID-19 on REEI and social environment. Directors also participated in the organization strategy combining and planning discussion. Finally, the organization completed the supervisor re-election and reported the financial situation of the organization to directors.

## 2.2 Project Strategy

In 2020, REEI's work is carried out mainly in accordance with the strategic topics planned by the organization, with energy transition policy discussion as the main line, climate-smart healthcare and regional cooperation on energy transition and carbon pricing as the cornerstones, and taking into account the role of improving public health and controlling air pollution in climate change decision-making.

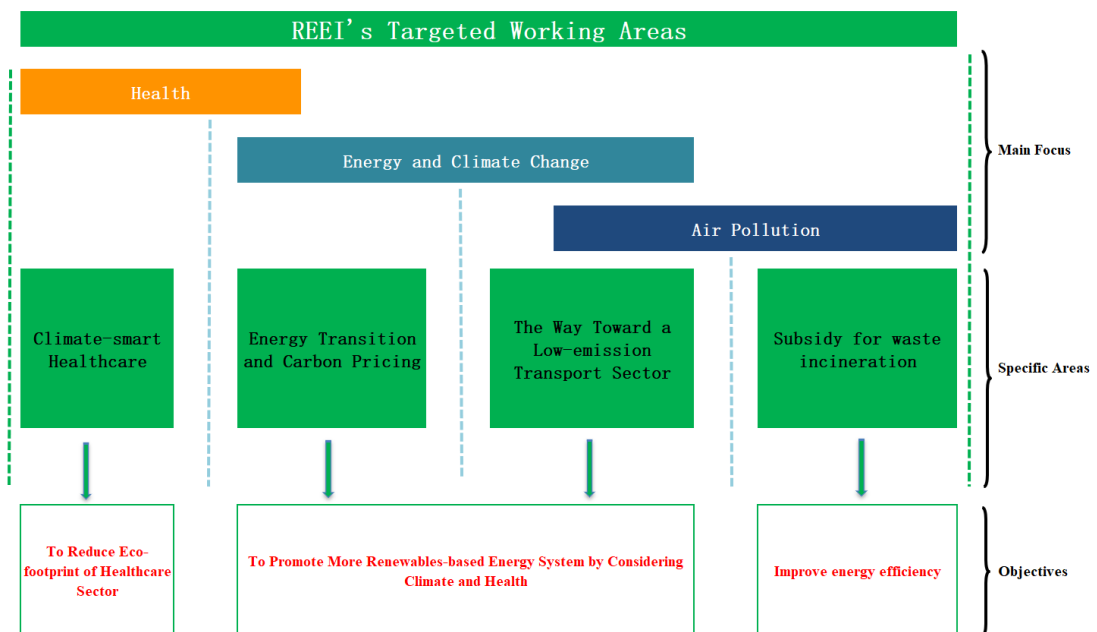


Figure 2: The Working Areas and Objectives of REEI

### 3. Project Summary

#### 3.1 Energy Transition and Carbon Pricing

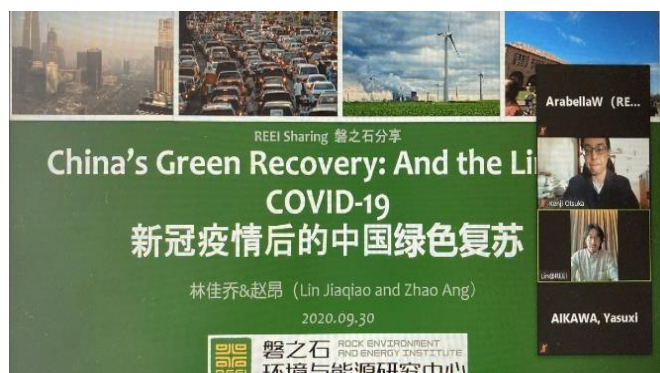


Figure 3: Northeast Asia Regional Environment and Resources Webinar

How to bring economic, environmental and social considerations into the establishment of carbon pricing system and how to make this topic more widely discussed have always been what REEI hopes to achieve. Since 2017, REEI has started to carry out energy transition and carbon pricing projects, which has aroused domestic and foreign attention to the sustainability and effectiveness of China's carbon pricing.

During 2018-2021, in collaboration with the China Association for NGO Cooperation (CANGO), REEI has incorporated discussions on energy and climate change into the project and carried out the Energy Transition and Carbon Pricing (ETCP) Project with the support of Bread for the World. It aims to establish a wide-range regional cooperation platform to promote the exchanges of technologies and policies related to energy transition and carbon pricing through the effective participation of expert groups, and then provide valuable suggestions for the rational formulation of regional energy and climate change policies.

#### Project progress

Table 1: Progress of Energy Transition and Carbon Pricing Project in 2020

Time	Progress
April	<p>“<a href="#">REEI Commentary on Energy and Climate Change Reports from Think Tanks (in Chinese)</a>” was launched on Himalaya. A total of 15 episodes were released throughout the year, covering hot topics such as energy outlook, green recovery and carbon neutrality. Through this podcast program, the project team hopes to enhance the public's global vision of energy and climate change issues with the help of the thinking power and forward-looking perspective of overseas think tanks.</p>

Time	Progress
September	The English podcast program: "REEI Energy and Climate Podcast" was launched on several major podcast platforms (including: <a href="#">Spotify</a> ; <a href="#">Apple Podcasts</a> ; <a href="#">Google Podcasts</a> ), A total of 7 episodes were released throughout the year, covering key industry words such as green new deal and carbon emission reduction. The project team hopes to promote multi-party communication through this podcast program, show China's determination and action to reduce carbon emissions, and achieve the goal of regional energy transition.
September	Participated in the webinar on "Chinese Green Recovery in the Post-COVID-19-Era" organized by The National Institutes for the Humanities (NIHU) and The Centre for Northeast Asian Studies of Tohoku University in Japan.
October	Invited to participate in writing the book "Energy Transition" edited by Tohoku University, Japan, and prepared to write chapters on China's energy transition, which mainly includes the current situation and sustainability of China's energy transition, public participation, etc.
Whole year	Edit and publish six issues of ETCP Project ( <a href="#">Subscribe</a> ), the content of the newsletter mainly includes news and research reports on energy transition and carbon pricing with timeliness; Write articles related to energy transition and carbon pricing, including Southeast Asia Energy Outlook, Green New Deal in various countries, and global green economic recovery plan.

### 3.2 Climate-smart Healthcare



Figure 4: Hospital Cooling Energy Efficiency Project Project Seminar

The medical and health is the core sector to deal with the health problems caused by climate change, but at the same time, the energy consumption and pollutant emission of the medical and health sector will also have an environmental impact, which will lead to direct and indirect

public health burden. Promoting the development of climate-smart healthcare, that is, reducing carbon emissions from the health care sector and improving the climate resilience of the health care sector, will play an important role in mitigating and adapting to global climate change. REEI's Climate-smart Healthcare Project aims to promote the green and low-carbon transition of China's health sector and promote the participation of the health sector in climate change policy discussions.

Climate-smart Healthcare projects are mainly divided into four sub-projects: the Global Green Health Hospital Project, Sustainable Health in Procurement Project, Hospital Cooling Energy Efficiency Project and Hospital Cooling Energy Efficiency Demonstration Project. The Global Green Health Hospital is to promote the overall transition of the medical and health sector; The focus of Sustainable Health in Procurement Project is the procurement of medical goods, including the comprehensive procurement evaluation of hospitals and the possibility of replacing specific harmful chemicals; Hospital Cooling Energy Efficiency Project focuses on energy saving and consumption reduction of medical system, and the project team hopes to gradually promote the overall energy consumption reduction of medical system in China by pilot projects; Hospital Cooling Energy Efficiency Demonstration Project strives to achieve more possibility of energy consumption reduction through energy audit and energy-saving renovation, with the goal of setting an industry benchmark for energy consumption of medical department in China.

### Project progress

**Table 2: Progress of Climate-smart Healthcare Project in 2020**

Time	Progress
April and November	<p>In April, the kick-off meeting of the Hospital Cooling Energy Efficiency Project was held together with Beijing Huilongguan hospital and China Academy of Building Research, and the details of this year's project implementation plan were communicated in detail.</p> <p>In November, a summary meeting of the Hospital Cooling Energy Efficiency Project was held with the Green Hospital Committee of China Association of Building Energy Efficiency, with the support of Beijing huilongguan hospital and China Academy of Building Research.</p>
June	<p>Under the Hospital Cooling Energy Efficiency Demonstration Project, the project team pays attention to the global warming caused by refrigerant use. And the project team invited Professor Li Yanfeng of Beijing University of Technology and his team to write the report entitled "<a href="#">Investigation Report on the Use of HFCs Refrigerant and Alternative Technologies in Medical Institutions</a>".</p>

Time	Progress
August	In order to promote exchanges in the medical cooling industry, a workshop on "High-Efficiency Cooling System Applied in Health Sector " was jointly held with the partners of the Hospital Cooling Energy Efficiency Demonstration Project, namely the Green Hospital Committee of China Association of Building Energy Efficiency and HV&AC Magazine.
September and December	Cooperated with China Environmental United Certification Center The project team, the project team carried out the evaluation of sustainable procurement of Beijing Huilongguan Hospital and Peking University International Hospital, with the purpose of observing the practical feasibility of the "Guide to Sustainable Procurement of Medical and Health Institutions". In December, a guide review meeting was held to discuss the problems existing in the actual evaluation and use of the sustainable procurement guide. The revised final version has passed the expert group review.

### 3.3 The Way Toward a Low-emission Transport Sector



Figure 5: Shaoxing Sustainable Transportation Seminar

In the past two decades, with the increase of car ownership, the consumption of fossil fuels in the transportation field and the greenhouse gases produced during the use of cars have had a great impact on China's environment and economic development. In 2020, with the support of Heinrich-Böll-Stiftung Beijing Representative Office, the project team carried out a research project on energy transition with the theme of low emission of urban road traffic in Shaoxing.

The Way Toward a Low-Emission Transport Sector Project is planned to be carried out in the three years from 2019 to 2021, aimed to establish a regional expert group to promote policy exchange on low-emission transportation by incorporating climate and health assessment. In 2019, the project team carried out research on the low-carbon transition policy of China's transportation sector, and in 2020, the project was located in Shaoxing City to discuss the



opportunities faced by Shaoxing's low-carbon transportation development in renewable energy power, electric vehicle growth, low-carbon transportation experience of international cities, Shaoxing citizens' travel awareness, etc. In 2021, the project team will continue to carry out follow-up work, and conduct dialogue and exchanges with countries in Northeast Asia on the role of low-carbon transportation development in the process of achieving the goal of carbon neutrality.

### Project progress

**Table 3: Progress of Low-emission Transport Sector Project in 2020**

Time	Progress
November	The project team carried out " <a href="#">Shaoxing Transportation, you and I will make suggestions and suggestions together</a> " Live broadcast on Shaoxing E-Net (the local community Internet platform), in which the project team shared the results of questionnaire, development of electric vehicles, green travel and other contents with local residents.
November	The project team completed the report entitled " <a href="#">Shaoxing Low-emission Transportation 2020</a> " and shared it on the Sustainable Transportation in Shaoxing Seminar.
December	The project team drafted and submitted policy suggestions on low-emission transportation to local Chinese People's Political Consultative Conference (CPPCC) members. Relevant contents are planned to be submitted to Shaoxing Development and Reform Commission and Shaoxing Municipal Transportation Bureau through representatives of local two conferences.

### 3.4 Solid Waste Incineration



**Figure 6: Webinar on Risk of Excess Waste Incineration Capacity during the "14th Five-Year Plan" Period**

In order to promote more attention and actions in civil observation and supervision of the domestic waste incineration industry, better promote the "clean operation" of the waste incineration industry, optimize the national waste management system, and reduce the environmental pollution caused by domestic waste, Wuhu Ecology Center launched the "Plastic-free Mountain River: Solid Waste Incineration" project, aiming at supporting environmental protection organizations concerned about the waste incineration industry and subsidizing civil advocacy actions related to the waste incineration industry. REEI joined the project in July 2019, and began to implement the project plan from 2020.

Based on the accumulation of research on waste incineration projects for many years, the project team combined with the policy changes of the European Union, the United States and China in municipal waste management, further analyzed the existing problems of waste incineration in China in 2020 and the industry development possibility during the "14 th Five-Year Plan" period and provided suggestions for the national waste classification.

### Project progress

**Table 4: Progress of Solid Waste Incineration Project in 2020**

Time	Progress
April-June	Based on the outputs over the years and the latest development of the industry, the project staff completed articles related to waste incineration, and completed the report entitled <a href="#">"Wrong Incentive: Re-discussion on the Necessity of Ending the Electricity Price Subsidy Policy for Waste Incineration Power Generation"</a> at the same time.
June	Hold a webinar on "Risk of Excess Waste Incineration Capacity during the 14th Five-Year Plan Period" and publish the research outputs of the project.
December	The Project was shared as typical cases of network implementation projects at the "China Zero Waste Alliance" annual meeting.

## 4. Project Outcomes

In 2020, the outcomes of REEI's projects mainly include workshops and training, reports and articles, and audio-visual output. On the basis of 2019, after the Council discussed and combed the organization strategy, audience objective was more clear, and the dissemination ways were diversified.

### 4.1 Impact of Research and Training

In 2020, the organization participated in and organized many sharing sessions and workshops, and invited well-known experts and scholars at home and abroad to participate in the

discussion, which was richer in content than last year.

**Table 5: Details and Impact of Workshops and Training**

Project	Main Content	Impact
Solid Waste Incineration	In June 2020, a webinar on "Risk of Excess Waste Incineration Capacity during the 14th Five-Year Plan Period" was held to discuss policy topics such as waste classification and incineration subsidies in China.	More than 50 media, research institutions, enterprises and the public concerned about related issues participated in topic discussions to promote exchanges in the industry.
Climate-smart Healthcare	In August 2020, the project team held the "High-Efficiency Cooling System Applied in Health Sector" Seminar. Under the context of Chongqing International Refrigeration Exhibition, participants discuss topics such as energy management of green hospitals, operation and maintenance of refrigeration stations, construction of efficient computer rooms, and air conditioning system solutions.	Share the necessity of refrigerant replacement in the healthcare sector with representatives from hospitals, research institutes and equipment manufacturers, and raise the awareness of refrigerant replacement in the healthcare sector.
Energy Transition and Carbon Pricing	In September 2020, the project team were invited to participate in the "Northeast Asia Regional Environment and Resources Seminar: the 44th China Environmental Research Association" webinar which was jointly held by the Northeast Asia Research Center Base of Tohoku University, Japan and NIHU, sharing the observation of REEI in China's green recovery plan.	Share and discuss with more than 30 representatives from universities, research think tanks and enterprise institutions at home and abroad on REEI's observation of China's green recovery plan, and communicate China's determination and action power of energy transition to overseas researchers.
Climate-smart Healthcare	In November 2020, the workshop on "The opportunities for hospitals in the context of low-carbon development: a case study of improvements in energy efficiency of hospital cooling and refrigeration" was jointly held. Taking the achievements of cooling demonstration of Huilongguan Hospital as an example, the new opportunities of hospital low-carbon	Beijing hospital management center and representatives from several hospitals were invited to participate in the workshop to show the effect of promoting the cooling energy efficiency of Huilongguan Hospital.

Project	Main Content	Impact
	development under the background of carbon neutrality were discussed.	
The Way Toward a Low-emission Transport Sector	In November 2020, the project team held a seminar on "Sustainable Transportation in Shaoxing" to discuss how to realize low-carbon traffic development in Shaoxing City. The topics mainly involve the survey on commuting knowledge and practice of Shaoxing citizens, electric vehicles, renewable energy, health benefits and traffic decision-making, so as to develop low-carbon transportation in friendly cities.	Promote local transportation system experts, environmental scholars, CPPCC members, media representatives, NGO partners and students to communicate with each other on related issues.

### 4.2 Impact of Reports and Articles

In 2020, the organization participated in the translation, writing and release of a variety of research outputs, covering a number of environmental and energy development topics. Compared with last year, the timeliness and depth of the research content were all improved. The outputs were forwarded by China Business Journal, Polaris power grid, China carbon trading network and other media.

In the public discussion on climate policy, members of the organization also received interviews from well-known media to express their opinions on the current important energy and climate policy topics. For example, in Caixin's article on the review and analysis of the fifth anniversary of the Paris Agreement, Zhao ang, the co-director of the institution, was interviewed. His observation on the domestic and foreign challenges facing the United States, China and Europe in future climate governance was cited in the article.(《[Global emission reduction: what is the last chance for the world to work together to effectively tackle climate change?](#)》)

**Table 6: Details and impact of reports and articles**

Reports and Articles	Main Content	Impact
<p>《 <a href="#">Wrong incentives: Re-discussion on the Necessity of Ending the Electricity Price Subsidy Policy for Waste Incineration Power Generation</a> 》</p>	<p>The report written by REEI analyzes and discusses the variables faced by municipal solid waste (MSW) management under the context of MSW capacity approaching saturation during the “14<sup>th</sup> Five-Year Plan” period and under the influence of COVID-19.</p>	<p>The content was quoted and reported by many media including China Business Journal. As the main output of the project, the report was introduced on the annual meeting of the China Zero Waste Alliance to the alliance members, aimed to provide policy recommendations for the abolition of waste incineration power generation subsidies.</p>
<p>《 <a href="#">Investigation Report on the Use of HFCs Refrigerant and Alternative Technologies in Medical Institutions</a> 》</p>	<p>The report was released by REEI. It makes a preliminary investigation on the current use of refrigerants in domestic medical institutions, discusses the advantages and disadvantages of existing refrigerant alternatives at home and abroad, and preliminarily analyzes the cost and benefit of HFCS refrigerant replacement in medical institutions.</p>	<p>Provide basic data information and feasibility analysis for the third-generation refrigerant replacement in China, and provide countermeasures for the technical route of refrigerant replacement in medical institutions and the development of refrigeration equipment industry.</p>
<p>《 <a href="#">Guidelines for Sustainable Procurement in Healthcare Sector</a> 》</p>	<p>The report was Translated by REEI. It can help health systems understand the impact goals of sustainable procurement and the benefits and business case of sustainable procurement of products and services. In addition, it also includes how to promote the participation of internal stakeholders and suppliers and establish leading sustainable procurement projects.</p>	<p>It provides suggestions for medical institutions in China to promote sustainable development and reduce carbon footprint.</p>

Reports and Articles	Main Content	Impact
<p><a href="#">《Shaoxing Low-emission Transportation 2020》</a></p>	<p>The report written by REEI discusses how to realize low-carbon transportation development in Shaoxing City, Zhejiang Province, involving the investigation of Shaoxing residents' commuting knowledge and practice, the role of the development of electric vehicles in Shaoxing, the development of renewable energy (taking household distributed photovoltaic power generation as an example) in the low-carbon transition of transportation, and how to put health benefits and climate benefits into the transportation decision-making of Shaoxing, and how Shaoxing can learn from the low-carbon transportation development of friendly cities.</p>	<p>To promote the sustainable transportation development of Shaoxing City, and to provide feasible policy suggestions for the development of low emission traffic in Shaoxing City.</p>
<p>Green recovery series</p>	<p>In order to alleviate the economic impact of the COVID-19 pandemic, many countries are formulating a series of economic stimulus policies to accelerate their economic recovery. Around the topic of green recovery, REEI wrote relevant articles.</p>	<p>The articles have been forwarded by many media including the China Banking and Insurance News, which provides a broader vision for more green recovery researchers.</p>
<p>Southeast Asia Energy Outlook series</p>	<p>A series of energy observation article focusing on energy transition and carbon pricing in Southeast Asia written by REEI in 2020, mainly includes health effects, photovoltaic power generation, energy consumption and investment, etc.</p>	<p>The articles were forwarded by several media including China carbon trading network, providing more researchers with the research findings of the project team in Southeast Asia.</p>

Reports and Articles	Main Content	Impact
Other	In addition to the above reports and articles, REEI also wrote articles on coal power development, subway air, carbon tax analysis, etc.	The content has been forwarded by many media including Polaris Power Grid, and updated with the times, providing rich and valuable research results for different audiences.

### 4.3 Impact of Audio-visual Output

This year, the organization explored more new communication ways. Compared with previous years, audio-visual outputs were increased, realizing the integration transformation of discussion and communication, and achieving the goal of expanding the audience field.

**Table 7: Details and impact of audio-visual output**

Name	Main Content	Effect
Podcast	In 2020, the project team completed the establishment of Chinese and English podcast program and released 15 episodes of Chinese podcast and 7 episodes of English podcast.	Chinese audios have played more than 35,000 times in total. English audios were mainly disseminated in Asia and North America, covering four continents and 21 cities in the world.
Video	In 2020, the institution released three series of video output, namely <a href="#">《Focusing on the hot issues of climate change, what do experts think?》</a> , <a href="#">《REEI Energy Review 2019》</a> , <a href="#">《My ideal city traffic》</a> .	Complete the conversion of text content to audio-visual products, and the cumulative time of intensive video editing is more than 1 hour, so as to achieve wider dissemination.
Short video	Under the background of The Way Toward a Low-emission Transport Sector project, a total of 11 <a href="#">short videos</a> has been produced, which are published on several platforms such as WeChat channel and Douyin (Chinese version of TiK ToK).	Completed the preliminary exploration of the short video, and the videos received the attention of Shaoxing Environmental Protection Bureau attention.
Live broadcast	Under the background of The Way Toward a Low-emission Transport Sector project, cooperated with Shaoxing E-Network, the project team carried out a live broadcast named " <a href="#">Shaoxing Transportation, you and I will make suggestions and suggestions together.</a> "	The cumulative number of live viewers was 13,700.

## 5. Financing and Expenditures

### 5.1 Funding Sources

REEI's total project funds for 2020 was RMB 1,300,500.00 among which funds received from foreign foundations and development institutions were RMB 672,500.00 and domestic financial contributions accounted for RMB 628,000.00 of the total. The main donors are China Association for NGO Cooperation (CANGO) Heinrich-Böll-Stiftung Beijing Representative Office (HBS) and the China Office of the United Nations Development Programme (UNDP China).

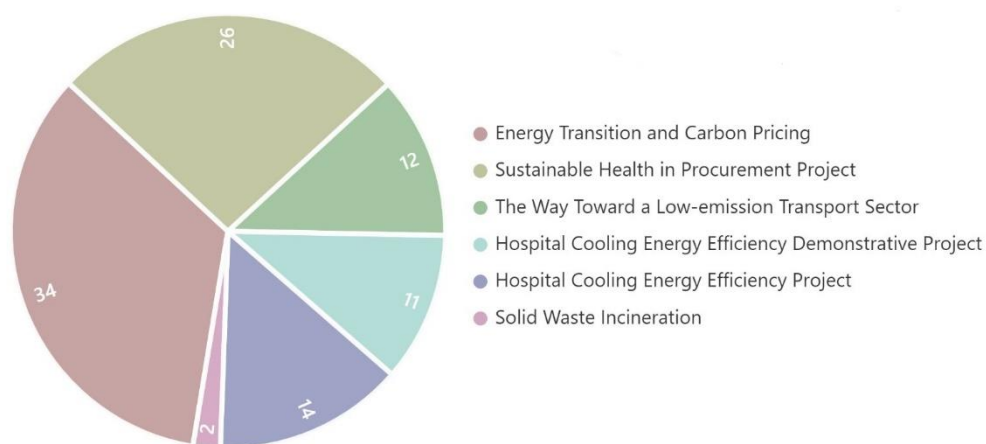


Figure 7: Summary of Funds of REEI's Projects in 2020 (%)

### 5.2 Expenditures

The total expenditure in 2020 is RMB 1,170,600.00. As shown in the figure below, among the categories of expenditure, staff salary and welfare account for the largest proportion, accounting for RMB 536,000.00 in total expenditure, followed by social security and provident fund, and travel expenses (all expenditure figures are project records and are not audited).



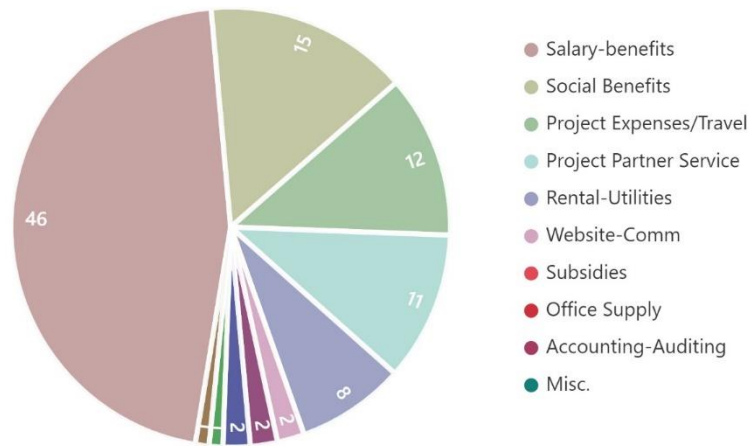


Figure 8: Expenditures of REEI in 2020 (%)

## 6. Conclusion

In 2020, when the world was affected by COVID-19, the implementation of REEI's projects is facing unprecedented challenges. Based on the current situation, the organization explores new forms of discussion, carries out online discussion and live interaction; follows the development trend, tries new communication methods and produces audio and video programs; orderly publishes policy analysis and review articles on energy and environmental issues, puts forward feasible policy suggestions to CPPCC members, and accepts media interviews to share our work experience and policy analysis results. In the work of 2020, REEI will be more solid in the process of facing and solving difficulties. In the future, we will continue our work objectives to realize the low-carbon transition of China's energy system on the basis of taking into account social equity, climate change, environmental quality and public health.

## 7. Acknowledgement

We hereby appreciate the support from Heinrich-Böll-Stiftung Beijing Representative Office, Bread for the World-Protestant Development Service, China Association for NGO Cooperation, the United Nations Development Programme, Wuhu Ecology Center, Shaoxing Zhaolu environmental center for Pro-Environment Public Service and other organizations that provide us with help and support. Thanks also to REEI's guidance organization, Beijing Shunyi District Association of Science and Technology, for their thoughtful guidance and valuable opinions on the development of our organization.