



Annual Report 2019

Chinese Academy of Environmental Planning
生态环境部环境规划院

Chinese Academy of Environmental Planning

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How To Find Us



Edited by ZAHNG Lirong, LIU Chutong



Truth Innovation Leading Harmony



FOREWORD

2019 is the 70th Anniversary of the founding of the People's Republic of China, and it is an extraordinary and crucial year for us to secure a decisive victory in building a moderately prosperous society in all respects and fight the battle against pollution. Under the correct leadership and care of the Party Group of the Ministry of Ecology and Environment (hereinafter referred to as MEE), and the guidance and support of the departments and bureaus of MEE, Chinese Academy of Environmental Planning (hereinafter referred to as CAEP) has thoroughly studied and implemented Xi Jinping's thought on Socialism with Chinese Characteristics for a new era and the spirit of the Fourth Plenary Session of the 19th CPC Central Committee, fully implemented Xi Jinping's thinking of ecological civilization, and persisted in taking the Party's political construction as the command, Party taking the opportunity of "remaining true to our original aspiration and firmly keeping our mission in mind" theme education, and taking inspection, rectification and implementation as effective means. Therefore, through constantly strengthening our main business of "Planning-Policy-Projecct-Risk" for the environment, working with one heart and mind, seeking truth and pragmatic, overcoming difficulties and forging ahead, CAEP has provided comprehensive technical support for the core work of pollution prevention and control and the thinking plan of the "14th Five-Year Plan" for ecological and environmental protection, achieved positive results in various efforts, and thus been praised by the leaders of MEE on many occasions. At the same time, as a think tank, CAEP have also been

recognized by the international community. According to *the Global Go To Think Tank Index Report 2019* released by the University of Pennsylvania, CAEP ranks 25th among the world's top think tanks in the field of environmental Policy and ranks first among the selected Chinese environmental think tanks. These achievements are the result of hard work and selfless dedication of all the staff, and we would like to express our heartfelt thanks to all of our staff!

Looking back on the past makes us happy and proud, and looking forward to the future is even more exciting and encouraging. The year 2020 is the end of the "13th Five-Year Plan", in the new year, we shall rally more closely around the CPC Central Committee Party with Comrade Xi Jinping as its core, and further strengthen the Party building of CAEP, promote its political standing, enhance its research abilities and policy planning capabilities according to the decision and arrangement of the CPC Central Committee, the State Council, and the Party Group of the Ministry, so as to make every effort to provide decision support services for the central work of MEE. In the new year, CAEP will promote the deep integration of Party building and business, lead and promote various high-quality Party-building tasks, focus on our core tasks and

provide full support to winning the uphill battle of pollution prevention and control. We will systematically plan the research and development of the national "14th Five-Year Plan" for ecological environmental protection plan, and scientifically compile both comprehensive plan and relevant special plans. In addition, we will further study the national strategic ecological environment planning and the major policies in Beijing-Tianjin-Hebei, Yangtze River Economic Belt, Guangdong-Hong Kong-Macao Greater Bay Area, Yangtze River Delta Integration, Yellow River Basin, and explore the construction of an ecological environmental protection planning system, a policy system, and a planning implementation evaluation system for the new era.

The new year is our new starting point, from which we will embark on a new journey and meet new hopes. We firmly believe that under the correct leadership of the Party Group of MEE, CAEP staff will unite as one to pioneer, innovate, and strive with increased enthusiasm and spirit to make even more brilliant achievements in the new year, to make even greater contributions to the construction of ecological civilization and beautiful China, and to fight the uphill battle for pollution prevention and control. May the future of CAEP be even better!

Lu Jun

Secretary of CPC Committee &
Vice President, CAEP

Wang Jinnan

President, CAEP
Academician, CAE



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ABOUT US

Who we are?
Giving a brief introduction about CAEP

Our Vision and Mission

Founded in 2001, Chinese Academy of Environmental Planning (hereinafter referred to as CAEP) is a public institution with independent legal status. Its missions are: Carrying out strategic research on national ecological civilization, green development and beautiful China, and undertaking technical support for the preparation and implementation of national medium and long-term ecological environment planning, key river basins and regions planning, and environmental planning in key fields, so as to meet the major needs of the country. Carrying out the research on the relevant theories and technical methods of environmental policies, and undertaking the research on the practice and application of environmental policies such as environmental protection taxes, ecological compensation, environmental electricity prices, emission trading, environmental audit, environmental public finance, etc. Undertaking the technical consultation, technical service and performance evaluation of the special funding projects of the central government. Carrying out the planning and design of major ecological and environmental projects, and the preparation, implementation and evaluation of pollution remediation projects. Undertaking research and technical support of environmental risk assessment and planning, pollution damage identification, environmental economic accounting and assessment, etc. Carrying

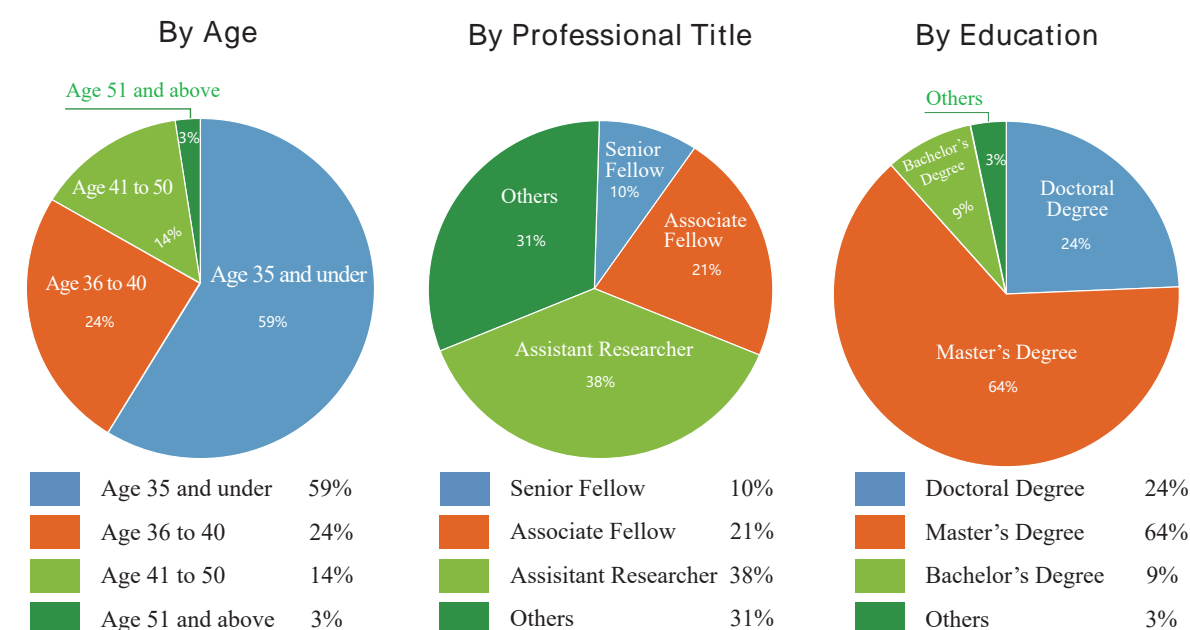
out research on supporting technologies and policies for environmental health assessment, environmental restoration and ecological restoration.

CAEP has always adhered to the overall positioning determined by the Party Group of the Ministry of Ecology and Environment to provide comprehensive technical support for the management of decision-making concerning national ecological environmental protection, and remained firmly committed to being a communicator and practitioner of Xi Jinping's ecological civilization ideology. We have been constantly optimizing the business sector strengthening the construction of institutions and talent, improving and perfecting the management system, and continuously strengthening its leading position in the fields of national ecological civilization, ecological environment planning, and strategic policy, so as to improve the important demand for ecological environment quality with planning, policy, projects, and risk control as the four main lines. CAEP has successively undertaken more than 60 national key planning and scientific research projects, more than 100 River Basin and regional environmental protection plans, more than 60 international cooperation projects, has submitted more than 300 important environmental decision-making references or special reports, with many of its plans and policies being adopted and approved by the

State Council and relevant departments. It has published more than 200 monographs, more than 1,800 scientific research papers, and has won 2 second prizes of the National Science and Technology Progress Awards, 10 first prizes, 16 second prizes, and 7 third prizes of the Environmental Protection Science and Technology Awards, 2 first prizes of the Ministry of Education Science and Technology Progress Awards, 1 second prize of the Dayu Water Conservancy Science and Technology Awards, 1 special prize from the Surveying and Mapping Science and Technology Progress Awards, 2 first prizes, 2 second prizes, and 1 third prize of the National Excellent Engineering Consulting Achievement Awards, 1 second prize of the 6th Higher Education Scientific Research Outstanding Achievement Awards (Writing Award), the second prize of the 2010 Earth Sustainable Development Research Awards in Sweden, and the Policy Research Award of the 6th China Soft Science Award in 2017. Its influence in the field of ecological environment has steadily increased both at home and abroad, and it has become the core think tank in the field of national ecological environment strategy, planning, and policy

research and development. According to *the Global Go To Think Tank Index Report 2019* released by the University of Pennsylvania, CAEP ranks 25th among the world's top think tanks in the field of environmental Policy and ranks first among the selected Chinese environmental think tanks.

At present, CAEP holds more than 300 employees, including 1 academician of Chinese Academy of Engineer, 36 senior fellows, 71 associate fellows (including senior engineers), 75 persons with PhD degree, 2 persons with the title of "Technical Leaders of National Environmental Protection Specialty", 4 persons with the title of "Young Top Technical Talents of National Environmental Protection Specialty", 4 winners of special subsidies from the State Council, 1 persons obtained the China Think Tank Innovation Talent Award, 2 persons with the title of "Young scientist" from Chinese Society for Environmental Science. A team of professional and technical talents with high knowledge level, reasonable age structure and abundant reserve talents has been formed in CAEP.



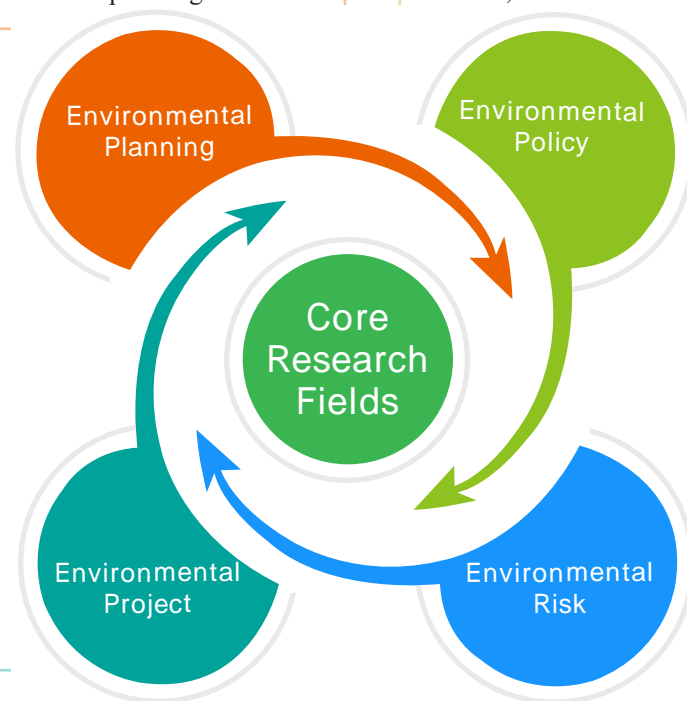
Core Research Fields

CAEP has been continually committed to providing high-quality decision-making services to the country. As a firm promoter and practitioner of Xi Jinping's thinking of ecological civilization, CAEP has actively adapted to the requirements for the continuous development of environmental protection, focused on its core work, continued to

expand and condense advantageous business areas, and gradually established a "3P + 1R" scientific research business system in four major areas: environmental planning, environmental policy, environmental project, and environmental risk, which has laid a solid foundation for building a top think tank of the global environment in the new era.

In response to the major needs of the country, we have carried out strategic study on ecological civilization, green development and beautiful China, and undertaken technical support for the preparation and implementation of national medium and long-term ecological environment planning, key river basin and regional planning, and key field environmental planning.

We have carried out research on relevant theories and technical methods of environmental policies; undertaken research on the time and application of environmental policy such as environmental protection tax, ecological compensation, environmental electricity price, emission trading, environmental audit, environmental public finance, etc.



We have undertaken research and technical support on environmental risk assessment and planning, environmental damage identification, environmental emergency accounting and evaluation; carried out research on supporting technologies and policies for environmental health evaluation, environmental restoration and ecological restoration.

We have undertaken technical consultation, technical service and performance evaluation of special projects financed by the Central Government; carried out the planning and design of major ecological and environmental engineering projects, and the preparation, implementation and evaluation of pollution remediation engineering programs.

Certifications

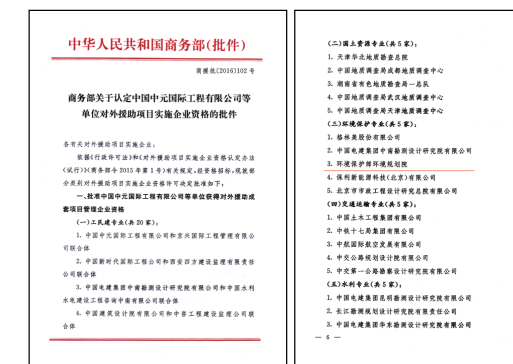
Grade A Credit Certificate of Engineering Consulting

The qualification of the engineering consulting unit, which is related to the national and social investment benefits, is a qualification permit category that needs to be determined with special credibility and conditions. Based on the consideration of comprehensive factors, the qualification level of engineering consulting units is divided into Grade A, Grade B and Grade C. The engineering consulting units at all levels shall conduct business in accordance with the relevant provisions of the State and the requirements of the owners. CAEP is the highest level of engineering qualification, Grade A.



Grade A Credit Certificate of Engineering Consulting

The Qualifications of the First Batch of Foreign Aid Project Implementing Organization

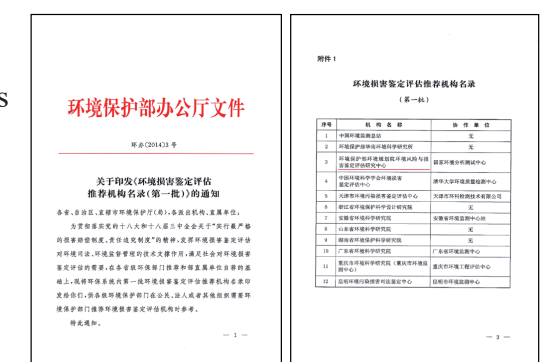


The Qualifications of the First Batch of Foreign Aid Project Implementing Organization

The Ministry of Commerce is the governing agency of foreign aid projects. It adopts qualification examination or qualification bidding to conduct qualification certification for foreign aid projects. The qualified foreign aid project implementation organization can undertake the specific implementation tasks of the foreign aid projects. CAEP is one of the five qualified environmental implementation organization.

The Assessment Consulting and Remediation Organization for Contaminated Site

In order to implement the spirit of "the most stringent damage compensation system and accountability system" by the 18th National Congress of the Communist Party of China and the Third Plenary Session of the 18th CPC Central Committee, The need for social assessment of environmental damage shall be provided by the environmental protection departments at all levels when citizens, legal persons or other organizations require the environmental protection department to recommend environmental damage assessment and evaluation organization. CAEP is one of the organization on the list.



The Assessment Consulting and Remediation Organization for Contaminated Site

Leadership



Senior Fellow
Secretary of the CPC Committee
& Vice President, CAEP



Professor
President,CAEP. Academician of
Chinese Academy of Engineering



Senior Engineer
Vice President ,CAEP



Senior Engineer
Vice President ,CAEP



Senior Engineer
Deputy Secretary of the CPC
Committee & Secretary of Discipline
Inspection Commission, CAEP



Senior Fellow
Chief Engineer, CAEP



Senior Fellow
Vice President ,CAEP

Advisory Committee of Chinese Academy of Environmental Planning

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Professor
School of Environment, Tsinghua University, Academician of Chinese Academy of Engineering

Vice Chairman

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Alibaba Group, Founder of Alibaba Cloud
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China Academy of Urban Planning and Design

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Xia Qing
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Chinese Research Academy of Environmental Sciences

Fang Li
Chief Representative
World Resources Institute

Kan Haidong
Professor
School of Public Health, Fudan University

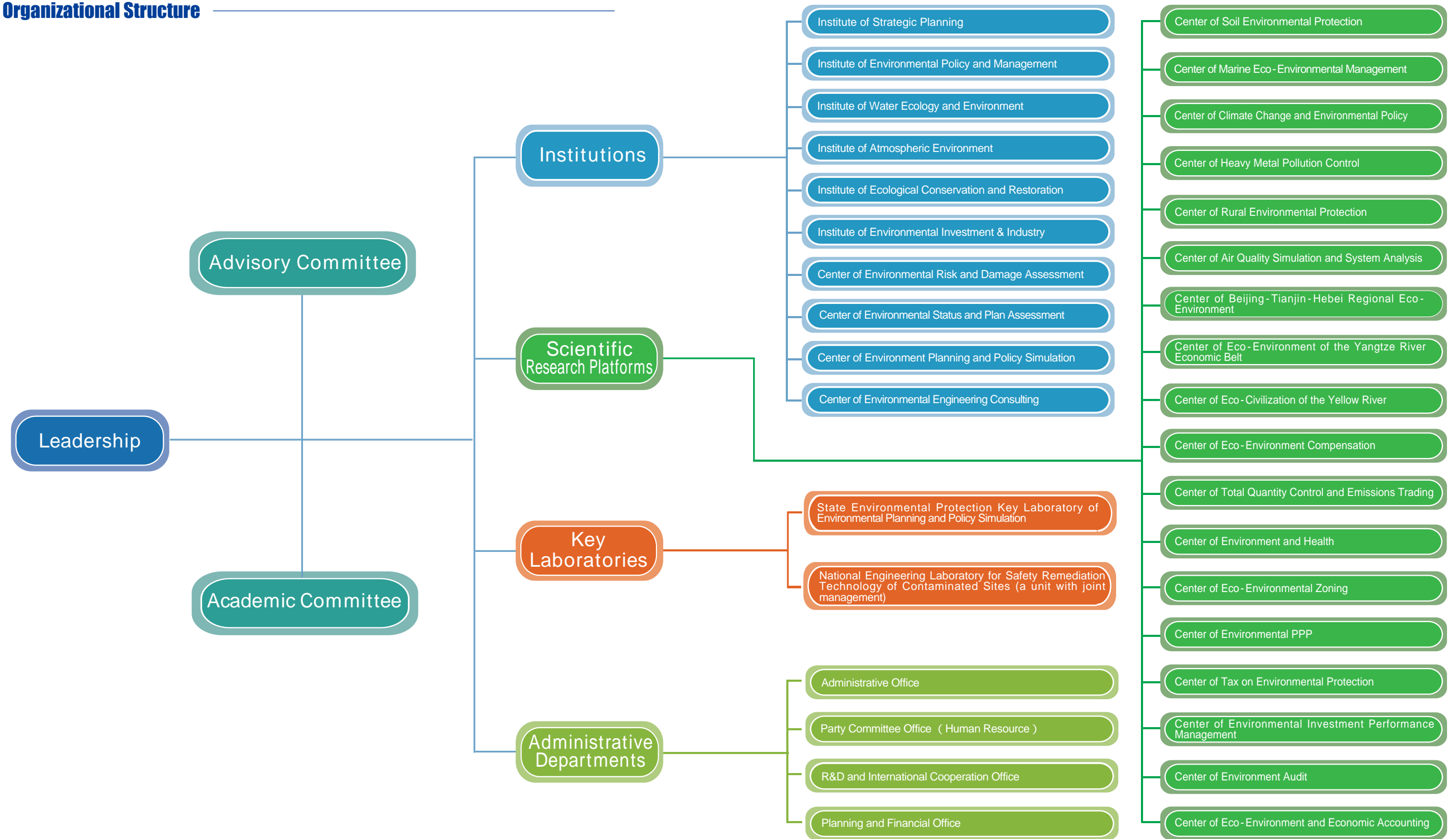
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Zhou Dadi
Senior Fellow
Institute of Energy Research , National Development and Reform
Commission

Zou Ji
CEO
Beijing Office, The Energy Foundation

B.Larry Li
Professor
University of California

Organizational Structure



Talent Team



WANG Xiahui

Deputy Chief Engineer
Director, IECR
Senior Fellow

Institute of Ecological Conservation and Restoration

It is responsible for studying and preparing the national and regional ecological protection and restoration planning and implementing assessment; providing technical support for delimiting and managing the ecological protection red line; carrying out investigation, evaluation and the application research for national and regional ecological status; conducting research on biodiversity protection, biological safety management, biological resource protection and utilization; conducting research on natural reserve planning and management policies; providing technical support for land and space ecological restoration, and the ecological protection and restoration of mountains, water, forest, farmlands, lakes and grass; providing technical support for setting ecological civilization examples; conducting research on ecological protection compensation, ecological product value realization, ecological economic evaluation and related policies; conducting research on ecological environmental function zoning and ecological environmental zoning governance; conducting research on ecological impact assessment in key industries and regional planning; conducting research on urban and rural living environment governance and agricultural and rural ecological environmental protection planning and policies; and providing technical support for the ecological protection and supervision during the exploitation and utilization of natural resources.



JIANG Hongqiang

Deputy Chief Engineer
Director, CEPPS
Senior Fellow

Center of Environment Planning and Policy Simulation

It is responsible for organizing and conducting the research on the prediction and simulation of national, regional, and industrial ecological environment; organizing and conducting the research on the basic theory and model method of ecological environment prediction and policy simulation; establishing ecological environment big data, simulation models and decision support platforms; carrying out the simulation analysis of the impact of different planning objectives and policies means on the economic, social and ecological environment; conducting the research on ecological environment carrying capacity evaluation and early warning; organizing the research and development of ecological environment targeted governance technologies such as big data, blockchain, artificial intelligence; establishing and managing the key laboratories for environmental planning and policy simulation of the Ministry of Environmental Protection of the People's Republic of China.



WANG Dong

Deputy Chief Engineer
Director, IWEE
Senior Fellow

Institute of Water Ecology and Environment

It is responsible for the technical work on water eco-environmental planning in China, key river basins and regions, and drinking water sources; the technical work on water functional zoning, setting of sewage outfalls into rivers, and investigation of drinking water sources; the analysis of water ecological environment in China and watersheds; the research on water ecological environment protection systems and policies in river basins and regions; the research on basic theories and methods of water ecological environment planning, and the technical methods for water ecological environment planning in China and watersheds; the analysis of water pollution prevention and control technologies in typical industries; the simulation research on water ecological environment quality; the research on groundwater environmental protection planning, policies, standards and technologies; and the research on marine ecological environment planning, policies and technologies.



QIN Changbo

Deputy
Director, ISP
Senior Fellow

Institute of Strategic Planning

It is responsible for the strategic research for the national ecological environmental protection, safe ecological environment, beautiful China and regional and industry mid- and long-term ecological environmental protection; the overall planning and research for the national ecological environmental protection; the planning and research for the regional, city cluster, and urban ecological environment; the technical support for the national major development strategies on ecological environment planning; entrusted by the Ministry of Ecology and Environment to lead the preparation and review of special plans for the eco-environment; the research on ecological environment management and control of land and space planning; the technical support for the preparation and implementation of "three lines and one list"; the research on theory, technical methods, norms and management systems of ecological environment planning; and undertaking the work of the Secretariat of the Professional Committee of Environmental Planning, Chinese Society for Environmental Sciences.


GE Chazhong

Director, IEPM
Senior Fellow

☛ Institute of Environmental Policy and Management

It is responsible for the research on national eco-environmental policies and management systems; the research on economic policies on eco-environmental taxation, prices, credits, finance and trade; the technical support for national eco-environmental policies such as major national development strategies; the research on eco-environment management systems; the research on environmental governance systems and modernization of governance capabilities; the research on market measures for ecological environment governance; the research on industry policies, “double-high” lists, lists of products, processes and equipment environmentally encouraged, and corporate environmental information disclosure; the organization of research on green economic development strategies and ecological product policies; the research on environmental policy assessment, environmental performance assessment and environmental audit; the research on ecological environment economic system reform; and undertaking the work of the Secretariat of the Environmental Economics Subociety, Chinese Society for Environmental Sciences.


LEI Yu

Director, IAE
Senior Fellow
Young Top
Technical Talents
of National
Environmental
Protection Specialty

☛ Institute of Atmospheric Environment

It is responsible for studying and preparing the national, regional and provincial air pollution prevention and control planning; studying and preparing the planning for the deadline to meet urban atmospheric environment quality standards and to improve air quality; analyzing the national and regional atmospheric environment status; providing technical support for regional and urban atmospheric environment comprehensive management; conducting research on basic theories and methods of atmospheric environment planning; conducting research on national, regional, and urban air pollution prevention and control planning technical methods; conducting tracking research on “one city, one policy” for cities; preparing the emission lists of key atmospheric pollutants and greenhouse gas and providing technical support for the prevention, control and management of air pollution prevention in key industries and fields; observing and analyzing the atmospheric environment and the pollution sources; conducting air quality simulation and research on atmospheric environment capacity; conducting energy and environmental policy research; conducting research on policies and methods for collaborative emission reduction of air pollutants and greenhouse gases; providing technical support for and conducting method research on climate change response and carbon discharge peak action; and undertaking the work of the Secretariat of the Climate Change Subociety, Chinese Society for Environmental Sciences.


CHENG Liang

**Deputy
Director, IEII**
Senior Fellow

☛ Institute of Environmental Investment & Industry

It is responsible for conducting research on the investment and finance in ecological environment, the ecological environmental protection authority, and the public finance policies; providing technical consultation, technical review, performance evaluation, and technical support for project construction of the special funds from the central government; conducting research on the development of ecological environmental protection industry and ecological environment service industry; carrying out research and technical consultation on ecological environment PPP, and ecological environment governance model; conducting research on the equalization of ecological environment basic public services; conducting research on and providing technical support for ecological environment supervision capacity building planning; providing technical support for the management of major national ecological environmental protection projects, capacity building projects and basic construction projects; and conducting research on the prevention and treatment of solid waste and chemical pollutants, and zero-waste cities and zero-waste society.


YU Fang

Director, CERDA
Senior Fellow
Technical Leaders
of National
Environmental
Protection Specialty

☛ Center of Environmental Risk and Damage Assessment

It is responsible for the risk assessment and management system, policies and planning for national and regional ecological environment; the emergency management for and technical research on ecological environment; the technical support for emergency treatment and impact assessment of major ecological environmental events; the technical support for the system design, policy research and capacity building of ecological environment damage compensation; the technical support for ecological environment damage identification and assessment and compensation standards; the research on basic theoretical methods and experiments for ecological environment damage identification and assessment, and ecological restoration; the ecological environmental economic accounting research; the research on environment and health management policies and technologies; the research on duties for ecological environment; the technical support for the management of ecological environment risk and damage assessment agency over the country; the daily work of the Secretariat of the Expert Committee on Environmental Damage Identification and Evaluation, the Ministry of Ecology and Environment; the work of the Secretariat of the Environment Audit and Environmental Economic Accounting Professional Committee, Chinese Society for Environmental Sciences.


SUN Ning

Director, CEEC
Senior Fellow

☛ Center of Environmental Engineering Consulting

It is an enterprise-style management organization.
It takes the lead to undertake research and formulation and follow-up evaluation of construction standards, technical policies, engineering codes for national major ecological environmental protection projects; undertakes the survey and consulting services for ecological environment engineering; undertakes the research and development of ecological environment engineering technology, as well as relevant demonstrative construction; undertakes ecological landscape design and consulting; undertakes the industrialization of technical achievements of ecological environmental protection planning; conducts the consulting services for the verification and evaluation of environmental protection new technologies; comprehensively analyzes the engineering market information; and centrally undertakes the policy guarantee and the construction of the management support platform for the National Engineering Laboratory for Site Remediation Technologies, as well as relevant daily management.


WANG Qian

**Deputy
Director, CESPA**
Senior Fellow

☛ Center of Environmental Status and Plan Assessment

It is responsible for the analysis of ecological environment and economic situation in China, key regions and key industries; the technical support for the analysis of annual, quarterly, and monthly ecological environment situation over the country; the analysis of the environmental dynamics and public opinions on environment; the research on theory and technical methods for ecological environment economic situation analysis; the technical support for the implementation, scheduling and assessment of ecological environment planning; the research on the decomposition and distribution of the total quantity index for the main pollutants and the total quantity control technologies as a pioneer; the technical support for the general survey of pollution sources and ecological environment statistics as a pioneer; the research on eco-civilization construction and green development evaluation; the compilation of comprehensive materials of CAEP; and the daily management of the *Ecological Environmental Decision-making Special News and Information Special News*.

CAEP/2019



OUR WORK

What We Do?

Connecting our work to the people who make decisions and important policies at different levels.

Overview 2019

In 2019, under the leadership and concern of the Party Group and department leaders of the Ministry of Ecology and Environment (hereinafter referred to as MEE), under the guidance of the Department of General Affairs and the Department of Science, Technology, and Finance, and with the support and cooperation of fraternal units from all departments and bureaus, all of CAEP cadres and staff have thoroughly studied and implemented Xi Jinping's thinking for ecological civilization, actively implemented the major decision-making arrangements of the CPC Central Committee and the State Council, implemented the work arrangements of the Party Group of the MEE and worked closely on the MEE's central work. Based on providing decision-making support services for ecological environment management, we mobilized the strength of CAEP, made concerted efforts to overcome difficulties, and successfully completed the year-round technical support tasks and the key work of MEE.

Thoroughly implement the important instructions of the central government and provide excellent service support. Focusing on the requirements of the General Secretary's instructions on Yellow River, Beautiful China, Xiongan New Area, Sewage Recycling, and other important instructions, we have prepared the reports *Research on the Strategy and Implementation of Ecological Environmental Protection towards Beautiful China*, and *Preliminary Considerations and Suggestions on the Goal of Eco-environmental Protection in 2035*, and led the research and compilation of the *Overall Work Plan for Ecological Governance*

of the Yellow River. In the whole process, we participated in the investigation of ecological governance in the Yellow River Basin, carried out the support for ecological environment protection in Xiongan New Area, completed the revision and submission for approval of the *Xiongan New Area Ecological Environmental Protection Plan*, and compiled the report *Work Plan on Implementing the Spirit of the Important Instructions of the Central Leaders' Commitment to Sewage Recycling* in strict accordance with the requirements of instructions given by the central leaders.

Focus on "blue sky, clean water, and green land", and make every effort to fight the uphill battle for pollution prevention and control. We have resolutely implemented the arrangement and deployment of the blue sky defense battle and fully supported the top-level plan of "winning the blue sky defense battle" and the formulation of core supporting policies. As the leading technological unit, we have supported the completion of the *Volatile Organic Compounds Comprehensive Treatment Plan for Key Industries* and supported the compilation of the action plan for tackling atmospheric problems in autumn and winter in Beijing, Tianjin, Hebei and surrounding areas, Yangtze River Delta, and Fenwei plain. We have made every effort to support the decision-making for the clean water defense battle, track the situation concerning the dispatching of water in the ecological environment and the completion of its objectives, and further promote the prevention and control of groundwater pollution, thus providing support for the management of sewage fallout into rivers (the sea) and the protection of the marine ecological environment. In addition, we have

provided comprehensive technical support for the implementation and evaluation of the *Action Plan for Soil Pollution Prevention and Control*. We took the lead in completing the *Report on the Progress of Work in 2018 of the <Action Plan for Soil Pollution Prevention and Control>*, submitting it to the State Council and providing technical support for the detailed national investigation of soil pollution, as well as completing the first stage of national quality control in the survey of key industries and enterprises in Jilin, Heilongjiang and Jiangxi.

Further advance the research and compilation of the "14th Five-Year Plan" for ecological environment planning, and support research on the major national strategies for ecological environment protection. Focusing on the situation, objectives and targets, key tasks, major projects and planning system of ecological environment protection during the "14th Five-Year Plan" period, CAEP concentrated its efforts to carry out research, forming the *Basic Ideas for the Ecological Environment Planning of the "14th Five-Year Plan"* and more than 40 special research reports. CAEP has fully carried out the research on the "14th five year plan" for water ecological protection of key river basins, supported and served the ecological protection and restoration work of the Yangtze River economic belt and the work related to the ecological environment protection of Beijing, Tianjin, and Hebei, and compiled the *Special Ecological Environment Planning for the Guangdong-Hong Kong-Macao Greater Bay Area, the Yangtze River Delta Eco-Environmental Joint Protection Plan, and the Special Plan for Eco-Environmental Restoration of the Grand Canal*. We have participated in "the Belt and Road" strategic research project, carried out major national strategic support work including Hainan's deepening reforms and opening up, and support Shenzhen's construction of the demonstration pilot zone for socialism with Chinese characteristics.

Comprehensively promote the construction of institutionalization and informationization, and strengthen the basic development of CAEP's capabilities. To meet the developmental requirements of CAEP we sorted out the weak links of the management system, formulated 10

rules and regulations formulated including special management measures for scientific research, revised 12 rules and regulations including the management regulations for the use of seals and the reports on business (or private) trips, so as to standardize and improve CAEP's management system. We have steadily promoted the pilot work for the dual management of information and have successfully completed the network attack and defense testing of the MEE's information system, which was praised by the General Office (Cyberspace Administration). We have strengthened the operation and maintenance of our information system, and have improved the informatization and intelligent construction level of CAEP.

Increase scientific research investment, improve the technical support level, and obtain a series of high-quality research results. CAEP has participated in applying 19 key Research and Development plans of the Ministry of Science and Technology, one of which have been approved (3 leading projects, 1 subproject), 10 of which have entered the formal application stage, and one of which has been included in the Youth Fund Project funded by the National Natural Science Foundation of China. CAEP has 51 national-level research projects in progress under the National Key Research and Development Program of China, Project on the Causes and Control of Air Pollution, National Science and Technology Major Project and National Natural Science Foundation of China. We have published 42 academic monographs, 28 approved patent applications (including 6 invention patents), and 72 software copyrights, 286 published papers, including 93 SCI papers, 15 EI papers, 149 core journal papers, 19 issues of its *Chinese Reference for Environmental Decision-making* and 5 issues of *The Chinese Environmental Policy Research Working Paper (in English)*. We have won 1 first prize and 4 second prizes of ministerial level technology awards. Wang Jinnan and Zhang Wei won the first prize for the best paper in the EST policy category (Environmental Science & Technology) in 2018, which was the first time in China. Wang Jinnan and Jiang Hongqiang's *Environmental Planning* won the 9th Qian Xuesen City Gold Nominated Award.

Highlights 2019

As the core technical support unit for fighting the uphill battle of pollution prevention and control, in 2019, CAEP has put the support service of the uphill battle of pollution prevention and control and the design of the "14th Five-Year Plan" ecological environment protection planning idea in a prominent position. With concerted efforts, CAEP has carried out a series of forward-looking and innovative research works to support the fight for blue skies, the fight for clean water, the fight for green land, the "14th Five-Year Plan", the analysis of the ecological environment situation, the ecological environment protection as a major national strategy, and the construction of ecological environment governance system. CAEP has supported the CPC Central Committee, the State Council and MEE in issuing more than 30 important policy documents, providing high-quality support for the core work and key tasks of MEE.

Provided Support for the Implementation of the Important Instructions of the Central Government

- ✓ Supported the implementation of important instructions in the Yellow River Basin
- ✓ Supported the implementation of important instructions to assess the "Beautiful China" initiative
- ✓ Supported the implementation of important instructions for pollution treatment and the restoration of the Tanghe sewage reservoir in Xiongan New Area, and for the planning of water supply, drainage, and waste water in the New Area
- ✓ Supported the implementation of important instructions for sewage recycling

Provided Technical Support to Win the Fight for Blue-Sky, Clean Water and Green Land

► Blue Sky Defense Battle

- ✓ Supported the formulation of the top-level plans and core supporting policies for winning the Blue Sky Defense Battle
- ✓ Carried out in-depth research on the prevention and control of air pollution in key areas
- ✓ Provided technical support for the coordinated control of air pollution and greenhouse gases
- ✓ Promoted the research for the Key National Research and Development plan of "Key Special Programs for Pilot Research on Air Pollution Cause and Control" and "The Prime Minister Fund Program"

► Clean Water Defense Battle

- ✓ Promoted the integration of the water function area and the control unit for the water environment
- ✓ Tracked and dispatched the situation of water ecological environment and the completion of target tasks
- ✓ Supported the ecological environment protection of rural water sources and groundwater
- ✓ Carried out technical support including setting and management of river (sea) pollution discharge outlets
- ✓ Actively supported the protection of the marine ecological environment
- ✓ Carried out research on the improvement of water environment quality in the Beijing-Tianjin-Hebei region and the Yangtze River Basin

► Green Land Defense Battle

- ✓ Supported the implementation and evaluation of the *Action Plan for Soil Pollution*
- ✓ Provided technical support for the prevention and control of heavy metal and solid waste pollution
- ✓ Actively carried out special research on soil for the National Key Research and Development Plan

Comprehensively Supported Ecological Protection and Rural Environmental Protection

- ✓ Supported the demarcation and management of the red lines for ecological protection
- ✓ Carried out in-depth research on nature reserves, ecological compensation, ecological protection, biodiversity protection, and the restoration of mountains, rivers, forests, fields, lakes, and grasses, and started a new round of research on the functional zoning of the ecological environment
- ✓ Participated in drafting the *Guidelines for Preparation of Water Pollutant Discharge Control Specifications for Rural Domestic Sewage Treatment Facilities and Guidance on Promoting the Treatment of Black and Odorous Water in Rural Areas*

Further Promoted the Research and Preparation of the Ecological Environment Planning in the "14th Five-Year Plan" Period

- ✓ Carried out strategic research for the Beautiful China initiative
- ✓ Studied and formulated the basic concepts of the ecological environment planning in the "14th Five-Year Plan" period
- ✓ Actively carried out special planning research in the "14th Five-Year Plan" period

Deepening the Analysis and Research on the Economic Situation of the Ecological Environment

- ✓ Actively supported the implementation and evaluation of ecological and environmental protection in the “13th Five-Year Plan” period, and scheduled and implemented evaluations of pollution prevention and control
- ✓ Carried out an in-depth analysis of the environment in terms of the economic situation
 - Strengthened the development and capacity of situation analysis institutions
- ✓ Strengthened the development of institutions and capacity for situation analysis
 - Fully supported the second national census of pollution sources

Supported Research for Ecological Environmental Protection as National Major Strategic

- ✓ Supported the major national strategies for the Yangtze River Economic Belt
- ✓ Supported the formulation of the *2018 Key Points and 2019 Main Work Plans of the Coordinated Development of the Beijing - Tianjin - Hebei Region*
- ✓ Under the guidance of the Department of General Affairs, completed the *Guangdong - Hong Kong - Macao Greater Bay Area Ecological Environmental Protection Plan (draft for review)*
- ✓ Comprehensively launched the preparation plan for the common protection of the ecological environment in the Yangtze River Delta
- ✓ Completed the special restoration plan for the protection of the ecological environment in the Grand Canal.
- ✓ Participated in CCICED's “Belts and Roads” and the *2030 Agenda for Sustainable Development*
- ✓ Carried out support work of major national strategies including the deepening of reforms and opening up in Hainan
- ✓ Supported the research on the protection of the ecological environment in Shenzhen's construction as a pilot demonstration area of socialism with Chinese characteristics

Solidly Supported the Research on the Ecological Environment Governance System

- ✓ Carried out research on modernization of environmental governance system and capacity
- ✓ Fully supported the preparation of the “Three Base Lines and One List” framework
- ✓ Vigorously supported and served the development of private enterprises
- ✓ Carried out sound research on the identification system of environmental risk and damage
- ✓ Deepened the research on environmental economic policies including green taxes, green financing, and green GDP accounting

Actively Participated in Supervising and Assisting the Uphill Battle for the Prevention and Control of Pollution

- ✓ Sent out 335 personnel to participate in 24 rounds of intensified supervision and designated assistance in key areas of the blue sky defense battle
- ✓ Sent out 40 personnel in two groups to participate in 2019 overall planning and intensified supervision
- ✓ Sent out 28 personnel in two groups to participate in the on-site investigation of sewage outlets in certain areas around the Bohai Sea
- ✓ Send out 70 personnel in three groups to participate in the on-site investigation of the Yangtze River sewage outlet, and 98 investigators to participate in setting the national control section in the “14th Five-Year Plan” period





▲ Secretary Lu Jun gave a Speech on 2019 Academic Annual Conference of Environmental Planning Professional Committee of Chinese Society for Environmental Sciences



▲ President Wang Jinnan's Coaching Report for the Theoretical Learning Center Group of Hubei Provincial Party Committee



▲ The Seminar on Comprehensive Management of Ecological Environment in Beijing-Tianjin-Hebei



▲ The Seminar on Green Development of Beijing Sub-center



▲ High-Level International Workshop on the 14th Five-Year Plan on Eco-Environmental Protection in China



▲ The Yellow River Ecological Civilization Construction Seminar



▲ The Technical Seminar on Prevention and Control of Groundwater Pollution



▲ The Inaugural Meeting of CAEP Second Advisory Committee



▲ The National "14th Five-Year Plan" Ecological Environmental Protection Planning Research Launch Conference



▲ The Consultation Meeting for the National "14th Five-Year Plan" Ecological Environment Protection Planning Ideas



▲ The Chinese Society for Environmental Sciences' Transition Meeting of Environmental Planning Transferred to Committee and the Third Plenary Session of the Standing Committee



▲ The Seminar on the Achievements the Yangtze River Economic Belt Project of China Council for International Cooperation on Environment and Development



▲ The development of the summary and evaluation research on the construction of Zhejiang Ecological Province



▲ The promotion conference for the construction of the comprehensive soil pollution prevention and control pilot area in Xiong'an New Area



▲ The development of the special investigations on the special planning of ecological environment protection in the Guangdong-Hong Kong-Macao Greater Bay Area



▲ The development of the special investigations on special plans for joint protection of the ecological environment in the Yangtze River Delta



▲ The development of the symposium on ecological environment protection and restoration of the Grand Canal



▲ Technical support for the whole process of rural domestic sewage treatment in Haikou



▲ The opening of training courses on appraisal and assessment techniques of ecological environment damage



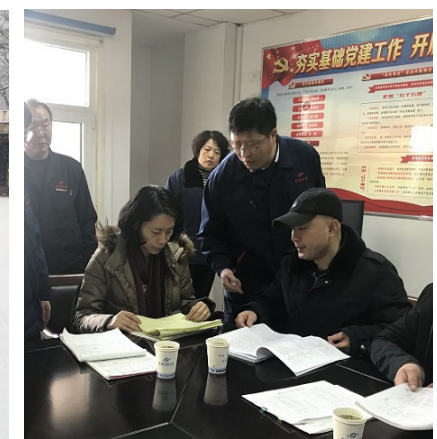
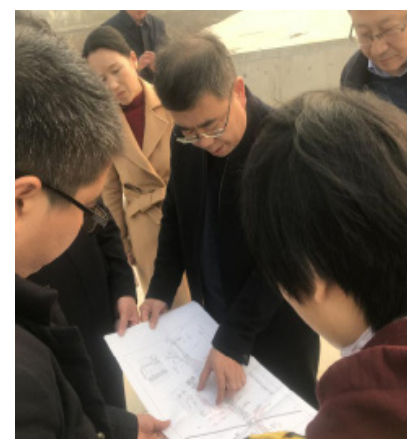
▲ The National Soil Environment Management Training Class in 2019



▲ The 3rd training course on CCUS, climate change and environment advanced (Co-organized)



▲ The training courses on the use and management of special funds for environmental protection



▲ Strengthened supervision and designated assistance for key areas of Qian'an in defending the blue sky guided by the institute leaders

Innovation of Scientific Research

In 2019, 51 national level scientific research projects were under research, including the National Key Research and Development Plan, National Major Special Project, and National Natural Science Foundation project. Three National Key R&D Projects and one National Natural Science Foundation project were approved.

National Key Research and Development Plan

▶ Key Special Programs for Pilot Research on Air Pollution Cause and Control

- ✓ Study on the roadmap for improving air quality nationwide and in main regions (Leading Organization, Project Leader: Lei Yu)
- ✓ Study on the dynamic control and optimization of multi - objective decision - making technology for regional air pollution (Leading Organization, Project Leader: Jiang Hongqiang)
- ✓ Pilot study on the innovation and entrepreneurship policy mechanisms of the Atmospheric Environmental Protection Industrial Park (Leading Organization, Project Leader: Lu Yuantang)
- ✓ Study on supporting technology and management policy for pollution permits (Leading Organization, Project Leader: Cai Bofeng)
- ✓ Study on economic means and industrial policies for the management of the atmospheric environment (Leading Organization, Project Leader: Ge Chazhong)
- ✓ Study on the mechanisms of the joint prevention and control of air pollution and the overall technical scheme of urban agglomeration in the Central Plain (Leading Organization, Team Leader: Yang Jintian)
- ✓ Study on top - level design schematics and related systems of the Ministry of Science and Technology ' s management system for pollution permits (Leading Organization, Team Leader: Jiang Hongqiang)
- ✓ Study on the key supporting technology and method system of air pollution permit (Leading Organization, Team Leader: Jiang Chunlai)
- ✓ Study on the roadmap for key national regional air pollution control technology and policy (Leading Organization, Team Leader: Yan Li)
- ✓ Study on air pollutant carrying capacity under the constraint of air quality standards (Leading Organization, Team Leader: Lei Yu)
- ✓ Study on a national and sub - regional pollutant emission reduction scheme based on an analysis of cost - effectiveness (Leading Organization, Team Leader: Chen Xiaojun)
- ✓ Study on the innovation chain in the agglomeration area of the atmospheric environmental protection industry (Leading Organization, Team Leader: Zhao Yunhao)

- ✓ Study on the key mechanisms and policies for innovation and entrepreneurship of the atmospheric environmental protection industrial park (Leading Organization, Team Leader: Chen Peng)
- ✓ Commercialization Models and Case Studies of Air Pollution Control Technology (Leading Organization, Team Leader: Wang Jianing)
- ✓ Study on multi - dimensional environmental effect assessment technology for air pollution prevention and control (Leading Organization, Team Leader: Ma Guoxia)
- ✓ Study on prevention and control mechanism of air pollution environmental risk (Leading Organization, Team Leader: Cao Dong)
- ✓ Comprehensive evaluation model and system construction of air pollution prevention and control cost and benefit (Leading Organization, Team Leader: Zhao Xuetao)
- ✓ Study on the damage assessment technology of sudden air pollution events (Leading Organization, Team Leader: Zhou Ying)
- ✓ Study and demonstration of paid use and distribution technology for air pollutant emission indicators (Leading Organization, Team Leader: Li Xiaoliang)
- ✓ Environmental and economic policy assessment and framework design for air quality improvement in China (Leading Organization, Team Leader: Cheng Cuiyun)
- ✓ Road map of regional air quality improvement and joint prevention and control mechanism research (Leading Organization, Team Leader: Ning Miao)

▶ Key Special Projects for the Causes of Site Soil Pollution and Treatment Technology

- ✓ Study on the identification and risk control of site soil and groundwater pollution based on big data (Leading Organization, Project Leader: Wang Xiahui)
- ✓ Evaluation system and methods for green, sustainable remediation at polluted sites (Leading Organization, Project Leader: Zhang Hongzhen)
- ✓ Study on safe development and utilization modes and application promotion mechanisms of coking sites (Leading Organization, Team Leader: Sun Ning)
- ✓ Identification of pollution sources and optimized risk management and control of sites in rapid economic development zones (Leading Organization, Team Leader: Jia Jieli)
- ✓ Study on the relationship between the regional distribution of pollution sites and their industries (Leading Organization, Team Leader: Zhang Zheng)

▶ Key Special Projects for Research on Typical Fragile Ecological Restoration and Protection

- ✓ Study on ecological compensation modes, standard accounting, and policy measures (Leading Organization, Team Leader: Liu guihuan)
- ✓ Study on evaluation technology for ecological carrying capacity and industrial consistency in typical regions (Leading Organization, Team Leader: Rao Sheng)

National Major Science and Technology Program for Water Pollution Control and Treatment

- ✓ Study on the comprehensive management and innovation system for water environment quality in the Beijing - Tianjin - Hebei region (Leading Organization, Project Leader: Wang Dong)
- ✓ Economic policy innovation and system integration for watershed water environment management (Leading Organization, Team Leader: Dong Zhanfeng)
- ✓ Research on Water Environmental Protection Strategy and Management in Beijing - Tianjin - Hebei Region (Leading Organization, Team Leader: Zhang Wenjing)
- ✓ Demonstration Study on Comprehensive Management of Water Quality Objectives in the North Canal Basin (Leading Organization, Team Leader: Yao Ruihua)

Causes of Heavy Atmospheric Pollution and Treatment Research Program (The Prime Minister Fund Program)

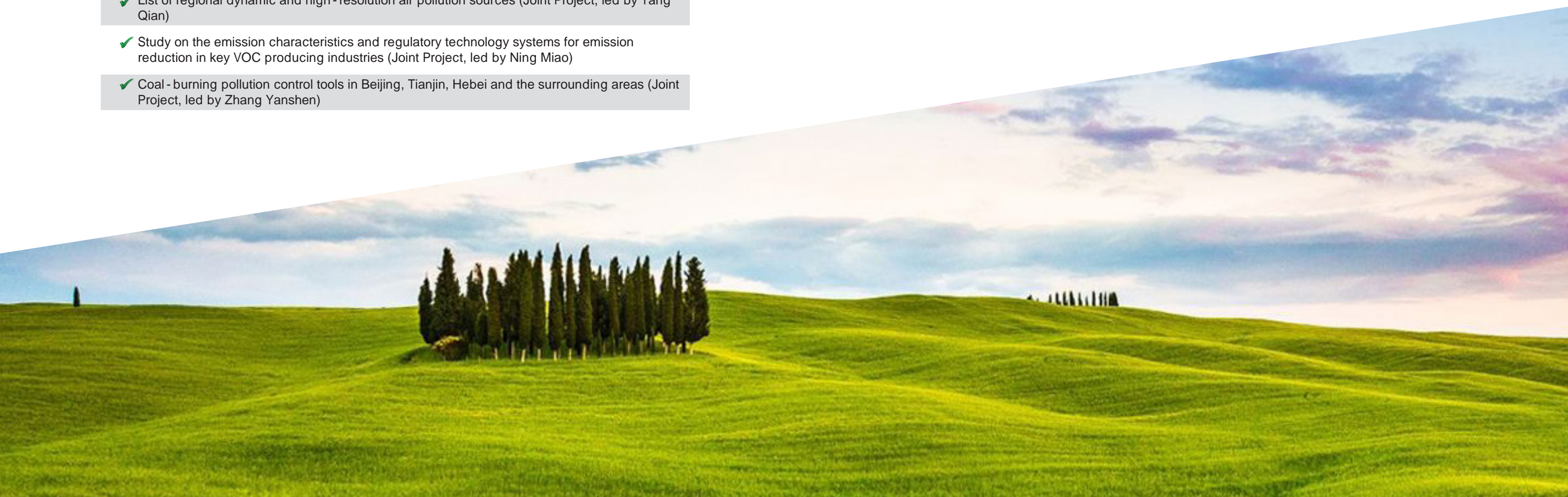
- ✓ Roadmap for regional air bearing capacity and air quality improvement (Leading Organization, Team Leader: Lei Yu)
- ✓ Regional air quality control technology and decision support platform (Joint Project, led by Xue Wenbo)
- ✓ Study on technical methods for response verification of heavy pollution weather (Joint Project, led by Wang Yanchao)
- ✓ List of regional dynamic and high - resolution air pollution sources (Joint Project, led by Tang Qian)
- ✓ Study on the emission characteristics and regulatory technology systems for emission reduction in key VOC producing industries (Joint Project, led by Ning Miao)
- ✓ Coal - burning pollution control tools in Beijing, Tianjin, Hebei and the surrounding areas (Joint Project, led by Zhang Yanshen)

National Natural Science Foundation Program

- ✓ Environmental impact study of China's carbon market based on the emission - transmission - exposure model (General Project, led by Cai Bofeng)
- ✓ Study on the temporal and spatial characteristics of atmospheric pollution transfer in China and environmental equity (Youth Project, led by Zhang Wei)
- ✓ Preparation of a core - shell, iron - aluminum bi - metal material and its mechanism for reducing chlorinated hydrocarbon pollutants in soil (Youth Project, led by Yang Wenjie)
- ✓ Study on methods and mechanisms for regional air quality management (Key Joint Project, led by Wang Jinnan)
- ✓ Study on the evaluation method and application of a set of minimum index parameters for soil environment quality (Youth Project, led by Wei Nan)

National Social Science Foundation Project

- ✓ Study on the environmental risk assessment and management of drinking water sources along the Yangtze River Economic Belt (Leading Organization, Project Leader: Sun Hongliang)
- ✓ Study on the ecological compensation mechanism of the water environment in the Beijing - Tianjin - Hebei region ((Leading Organization, Project Leader: Liu Yaling)



OUR ACHIEVEMENT

What We Achieve?
We do researches that find solutions to problems and put ideas into practice.

As A Think Tank

In 2019, our scientific research personnel actively spoke out for the protection of the ecological environment in newspapers, periodicals, websites, radio stations, official accounts, and other media outlets. CAEP has also published many policy interpretation articles in *QiuShi*, the *Guangming Daily*, and *China Environmental News*.

In July 2019, the National Expert Committee on Ecological Environment Protection was established in Beijing, and President Wang Jinnan was appointed as the Deputy Director, and our Secretary Lu Jun was appointed as the Deputy Secretary-General. In October 2019, CAEP joined the think tank alliance for the high-quality green development of the Yangtze River Economic Belt, playing an intellectual support role for the think tank in the development of the Yangtze River Economic Belt. Moreover, many of CAEP's experts were invited to serve as members of the first National Nature Reserve Evaluation Committee, the China Natural Resources Association Branch, the Third National Climate Change Expert Committee, the First National Ecological Environment Benchmark Expert Committee, and other organizations. In addition, many of our experts were selected for the National Health Emergency System Construction Guidance Expert Database and MEE's Ecological Environment Emergency Expert Database, among others. Liu Guihuan was invited to participate in the 31st Bi-weekly

Consultative Forum of the 13th CPPCC National Committee, giving a speech on improving the evaluation of ecological compensation benefits, which was commented on by President Wang Yang. In addition, we have been a constant voice in the channels of the NPC, CPPCC, Supreme Procuratorate, Supreme Court, Chinese Academy of Engineering, China Central Academy of CPC, Central Party School, and Provincial Party Committee Theoretical Center Group, where we actively publicize Xi Jinping's ecological civilization, and improve the practices and experience of pollution prevention and control.

According to the *Global Go To Think Tank Index Report 2019* released by the University of Pennsylvania, CAEP ranks 25th among the world's top think tanks in the field of environmental policy and ranks first among the selected Chinese environmental think tanks. CAEP will combine its own advantages and existing foundation, give play to the leading role of the country's high-end think tanks. Actively propose suggestions to local governments for the formulation and revision of policies, regulations, and industry standards. Carry out consulting services for enterprises on national policies, technological achievements, technological requirements, and technical solution design. Build bridges for national decision-making and local cooperation, promote high-quality and ecological development, and provides effective intellectual support.



▲ President Wang Jinnan was interviewed in *QiuShi* - How to understand the deep connotations of Xi Jinping's Ideology of Ecological Civilization



▲ Secretary Lu Jun attended the Launch Event for the International Coalition for Green Development on the Belts and Roads and Green City Thematic Partnership



▲ CAEP Joined the Alliance of High-quality Green Development Think Tanks in the Yangtze River Economic Belt



▲ Deputy chief engineer Wang Xiaohui was interviewed in *People's Daily*-Why ecological protection and high-quality development in the Yellow River Basin are on the rise to National Strategy



▲ Deputy chief engineer Wang Dong was interviewed in *Topics in Focus*-we would comprehensively and deepen reform, and focused on the new coordinates of people's livelihood



▲ Director Qin Cangbo was interviewed in *QiuShi* - Seizing the historical opportunity of constructing ecological civilization



▲ Senior fellow Liu Guihuan was invited to attend the 31st Bi-weekly Consultative Forum of the 13th CPPCC National Committee

Decision-Making Supporting

In 2019, CAEP supported the issuance of major national planning and policy documents, and some of the major documents that we have supported to date include the following:

National planning and policy documents that we have supported as of 2019

- 1 Guidance on Strengthening the Pollution Prevention and Control of Tailing Ponds in the Yangtze River Economic Belt (No.94 Document of the Leading Group for the Development of the Yangtze River Economic Belt, 2019)
- 2 Guiding opinions on building a market-oriented, green technology innovation system (No. 689 Document of Development and Reform of Environmental Resources Committee, 2019)
- 3 Notice on further promoting the third party treatment of environmental pollution in parks (No.785 Document of Development and Reform of Environmental Resources Committee, 2019)
- 4 Opinions on financial support to fight against pollution and accelerate the construction of ecological civilization (2019-2020) (No. 1 Document of Ecology and Environment Group of Ministry of Finance, 2019)
- 5 Reform plan for the division of fiscal authority and expenditure responsibilities between the central and local governments in the ecological environment field (No. 85 Document of Economic Construction Department of Ministry of Finance, 2019)
- 6 Regulations on the Classification of the Judicial Practices for Appraising Environmental Damage (No.56 Document of Ministry of Justice, 2019)
- 7 Notice of the Ministry of Finance on issuing the budget for air pollution prevention and control funding in 2019 (No.6 Document of Environment and Resources Department of Ministry of Finance , 2019)
- 8 Notice of the Ministry of Finance on issuing the budget for air pollution prevention and control in 2020 in advance (No.57 of Environment and Resources Department of Ministry of Finance , 2019)
- 9 Basic Capacity Building Plan for Units Directly Under the Ministry of Ecological Environment (2019-2025) (Exposure Draft) (No. 189 Document of Department of Science, Technology, and Finance, MEE, 2019)
- 10 Notice on accelerating the transfer of fixed assets for long-term use projects under construction in administrative institutions (No.170 Department of

Science, Technology, and Finance, MEE, 2019)

- 11 The Ministry of Ecological and Environment's Implementation of the Internal Division Plan for The Major Policies and Measures of the “Outline of Xinjiang Production and the Construction Corps’ Southward Development Plan” (No. 28 Department of Science, Technology, and Finance, MEE, 2019)
- 12 Outline of the Work Summary Report for the Second Census of National Pollution Sources GWP (No. 7 Document of National Office for Pollution Sources Census, 2019)
- 13 Overall work plan for the ecological protection and control of the Yellow River (Exposure Draft) (No. 241 Document of General Office, MEE ,2019)
- 14 Technical Guide for the Evaluation of Damage to the Ecological Environment: Surface Water and Sediment (No. 275 Document of General Office, MEE ,2019)
- 15 Notice on the issuing of Guidance for the Open Standards of Grassroots Policies in the Ecological Environment Field (No. 672 Document of General Office, MEE,2019)
- 16 Notice on implementing the government information disclosure measures of the Ministry of Ecological Environment (No.633 Document of General Office, MEE ,2019)
- 17 2019 Index Plan for Environmental Constraint in Provinces (Autonomous Regions, Municipalities) (No. 584 Document of Department of General Affairs, MEE ,2019)
- 18 Mid-term Evaluation Report of "13th Five-Year Plan" for Ecological Environmental Protection (Exposure Draft) (No. 363 Document of Department of General Affairs, MEE ,2019)
- 19 Suggestions on promoting the construction of ecological civilization and strengthening the management of the ecological environment in the Yellow River Basin (No.26 Document of Department of General Affairs, MEE ,2019)
- 20 Opinions of the Ministry of Ecological Environment and the All-China Federation of Industry and Commerce on supporting the green development of private enterprises (No.6 Document of Department of General Affairs, MEE ,2019)
- 21 Relevant requirements for accounting the total emission reduction of major pollutants in 2019 (No. 741 Document of Department of General Affairs, MEE,2019)
- 22 Notice on recommending the pilot project for the service mode and trusteeship of integrated environmental governance (No. 473 Document of General Office and Planning & Finance Department, MEE, 2019)
- 23 Notice on the construction of the Central Investment Project Reserve for Environmental Protection in 2019 (No. 47 Document of General Office and Planning & Finance Department, MEE, 2019)
- 24 Notice on printing and distributing the list of the projects of the Central Investment

- Project Reserve for Environmental Protection in 2019 (No. 746 Document of General Office and Planning & Finance Department, MEE, 2019)
- 25 Technical guide for the special investigation and treatment of the "three kinds of phosphorus" in the Yangtze River (No. 12 Document of Department of Laws, Regulations, and Standards, MEE, 2019)
- 26 Technical Guide for the Evaluation of Damage to Soil and Groundwater in the Ecological Environment (No. 46 Document of Department of Laws, Regulations, and Standards, MEE, 2019)
- 27 Notice on the effective performance of work related to the pollution discharge outlets of rivers and water function zoning (No. 36 Document of General Office and Department of Water Ecology & Environment, MEE, 2019)
- 28 Work Plan for the Setting of the National Control Section and Refinement of Water Environment Control Units in the "14th Five-Year Plan" (No. 603 Document of General Office and Department of Water Ecology & Environment, MEE, 2019)
- 29 Guidelines for the investigation and evaluation of groundwater environment conditions (No. 770 Document of General Office and Department of Soil Ecology & Environment, MEE, 2019)
- 30 Feedback letter on the investigation and rectification work of enterprises in key industries concerning heavy metals such as cadmium (No. 249 Document of General Office and Department of Soil Ecology & Environment, MEE, 2019)
- 31 Key work points of the national inter-ministerial coordination group for soil pollution control in 2019-2020 (No. 385 Document of General Office and Department of Soil Ecology & Environment, MEE, 2019)
- 32 Notice on the preliminary sharing and application of the phased results from the detailed investigation of soil pollution in agricultural land (No. 397 Document of General Office and Department of Soil Ecology & Environment, MEE, 2019)
- 33 Notice on implementing and applying pilot prevention and control of groundwater pollution (No. 739 Document of General Office and Department of Soil Ecology & Environment, MEE, 2019)
- 34 Guidance on promoting the treatment of black and odorous water in rural areas (No. 48 Document of General Office and Department of Soil Ecology & Environment, MEE, 2019)
- 35 Guidelines for the preparation of rural domestic sewage treatment facilities and water pollutant discharge control specifications (No. 403 Document of General Office and Department of Soil Ecology & Environment, MEE, 2019)
- 36 Detailed rules for the assessment of the completion of emission control objectives for key heavy metal pollutants (Trial Implementation) (No. 38 Document of General Office and Department of Solid Waste & Chemicals, MEE, 2019)
- 37 Letter on issuing the *Special Investigation Work Plan for Ecological Construction in Tibet, and Tibetan Ethnic Areas in Sichuan, Yunnan, Gansu, and Qinghai*

- provinces (No. 222 Document of General Office and Department of Science, Technology, and Finance, MEE, 2019)
- 38 Action plan for the comprehensive control of air pollution in autumn and winter of 2019-2020 in the Fenwei plain (No. 98 Document of Department of Atmospheric Environment, MEE, 2019)
- 39 Action plan for the comprehensive control of air pollution in autumn and winter of 2019-2020 in the Yangtze River Delta (No. 97 Document of Department of Atmospheric Environment, MEE, 2019)
- 40 Action plan for the comprehensive control of air pollution in autumn and winter 2019-2020 in Beijing-Tianjin-Hebei and the surrounding areas (No. 88 Document of Department of Atmospheric Environment, MEE, 2019)
- 41 Comprehensive treatment plan for volatile organic compounds in key industries (No. 53 Document of Department of Atmospheric Environment, MEE, 2019)
- 42 Comprehensive treatment plan for the air pollution from industrial furnaces and kilns (No. 56 Document of Department of Atmospheric Environment, MEE, 2019)
- 43 Opinions on promoting the implementation of ultra-low emissions in the iron and steel industries (No. 35 Document of Department of Atmospheric Environment, MEE, 2019)
- 44 Implementation plan for the prevention and control of groundwater pollution (No. 25 Document of Department of Soil Ecology and Environment, MEE, 2019)
- 45 Report of the ministry of ecology and environment on the work progress of the "Soil Pollution Prevention and Control Action Plan" in 2018 (No. 17 Document of Department of Soil Ecology and Environment, MEE, 2019)
- 46 Letter on supervising the problems encountered in the first stage of overall and enhanced supervision in 2019 (No. 62 Document of Department of Ecological and Environmental Monitoring, MEE, 2019)
- 47 Action plan for the difficult battles in the conservation and restoration of the Yangtze River (No. 181 Document of Department of Water Ecology and Environment, MEE, 2019)
- 48 Guidance on promoting the ecological and environmental protection of centralized drinking water sources in towns and rural areas (No. 92 Document of Department of Water Ecology and Environment, MEE, 2019)



Achievements in Scientific Research

Achievements and Awards

In 2019, CAEP has won 1 First Prize and 4 Second Prize of 2018 Ministerial Science and Technology Awards. President Wang Jinnan obtained the Medal of 70th Anniversary of the Founding of the People's Republic of China issued by the CPC Central Committee, the State Council and the Central Military Commission, Deputy Chief Engineer Jiang Hongqiang was elected to the National Million Talent Project, Lei Yu obtained Young Scientist Award from Chinese Society of Environmental Sciences.



Achievement Title	Award Title	Granted by	Award Grade	Main Personnel Involved
Key technology and application of the establishment of lake nutrient standard in China	Environmental Protection Science and Technology Award	Ministry of Ecology and Environment	First prize	Chen Yan ,Sun Hongliang
Underground water type drinking water source -- Environmental investigation and assessment of pollution sources and technology system and large-scale application of pollution prevention and control	Environmental Protection Science and Technology Award	Ministry of Ecology and Environment	Second prize	Lu Jun, Liu Weijiang, Wen Yi, Chen Jian
Ecological environment cost accounting technology and environmental loss assessment of rare earth resources development	Rare Earth Science and Technology Award	China Rare Earth Society	Second prize	Ge Chazhong ,Dong Zhanfeng, Cheng Cuiyun, Ma Guoxia, Qu Aiyu, Du Yanchun
Environmental risk control technology and application demonstration of regional centralized hazardous waste disposal facilities	Environmental Technology Award	China Environmental Protection Industry Association	Second prize	Sun Ning
Key technology and application of greenhouse gas accounting and emission reduction of domestic waste	Shanghai Science and technology award	Shanghai Municipal People's Government	Second prize	Cai Bofeng

Published Books

In 2019, CAEP published 42 works. Environmental Planning, edited by Wang Jinnan and Jiang Hongqiang, won the Ninth Qian Xuesen City Science Gold Nominated Award. The work Low-Carbon Development Overview, which Chen Xiaojun and Tang Qian participated in compiling, won the Fourth China Publishing Government Award Book Award.

- ◆ China Environmental Economic Policy Development Report: 2018

◆ Provincial Environmental Performance Assessment in China 2014-2015

◆ China's Environmental Economic Policy Reform and Practices 2011-2015

◆ China Environmental Audit Progress Report 2018

◆ Data Set of Greenhouse Gas Emissions in Chinese Cities (2015)

◆ Greenhouse Gas Emissions from Chinese Cities (2015)

◆ Methane Emission from Landfills and Collaborative Emission Reduction

◆ Simulation Study on the Characteristics of Water Pollution Transmission in River Basins for Defining Responsibility

◆ Main Points for Compiling the Work Plan for the Survey of Pollution Sources in Districts and Counties

◆ Basic Theory and Engineering Practice of the Ecological Protection and Restoration of Landscapes, Forests, Farmland, Lakes, and Grassland

◆ Paid-use Pricing of Emission Rights: Methods and Effects

◆ Technical Guide for the General Survey and Inventory of Pollution Sources in Districts and Counties

◆ Prediction Analysis and Development Strategy of the Soil Remediation Industry in China

◆ Sustainable Remediation of Contaminated Soil and Groundwater

◆ China Environmental Economic Accounting Research Report 2009-2010

◆ China Environmental Economic Accounting Research Report 2011-2012

◆ China Environmental Economic Accounting Research Report 2013-2014
- ◆ China's Economic and Ecological GDP Accounting Report 2017

◆ Study on Ecological Environment Assessment and Optimized Development in the Changji Region

◆ Study on the Ecological Environment Protection of Lakes in the Western Plateau -- Taking Qionghai Lake as an Example

◆ Basic Theory and Engineering Practice for the Ecological Protection and Restoration of Landscapes, Forests, Farmland, Lakes, and Grassland

◆ China's Environmental Planning and Policy (Volume 14)

◆ Theoretical Methods and Empirical Research on Environmental Carrying Capacity Assessment and Early Warning

◆ Heavy Metal Pollution Prevention and Control Planning, Laws, and Policies

◆ Progress Report on the Ecological Environment Protection and Restoration of the Yangtze River Economic Belt (2018)

◆ Promoting Ecological Civilization and Building a Beautiful China

◆ Research Report on the Key Issues of the Ecological Environment

◆ Geophysical Detection Technology and Application Cases at Groundwater Pollution Sites

◆ Forty Years of Environmental Policy Reform in China

◆ China's Provincial Environmental Performance Evaluation 2014-2015

◆ Reform and Practices of China's Environmental Economic Policy

◆ China Environmental Audit Progress Report 2018

◆ Strategies and Policies for the Sustainable Development and Utilization of Rare Earth Resources in China

◆ China Environmental Tax Policy Development Report (2018)
- ◆ China's Environmental and Economic Policy Development Report: 2018

◆ Research Progress on the Environmental Economy

◆ Performance Evaluation Report on the Pilot Program for Horizontal Ecological Compensation in the Upper and Lower Reaches of the Xin'anjiang River Basin (2012-2017)

◆ China's Environmental Planning and Policy (Volume 15)

◆ Study on the Calculation of Water Environment Capacity and Total Volume Control in Chongqing

◆ China's Ecological Environment PPP Development Report (2018)

◆ Report on the Development of China's Ecological Compensation Policy (2018)

◆ Strategies and Countermeasures for Ecological Civilization Construction in Resource-Exhausted Cities: Taking Huangshi City as an Example

◆ Strategies and Policies for the Sustainable Development and Utilization of Rare Earth Resources in China

◆ Huangshan Birds

◆ Ecological Environment Protection Funding and Environmental Quality Improvement in Beijing-Tianjin-Hebei

◆ Environmental Information Disclosure Assessment Report of Listed Companies in 2017

◆ Environmental Performance Evaluation Report of Listed Companies in 2017

◆ Progress in Environmental Economic Research (Volume 13)

◆ New Pattern of Ecological Security Governance

◆ Environmental Policy Assessment: Methods and Empirical Research

◆ Key Points for Compiling Work Plans for the Census of District and County Pollution Sources

Chinese Academy of Environmental Planning Published the First Batch of Green Book on Environmental Planning and Policy

On the "June 5th" Environmental Day in 2019, the Green Book on Environmental Planning and Policy series, which was compiled by the Chinese Academy of Environmental planning, published by the China Environmental Publishing Group, was officially published for the first time in China. As a series of books with environmental planning and policy as the main body, this series systematically summarizes and displays the latest research results in domestic environmental planning policy related fields, covering current research and hot areas of concern such as ecological civilization, green development, environmental planning, environmental

policy, etc., which were written by experts and scholars who have been engaged in research in related fields for a long time. There are nine books in the first series, and this series focuses on the combination of the depth of theoretical research and the breadth of practical application, which is realistic, forward-looking and authoritative. It is of reference significance for the preparation and implementation of ecological environment planning, the formulation of ecological environment detection, the improvement of ecological environment decision-making level, the promotion of green development and the acceleration of ecological civilization construction.



Patents and Software Copyrights

Patents

Name	Achievement Type	Number	Patent Type
An efficient reducing and repairing agent for heavy metal contaminated soil and its repairing technology	Patent	Ministry of Ecology and Environment	First prize
System and method for controlling the total discharge of main water pollutants from fixed pollution sources	Patent	ZL201610428402.0	Invention Patent
A method of building surface hydrological database with the coding of percentage river section as the primary key	Patent	ZL 201610565531.4	Invention Patent
An agent and method for the simultaneous immobilization and reduction of benzene in soil and / or groundwater	Patent	ZL2019101953106	Invention Patent
An agent and method for simultaneously fixing and reducing trichloroethylene in soil and / or groundwater	Patent	ZL2019101953089	Invention Patent
An agent and method for simultaneously fixing and reducing trichloroethylene in soil and / or groundwater	Patent	ZL201910195313X	Invention Patent
A waste gas purification system for air pollution control	Patent	ZL 201820570503.6	Utility Model
Air pollution collection device	Patent	ZL 201820572149.0	Utility Model
An air pollution detection device	Patent	ZL 201820571458.6	Utility Model
A monitoring device for soil pollution sampling	Patent	ZL 201820868709.7	Utility Model
A passive sampler for the determination of mercury chemical forms in soil solution and surface water	Patent	201820253441.6	Utility Model
A DNAPL contaminated site repair equipment	Patent	ZL 201822015162.9	Utility Model
An in-situ passive sampling device for the determination of free ions in surface water solution	Patent	201820253217.7	Utility Model

Name	Achievement Type	Number	Patent Type
An in-situ passive sampling device for the determination of free ions in flooded soil	Patent	201820253433.1	Utility Model
A passive sampler for the determination of free ions in soil solution and natural water	Patent	201820253210.5	Utility Model
A sewage treatment equipment for environmental treatment	Patent	ZL201920471249.9	Utility Model
A pretreatment device for the on-line monitoring and sampling of surface water quality	Patent	ZL201820419867.4	Utility Model
A sampling device for contaminated soil	Patent	ZL201820868339.7	Utility Model
An in-situ injection integrated well device for the remediation of contaminated soil and groundwater	Patent	ZL 201822097849.1	Utility Model
A device for the treatment of organic pollutants in groundwater	Patent	ZL 20182067220.2	Utility Model
An in-situ remediation device for groundwater-using radiation wells	Patent	ZL 20182052276.0	Utility Model
An air pollution control device	Patent	ZL 20192463957.8	Utility Model
An air pollution detection device	Patent	ZL 201820571458.6	Utility Model
An ecological grassed swale	Patent	ZL 201821227465.0	Utility Model
A device for measuring the diffusion coefficient of materials in soil	Patent	ZL2019206996048	Utility Model
A repair device for Ammonia Nitrogen and Inorganic Phosphorus compound pollution in groundwater	Patent	ZL2019216239805	Utility Model
Two-dimensional EK-PRB device for the remediation of heavy metal contaminated paddy soil	Patent	ZL201920666110X	Utility Model
A sampling device for sewage monitoring	Patent	201920717599.9	Utility Model
A control device for soil pollution	Patent	ZL201820868479.4	Utility Model

Software Copyrights

Name	Type	Number
Delimitation system of important ecological protection space for oil and gas resource exploration and development	Software Copyright No. 3651841	2019SR0231084
Evaluation system V1.0 for remediation and risk control of contaminated land	Software Copyright No.3655247	2019SR0234490
Environmental supervision and long-term evaluation system V1.0 of contaminated land in the later stages	Software Copyright No.3662935	2019SR0242178
Optimized simulation platform V1.0 for environmental capacity and pollution reduction under air quality target constraints	Software Copyright No.3698601	2019SR0277844
Screening system V1.0 of safe redevelopment and utilization mode of contaminated coking sites	Software Copyright No.3727806	2019SR0307049
Risk assessment software for surface drinking water sources	Software Copyright No.3746282	2019SR0325525
Calpuff data conversion software	Software Copyright No.3915146	2019SR0494389
Air pollution comprehensive cost-effectiveness evaluation simulation platform system	Software Copyright No.3980496	2019SR0559739
Comprehensive model database system for the cost benefit evaluation of air pollution prevention	Software Copyright No.3980638	2019SR0559881
A macro-quality checking assistant system V1.0 for census data	Software Copyright No.4167686	2019SR0746929
Auxiliary system V1.0 of sampling checks for the Second China Pollution Source Census	Software Copyright No.4167691	2019SR0746934
Calculation tool software V1.0 of air taxable pollutant emission during coal storage, loading, and unloading	Software Copyright No.4184022	2019SR0763265
Structured modular system V1.0 for the ecological protection red line and nature reserve supervision data	Software Copyright No.4231691	2019SR0810934
Automatic early warning analysis platform for enterprises in key industries based on online monitoring data V2.0	Software Copyright No.4247132	2019SR0826375
Capture system V2.0 for environmental protection catalogue related products and enterprise environment and illegal information collection	Software Copyright No.4247134	2019SR0826377
Watershed Ecological Environment Compensation Simulation Technology Platform V2.0	Software Copyright No.4257654	2019SR0836897

Name	Type	Number
Visual technology platform for ecological compensation standard accounting v1.0	Software Copyright No.4279958	2019SR0859201
Evaluation system of the contribution rate of the water environment control section	Software Copyright No.4433157	2019SR1012203
Progress scheduling system for the key work of water pollution prevention and control	Software Copyright No.4432961	2019SR1012400
Qual-2K model service system for water environment protection	Software Copyright No.4436349	2019SR1015592
GWLF model service system for water environment protection	Software Copyright No.4436983	2019SR1016226
Atmospheric environment "Three base lines and one list" delimitation system V1.0	Software Copyright No.4475353	2019SR1054596
Natural Source Emission Model (MEGAN)-Leaf Area Index Synthesis Analysis Software V1.0	Software Copyright No.4475478	2019SR1054721
Cooperative control system of greenhouse gases and air pollutants for rural clean heating	Software Copyright No.4547821	2019SR1127064
Urban carbon emission evolution system	Software Copyright No.4547917	2019SR1127160
Air pollution environmental capacity accounting system V1.0	Software Copyright No.4548942	2019SR1128185
A simulation model system of fine population distribution in air pollution emergencies	Software Copyright No.4556660	2019SR1135903
Air Quality Forecasting System V1.0 Based on Deep Learning	Software Copyright No.4558700	2019SR1137943
Management Information System V1.0 for the general survey of pollution sources in districts and counties	Software Copyright No.4648239	2019SR1217882
County carbon dioxide emission accounting system V1.0 based on the agricultural pollution source census	Software Copyright No.4638657	2019SR1217900
The software system V1.0 for checking the pollution control facilities in the pollution source census in districts and counties	Software Copyright No.4638669	2019SR1217912
District and county pollution source census data information management system V1.0	Software Copyright No.4641381	2019SR1220624

Name	Type	Number
County carbon dioxide emission accounting system V1.0 based on industrial pollution source survey	Software Copyright No.4641439	2019SR1220682
Environment planning and policy simulation big data sharing platform Android Version	Software Copyright No.4656550	2019SR1235793
Environment planning and policy simulation big data sharing platform	Software Copyright No.4656570	2019SR1235813
Environmental planning and policy simulation big data sharing content management system	Software Copyright No.4656575	2019SR1235818
Urban environment master plan application system	Software Copyright No.4656884	2019SR1236127
The atmospheric environmental sensitivity demarcation system V1.0 based on the CALPUFF model	Software Copyright No.4666977	2019SR1246220
Source analysis system V1.0 of particulate matter based on the CAMX PSAT air quality model	Software Copyright No.4666997	2019SR1246240
ArcGIS mobile source emission inventory distribution system V1.0 based on network traffic	Software Copyright No.4667287	2019SR1246530
Ozone source analysis system V1.0 based on the CAMX OSAT air quality model	Software Copyright No.4668946	2019SR1248189
The software system V1.0 of the industrial source check for the district and county pollution source census	Software Copyright No.4694090	2019SR1273333
The software system V1.0 of the domestic pollution source check for the district and county pollution source census	Software Copyright No.4694370	2019SR1273613
Emission accounting and information management system V1.0 based on the agricultural pollution source census	Software Copyright No.4694371	2019SR1273614
County greenhouse gas emission accounting system V1.0 based on the livestock breeding pollution source survey	Software Copyright No.4694372	2019SR1273615
The software system V1.0 of the agricultural source check for the district and county pollution source census	Software Copyright No.4694373	2019SR1273616
GIS based heavy metal pollution inventory method and risk management priority decision support Software V1.0 for typical rivers in South China	Software Copyright No.4735004	2019SR1314247
Environmental damage evaluation and investigation assistant app (Android version)	Software Copyright No.4783524	2019SR1362767

Name	Type	Number
Environmental damage evaluation and investigation assistant app software (IOS version) V2.0	Software Copyright No.4783524	2019SR1362767
Ecological environment compensation case submission system V2.0	Software Copyright No.4783534	2019SR1362777
Environmental damage assessment investigation assistant app (ISO version)	Software Copyright No.4784197	2019SR1363440
Environmental damage assessment and investigation assistant app software (Android version) V2.0	Software Copyright No.4784197	2019SR1363440
Project Management System V1.0 of the Environment Planning Institute of the Ministry of Ecology and Environment	Software Copyright No.4799538	2019SR1378781
Environmental information statistical analysis and data adaptive transmission system V1.0	Software Copyright No.4818277	2019SR1397520
Regional water environment assessment and pollution load analysis management system V1.0	Software Copyright No.4818303	2019SR1397546
River basin water environment capacity simulation and analysis system V1.0	Software Copyright No.4818403	2019SR1397646
Dispatching platform for strengthening measures of air pollution prevention and control in key areas	Software Copyright No.4823050	2019SR1402293
Integrated analysis system V1.0 for air quality improvement in key areas	Software Copyright No.4823056	2019SR1402299
Information management and application system of the ecological red line	Software Copyright No.4838616	2019SR1417859
Ecological red line information management and application app system	Software Copyright No.4839762	2019SR1419005

Research Papers

CAEP has published 229 articles (including 21 references for important environmental decision-making and 10 internal English journals), of which, 40 are SCI articles, 13 are EI articles and 112 are in core journals. The papers written by Wang Jinnan, Zhang Wei, etc. won the first prize of the best paper in policy category of EST (Environment Science and Technology) in 2018, which was the first time in China. The following are some papers published in international academic journals:

No.	Title	Journal	Include	Author
1	Study of the differences in soil properties between the dry season and rainy season in the Mun River Basin	CATENA	SCI	Chunsheng Wu, Gaohuan Liu, Guoxia Ma, Qingsheng Liu, Fang Yu, Chong Huang, Zhonghe Zhao, Li Liang
2	Soil quality assessment in Yellow River Delta: Establishing a minimum data set and fuzzy logic model	Geoderma	SCI	Chunsheng Wu; Gaohuan Liu; Chong Huang; Qingsheng Liu
3	Spatially resolved risk assessment of environmental incidents in China	Journal of Cleaner Production	SCI	Guozhi Cao, Yue Gao, Jinnan Wang, Xiaofei Zhou, Junbin, Zongwei Ma
4	Health loss attributed to PM _{2.5} pollution in China's cities: Economic impact, annual change and reduction potential	Journal of Cleaner Production	SCI	Yang Guan, Lei Kang, Yi Wang, Nan-Nan Zhang, Mei-Ting Ju
5	Provincial air pollution responsibility and environmental tax of China based on interregional linkage indicators	Journal of Cleaner Production	SCI	Yaling Lu, Yuan Wang, Wei Zhang, Klaus Hubacek, Fenfen Bi, Jian Zuo, Hongqiang Jiang, Zengkai Zhang, Kuishuang Feng, Yuliu, Wenbo Xue*
6	Provincial analysis and zoning of atmospheric pollution in China from the atmospheric transmission and the trade transfer perspective	Journal of Environmental Management	SCI	Yaling Lu, Yuan Wang, Li Wang, Hongyu Zhang, Si Zhou, Fenfen Bi, Wei Zhang, Yuliu, Hongqiang Jiang*, Wenbo Xue*
7	China City-Level Greenhouse Gas Emissions Inventory in 2015 and Uncertainty Analysis	Applied Energy	SCI	Cai Bofeng, Can Cui, Da Zhang, Libin Cao, Pengcheng Wu, Lingyun Pang, Jihong Zhang, Chunyan Dai
8	Benchmarking Carbon Emissions Efficiency in Chinese Cities: A Comparative Study Based on High-Resolution Gridded Data	Applied Energy	SCI	Cai Bofeng, Huanxiu Guo, Zipeng Ma, Zhixuan Wang, Shobhakar Dhakal, Libin Cao
9	A Benchmark City-Level Carbon Dioxide Emission Inventory for China in 2005	Applied Energy	SCI	Cai Bofeng, Jun Lu, Jinnan Wang, Huijuan Dong, Xiaoman Liu, Yang Chen, Zhanming Chen
10	Changing Patterns and Determinants of Transportation Carbon Emissions in Chinese Cities	Energy	SCI	Li Fangyi, Bofeng Cai*, Zhaoyang Ye, Zheng Wang, Wei Zhang, Pan Zhou, and Jian Chen



No.	Title	Journal	Include	Author
11	Evaluating the effectiveness of the pollutant discharge permit program in China: A case study of the Nenjiang River Basin	Journal of Environmental Management	SCI	Jie Zhang, Shaoqiang Ni, Wenjun Wu*, Hongqiang Jiang, Jinnan Wang
12	A Microcosm Study of Surface Sediment Environmental DNA: Decay Observation, Abundance Estimation, and Fragment Length Comparison	Environmental Science & Technology	SCI	Nan Wei, Fumiyuki Nakajima, Tomohiro Tobino
13	A review of development and reform of emission permit system in China	Journal of Environmental Management	SCI	Jia Zhou, Jinnan Wang, Hongqiang Jiang, Dong Cao , Rensheng Tian, Jun Bi, Jing Zhang , Xi Cheng
14	Cost-benefit analysis of yellow-label vehicles scrappage subsidy policy: A case study of Beijing-Tianjin-Hebei region of China	Journal of Cleaner Production	SCI	Jia Zhou, Jinnan Wang, Hongqiang Jiang, Xi Cheng , Yaling Lu, Wei Zhang, Jun Bi , Wenbo Xue, Nianlei Liu
15	Defending Blue Sky in China: Effectiveness of the “Air Pollution Prevention and Control Action Plan” on Air Quality Improvements from 2013 to 2017	Journal of Environmental Management	SCI	Yueyi Feng, Miao Ning, Yu Lei, Yamei Sun
16	Provincial air pollution responsibility and environmental tax of China based on interregional linkage indicators	Journal of Cleaner Production	SCI	Lu YL, Wang Y, Zhang W, Hubacek K, Bi FF, Zuo J, Jiang HQ, Zhang ZK, Feng KS, Liu Y, Xue WB*
17	Provincial analysis and zoning of atmospheric pollution in China from the atmospheric transmission and the trade transfer perspective	Journal of Environmental Management	SCI	Yaling Lu, Yuan Wang, Like Wang, Hongyu Zhang, Si Zhou, Fenfen Bi, Wei Zhang, Yu Liu, Hongqiang Jiang*, Wenbo Xue*
18	Immobilization of heavy metals in vegetable-growing soils using nano zero-valent iron modified attapulgite clay	Science of the Total Environment	SCI	Congbin Xu , Jia Qi, Wenjie Yang, Ying Chen d, Chen Yang, Yali He, JunWange*, Aijun Linb
19	Authoritarian environmentalism and environmental policy implementation in China	Resources Conservation and Recycling	SCI	Xiaoliang Li, Xiaojin Yang, Qi Wei
20	A Study of the Spatial Dierence of the Soil Quality of The Mun River Basin during the Rainy Season	Sustainability	SCI	Chunsheng Wu; Qingsheng Liu; Guoxia Ma; Gaohuan Liu; Fang Yu; Chong Huang; Zhonghe Zhao; Li Liang
21	A unit-based emission inventory of SO ₂ , NO _x and PM for the Chinese iron and steel industry from 2010 to 2015	Science of the Total Environment	SCI	Wang Xuying, Lei Yu, Yan Li, Liu Tao, Zhang Qiang, He Kebin
22	Spatial assessment of air resources in China from 2013 to 2017	Science of The Total Environment	SCI	Nannan Zhang, Fang Ma, Yang Guan, Yifan Guan
23	Fine Resolution Carbon Dioxide Emission Gridded Data and Their Application for China	Journal of Environmental Informatics	SCI	Cai Bofeng, XQ Mao, JN Wang, and MD Wang
24	Temporal and spatial variations in haze research: a bibliometric analysis	Environmental Reviews	SCI	Yaling Lu, Yuan Wang, Bo Li, Jiao Li*, Hongqiang Jiang*

No.	Title	Journal	Include	Author
25	Influences of atmospheric pollution on the contributions of major oxidation pathways to PM _{2.5} nitrate formation in Beijing	Journal of Geophysical Research: Atmospheres	SCI	Wang YL, Song W, Yang W, Sun XC, Tong YD, Wang XM, Liu CQ, Bai ZP, Liu XY
26	How to Allocate Discharge Permits More Fairly in China ? -A New Perspective from Watershed and Regional Allocation Comparison on Socio-Natural Equality	Science of the Total Environment	SCI	Wenjun Wu, Jinnan Wang, Yuanchun Zhou, Hongqiang Jiang
27	The Economic-Environmental Impacts of China’s Action Plan for Soil Pollution Control	Sustainability	SCI	Zhitao Li, Xiahui Wang*, Jia Li, Wei Zhang*, Ruiping Liu, Zhixiao Song, Guoxin Huang, Linglong Meng
28	The Economic-Environmental Impacts of China’s Action Plan for Soil Pollution Control	Sustainability	SCI	Zhitao Li, Xiahui Wang*, Jia Li, Wei Zhang*, Ruiping Liu, Zhixiao Song, Guoxin Huang, Linglong Meng
29	Cost-benefit analysis of yellow-label vehicles scrappage subsidy policy: A case study of Beijing-Tianjin-Hebei region of China	Journal of Cleaner Production	SCI	Zhou, J; Wang, JN; Jiang, HQ; Cheng, X; Lu, YL; Zhang, W; Bi, J; Xue, WB; Liu, NL
30	A review of development and reform of emission permit system in China	Journal of Environmental Management	SCI	Zhou, J; Wang, JN; Jiang, HQ; Cao, D; Tian, RS; Bi, J; Zhang, J; Cheng, X
31	Virtual flows of aquatic heavy metal emissions and associated risk in China	Journal of Environmental Management	SCI	Wei Zhang, Miaomiao Liu, Klaus Hubacek, Kuishuang Feng, Wenjun Wu, Yu Liu, Hongqiang Jiang, Jun Bi, Jinnan Wang
32	A review of development and reform of emission permit system in China	Journal of Environmental Management	SCI	JiaZhou,JinnanWang*, HongqiangJiang*, DongCao, RenshengTian, JunBi, JingZhang, XiCheng
33	Effects of treated sample weight and DNA marker length on sediment eDNA based detection of a benthic invertebrate	Ecological Indicators	SCI	Nan Wei, Fumiyuki Nakajima, Tomohiro Tobino
34	Seasonal characteristics of the chemical composition of fine particles in residences of Nanjing	International Journal of Environmental Research and Public Health	SCI	Cao Guozhi, Jun Ma, Zongwei Shao, Zhijuan Wang, Jinnan
35	Response of Ruderal Species Diversity to an Urban Environment: Implications for Conservation and Management	International Journal of Environmental Research and Public Health	SCI	Peipei Guo, Fang Yu , Yuan Ren, Dong Liu, Jia Li, Zhiyun Ouyang and Xiaoke Wang
36	The Economic-Environmental Impacts of China’s Action Plan for Soil Pollution Control	Sustainability	SCI	Zhitao Li, Xiahui Wang, Jia Li, Wei Zhang, Ruiping Liu, Zhixiao Song, Guoxin Huang, Linglong Meng
37	Major ion and dissolved heavy metal geochemistry, distribution, and relationship in the overlying water of Dongting Lake, China	Environmental Geochemistry and Health	SCI	Yan Chen, Lingqing Wang, Tao Liang, Jun Xiao, Jing Li, Haicheng Wei,Linlin Dong
38	Spatio-temporal Distribution and Chemical Composition of PM _{2.5} in Changsha, China	Journal of Atmospheric Chemistry	SCI	Nan-Nan Zhang, Yang Guan, Lei Yu, Fang Ma, YiFan Li

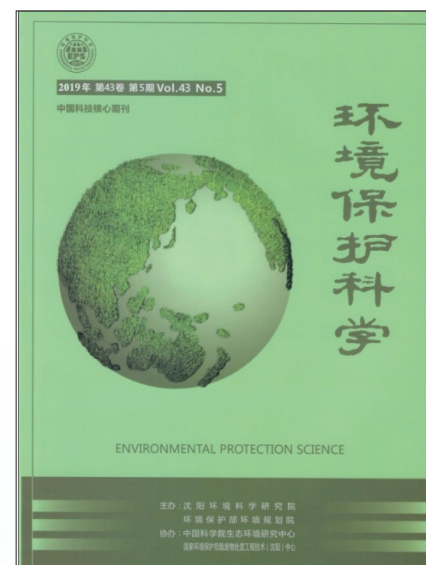
Academic Publications

Chinese Journal of Environmental Management is managed by Ministry of Ecology and Environment, and co-organized by CAEP. It is included in the Chinese SCI-tech Periodical Database, Chinese Periodical Full-text Database and Chinese Academic Journal Evaluation Database. (International standard serial number: ISSN1674—6252.)

Environmental Protection Science is hosted by CAEP. It is a core journal of Chinese science and technology, which is included in retrieval systems such as American Chemical Abstracts Database, Comprehensive Evaluation Database of Chinese Academic Journal and Chinese Science Citation Database. International standard serial number: ISSN1004—6216.



▲ Chinese Journal of Environmental Management



▲ Environmental Protection Science

Internal Publications

Chinese Reference for Environmental Decision-making is a policy advisory report put forward by the researchers of our Academy based on our special research on major environmental issues, environmental planning, and policy formulation. 19 issues were published in 2019 (275 in total).



- Study on the Implementation Evaluation of a Pilot Project for Clean Winter Heating in Northern China
- China's Economic and Ecological GDP Accounting Research Report 2017
- Construction and Application of China's Green Industry Prosperity Index (GIPI)
- Evaluation of the Impact of Clean Heating on Carbon Dioxide Emission in Winter in Hebi City
- Health Benefit Evaluation of the Implementation of the Air Pollution Prevention and Control Action Plan
- Investigation and Analysis on the Participation of Private Enterprises in Pollution Prevention and Control
- Challenges and Development Prospects for the Construction of China's Eco-environmental Think Tanks
- Evaluation of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories Revised in 2019
- 2017 Environmental Information Disclosure Assessment Report of Listed Companies
- The "Two Mountains" Transformation Evaluation Index System
- Fund Demand and Financing Analysis of Rural Environmental Governance from 2019 to 2020
- Research Report on the Accounting of the National Ecological Protection and Restoration Expenditure Account since the Reform and Opening Up
- Study on the Evaluation of Environmental Information Disclosure and Information Disclosure Technical Guidance among Listed Companies in the Real Estate Industry
- Thoughts on the Control of Atmospheric Mercury Emission in China
- Preliminary Study on the Basic Ideas of the National "14th Five-Year Plan" Rural Environmental Protection Planning
- Cost-effectiveness Pre-evaluation for the Implementation of the Three-year Action Plan to Win the Blue Sky Defense Battle
- Analysis of the Basic Ideas and Technical Points of the Regulation of Pollution Discharge Outlets of Rivers in China
- Analysis of the Government Work Reports of Provinces (Autonomous Regions and Municipalities) in China in 2019
- Evaluation Report on the Effectiveness of the Battle Against Pollution in 2018

The Chinese Environmental Policy Research Working Paper is a work report that we produce promoting international academic exchange based on the research results from international cooperation projects and the effectiveness of environmental policy formulation and implementation. 5 issues were published in 2019.

- Assessment of China's Human Health Loss Caused by PM_{2.5} in 2017 Based on Remote Sensing Inversion
- Progress Report on China's Green Finance Policy 2018
- China SDGs Indicators and Progress Assessment
- China's Environmental Protection Tax Policy Progress Report 2018
- The Development and Challenges of Ecological & Environmental Think Tank in China

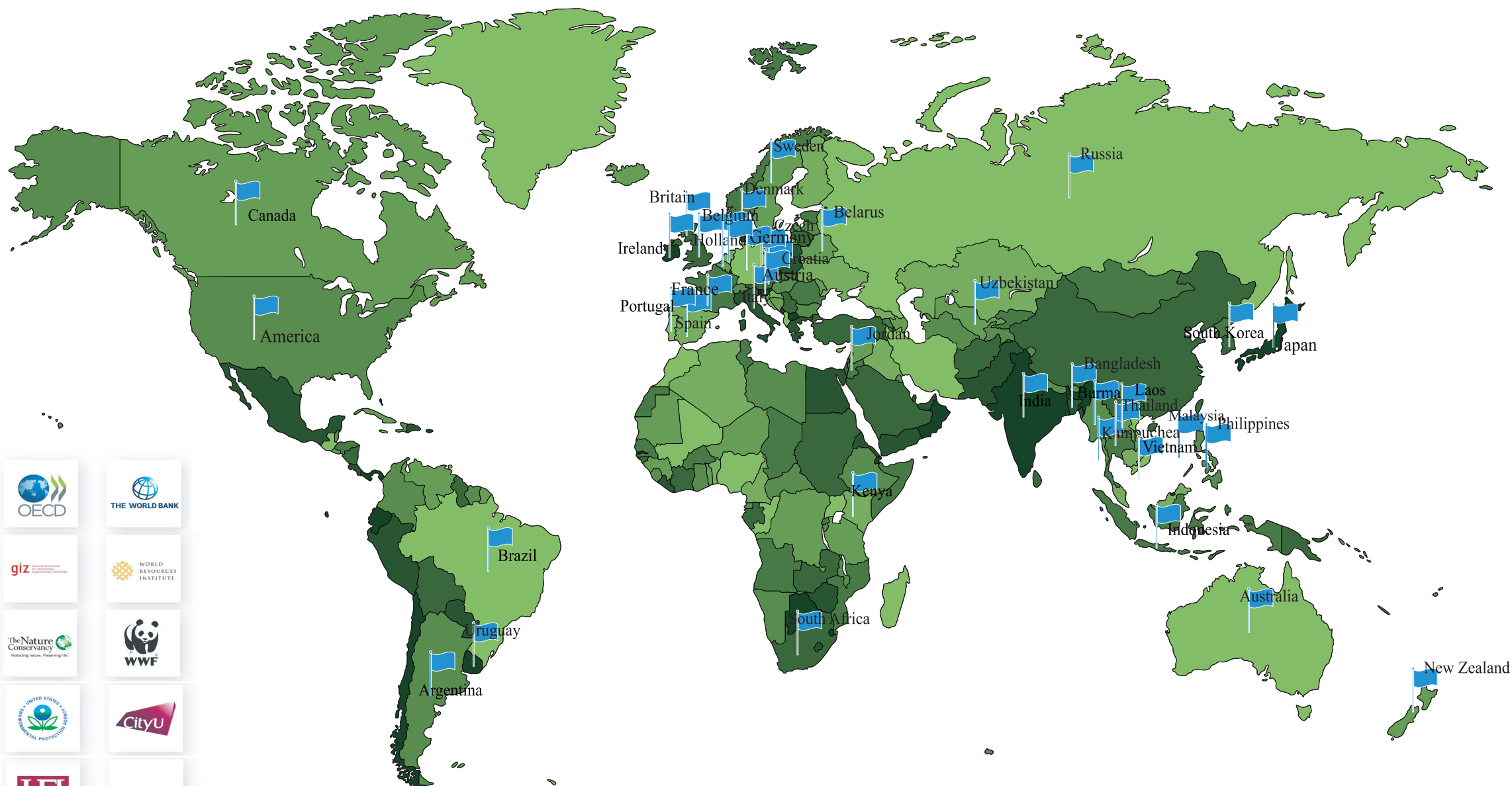


CAPACITY DEVELOPMENT

*How We Learn and Share?
We constantly exchange learning and share experiences.*

International Cooperation

In 2019, CAEP actively carried out foreign cooperation and exchange, set out 34 personnel in 19 scientific research groups to the United States, Japan, the United Kingdom, and other 8 countries for academic exchange and conference discussions. Furthermore, 32 leaders and experts from the Asian Development Bank, World Resources Institute, Swedish Academy of Environmental Sciences, and other institutions were invited to visit CAEP. CAEP has successfully held the national "14th Five-Year Plan" International Expert Consultation, attended the 8th East Asia Annual Conference on environment and resource economics, the 2019 Annual Conference on American geography and the Summit of Eco-Environmental Protection Technology, and undertaken 7 international cooperation projects.





▲ Elizabeth Peak, Minister Counsellor, Australian Embassy in China, visited CAEP



▲ Amy S. P. Leung, Director of East Asian Bureau, Asian Development Bank, visited CAEP



▲ Erik Solheim, Senior Advisor, World Resources Institute, visited CAEP



▲ Professor Robert Costanza, World-renowned Ecological Economist, visited CAEP



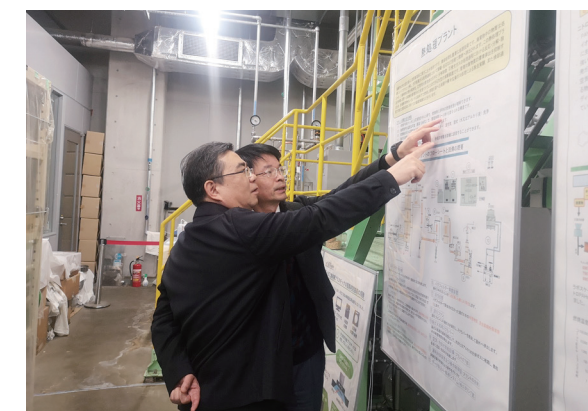
▲ Experts from Chinese Southern California Environmental Protection Association visited CAEP



▲ Osten Ekengren, Vice President of Swedish Environmental Research Institute, visited CAEP



▲ President Wang Jinnan attended the 18th World Clean Air Congress, Turkey



▲ Secretary Lu Jun participated the Technology Exchange in River Drainage Management and Watershed Pollution Prevention, Japan



▲ First Meeting of North-East Asia Clean Air Partnership Science and Policy Committee and Technical Centers, Korea



▲ The 6th Tripartite Policy Dialogue on Air Pollution, Japan



▲ Special Policy Study on Belt and Road Initiative, Pakistan & Sri Lanka



▲ Experience Exchange Meeting on China-EU Low-carbon City and Near Zero Carbon Emission Zones Development, Germany, Denmark, & Finland



▲ Feasibility Study on the China-Aided Project of Land Resources and Environmental Protection Planning, Laos



▲ Sino-Japanese Pollutant Synergy Research Demonstration Project, Japan



▲ International Network of Environmental Forensics (INEF) Conference, USA



▲ Technology Exchange Ecological Protection Management Policy, Japan



▲ Technology Exchange of Atmospheric Emission Inventory Model, Austria



▲ Experience Exchange on Air Technology Promotion and Permit Management, EU



▲ The Annual Meeting of the American Association of Geographers, USA



▲ The Summit of Eco-Environmental Protection Technology, UK



▲ Training on Emission Trading and Market Mechanism, USA



▲ Technology Exchange of Soil Environmental Management, Japan



▲ Visited the Environment Representative Office of United Nations in China



▲ Visited Beijing Representative Office, Environmental Defense Fund

Academic Activities

Academic Conference



▲ The Seminar on Eco-environmental Management and Land Space Planning



▲ The 4th China River Basin Water Quality Targets Fine Management and Xinan River Ecological Compensation Practice Seminar



▲ International Workshop on Valuation of Ecological & Environmental Resources and Policy Implication



▲ The 8th East Asia Annual Conference on environment and Resource Economics (Co-organized)



▲ The 2019 academic annual conference of environmental economics society of China Environmental Science Society



▲ The 2019 Annual Conference of the Climate Change Branch of the Chinese Society of Environmental Sciences



▲ The 8th International Seminar on Ecological Compensation (Co-organized)



▲ The summit on ecological environment planning and green development of Chinese Academy of Environmental Sciences



▲ The air pollution prevention seminars in Beijing-Tianjin-Hebei and surrounding areas and the Fenwei plain



▲ The seminar on the preparation of the 14th Five-Year Plan for the prevention and control of water pollution in the Yellow River Basin



▲ The 14th Five-Year atmospheric environment seminar



▲ The symposium on the calculation of emission from key heavy metal pollution prevention and control



▲ The 10th Forum on environmental risk and damage assessment



▲ Participation in the interpretation and seminar of ecological protection and high-quality development in the Yellow River Basin



▲ The National 14th Five-Year Green Finance and Tax Policy Reform and Innovation Seminar



▲ The 2019 national water source protection and basic information survey and exchange meeting at township level and below



▲ The kick-off meeting of national key R & D plan project "Research on Pollution Identification and Risk Management Control of Site Soil and Groundwater Based on Big Data"



▲ The launching of the national key R & D plan project "green sustainable remediation evaluation system and method for polluted sites"



▲ The seminar on the project results of establishment of cost-benefit analysis mechanism for environmental policy



▲ The seminar on coordinated management of ecological environment in Beijing-Tianjin-Hebei



▲ The seminar on regional emissions trading and regional and ecological compensation



▲ The seminar on performance management of environmental protection budget funds



▲ The seminar on technical methods of environmental economic situation analysis




▲ The summit forum on 40 years of ecological environment protection for in Shenzhen

◆ The Forum of China's Environmental Planning and Policy

The Forum of China's Environmental Planning and Policy is one of a series of academic activities CAEP carries out. By inviting well-known domestic and international experts in the environmental field to give special lectures, we aim to understand the scientific research progress in the field of environmental protection and promote academic exchange and cooperation. Presently, it has been held 103 times, with 27 events in 2019, and more than 30 domestic and foreign experts from Australian National University, Nagoya University, Taiwan University, Tsinghua University, Peking University, the Chinese Academy of Sciences, the China Academy of Financial Sciences, and the Alibaba Group have been invited to give lectures at our Academy, which has expanded the professional vision of our staff and increased academic exchange.


Number of Issues	Title	Reporter	Unit
Issue77	Introduction of Air Pollution Control Technology in China (I)	Zhu Tianle	Beihang University
Issue78	Remediation Technology for Polluted Sites and the Analysis of Engineering Cases	Ma Jun	Baohang Environmental Restoration Co., Ltd
Issue79	Issues Related to the Investigation of Sewage Outlets / Water Pollution Early Warning Traceability Technology and Instruments	Wu Jing	Development Research Center of Ministry of Water Resources / Tsinghua University
Issue 80	Basic Principles and Research Examples of Water Quality Remote Sensing / Operator's Big Data Application Practices and Cases / Research and Application of Natural Condition Interference Removal Methods in Environmental Monitoring Data---Taking Air Quality Monitoring Data as an Example	Li Yu / Qian Bing / Chen Songxi	Beijing University of Technology / China Telecom Research Institute Network AI Research Center / Peking University
Issue 81	Introduction to Air Pollution Control Technology in China (Part 2)	Zhu Tianle	Beihang University
Issue 82	Research on Atmospheric Pollution Transfer and Environmental Equity in Chinese Provincial Trade	Zhangwei	Chinese Academy of Environmental Planning
Issue 83	Principle, Equipment, and Application Cases of Heat Treatment Technology for Polluted Soil / Cross-provincial Effects of Atmospheric Mercury Emissions in China	Jiao Wentao / Liang sai	Ecological Center of the Chinese Academy of Sciences / Beijing Normal University
Issue 84	Investigation and control of heavy metal pollution in Taiwan	Zhang Zunguo	Department of Bioenvironmental System Engineering, National Taiwan University
Issue 85	Interpretation of Typical Cases of Land Greening and Ecological Restoration	Lu Zeyang	Survey and Design Institute of the State Forestry and Grassland Administration
Issue 86	Research on Post-treatment Technology of Diesel Engine Pollution Control Emissions in China	Wang Yanjun	Chinese Research Academy of Environmental Sciences

Number of Issues	Title	Reporter	Unit
Issue 87	Economics of Green Development and Sustainable Development Innovation	Xue Jinjun	School of Economics, University of Nagoya
Issue 88	Remediation Technology for Polluted Sites and the Analysis of Engineering Cases	Ma Jun	Baohang Environmental Restoration Co., Ltd
	Ecosystem Services Value Evaluation----Current Situation and Challenges	Robert Costanza	Australian National University
Issue 89	Land and Space Remediation Principles and Engineering Practice	Jiang Guanghui	School of Resources, Beijing Normal University
Issue 90	Cost-Effectiveness Study of the Impact of China's Environmental Tax on Air Quality	Shi Guangming	Hunan Academy of Environmental Protection Sciences
Issue 91	IPCC Special Report on Climate Change and Land	Jia Gensuo	Key Laboratory of Climate Environment at the East Asia of Chinese Academy of Sciences
Issue 92	China's Ecological Compensation Policy and Practice	Jin Leshan	China Agricultural University
Issue 93	Application of Urban Brain Intelligence Technology in Ecological Environment Governance	Liu Song	Vice President of Alibaba Group
Issue 94	Tracing the Source of Nitrogen Pollution in the Environment by the Nitrogen and Oxygen Double Isotope Technique	Li Yuliang	Chang'an University
Issue 95	Academic Standard and Contribution Demand of Ecological Economy Journal	Feng Shengjun	Journal of Ecological Economy
Issue 96	Thinking on the Legalization of the Ecological Compensation System	Du Qun	Beihang University
Issue 97	Technology and Practice of Rural Domestic Sewage Treatment	Hang Shijun	Beijing Municipal Engineering Design and Research Institute
Issue 98	New Developments in Ecological Environment Monitoring from the Perspective of Reform	Chen Chuanzhong	China Environmental Monitoring Station Monitoring Business Management Office
Issue 99	Quantitative Inversion of Fine Particle Composition Based on Multidimensional Information	Geng Guannan	School of Environment, Tsinghua University
Issue 100	Fiscal Expenditure and Investment and Financing Modes of Ecological Environment Protection	Zhao Quanhou	China Academy of Financial Sciences
Issue 101	Promoting Ecological Protection and Environmental Governance by Means of Political and Credit Finance	Chen Go	Political and Credit Research Institute of Central University of Finance and Economics
Issue 102	Coping Strategies for Several Issues of Intellectual Property Protection in Scientific Research	Gao Donghui	Beijing Sanju Intellectual Property Agency Co., Ltd
Issue103	Study on the Joint Prevention and Control System and Management Technology System in the Area of Air Pollution	Du Huibin	Tianjin University



生态系统服务价值评估 —现状与挑战

讲座人: Robert Costanza
主题: 生态系统服务价值评估—现状与挑战
时间: 8月2日 17:00
地点: 北科创业大厦711会议室



Costanza教授简介:

Costanza教授是世界著名生态经济学家。现就职于澳大利亚国立大学克劳福德公共管理学院。他于1979年获得佛罗里达大学系统生态学博士学位,自1984年起先后在马里兰大学,波特兰州立大学,佛蒙特大学从事教学和研究工作。

Costanza教授同时还是生态系统服务伙伴关系,生态经济学国际社会,罗马俱乐部等13个国际学术团体的创始人或兼职成员。IHOPE, AIMES, GAIM等42个国际学术委员会成员,15个政府机构顾问委员会成员等。先后担任32个国际期刊主编、副主编或编委。获得过包括英国皇家艺术学院RSA Elected-fellow等11项国际荣誉和奖项。

Costanza教授在生态学,生态经济学,可持续发展领域共发表论文264篇,编辑图书27部,出版专著11本。2001-2018连续18年获得Web of Science“高引用学者”称号,SCOPUS引用数>35000, Research Gate引用数>62000, Google Scholar引用数>94000,在生态经济学领域具有极高影响力。

绿色发展经济学与可持续发展创新

主讲人: 名古屋大学 藤泽孝教授
时间: 7月24日上午9:00-11:00
地点: 鸿特亿家610会议室

中国环境规划与政策论坛 (第九十一期)

主讲人: 贾明锐 研究员
时间: 2019年9月3日下午14点
地点: 鸿特亿家610会议室

中国环境规划与政策论坛 (第九十七期)

主讲人: 魏世雄 教授级高工
时间: 2019年11月14日(周四) 14:30-16:30
地点: 中国环境院2号楼南段319会议室
主办单位: 生态环境规划中心



The Youth Academic Salon

The Youth Academic Salon is a youth academic lecture organized by the Youth League Committee of CAEP, and it mainly invites the youth business backbones in each department of CAEP to give special lectures that integrate their project research, aiming to provide a platform for the young people at CAEP to learn and exchange with each other. Six lectures were held in 2019.

- ◆ Issue 1: Conducting communication and seminars for the three key battles of blue-sky defense, Yangtze River protection and restoration, and agricultural and rural pollution control ——Dr. Feng Yueyi, Dr. Xu Yanxue, Dr. Zhang Xiaoqian
- ◆ Issue 2: Study on the accounting system for the ecological environment (green GDP) in the Yanqing District of Beijing——Dr. Mou Xuejie
- ◆ Issue 3: Analysis of the air quality characteristics and the gaps in reaching the standard in the Fenwei plain——Dr. Dong Yuanzhou
- ◆ Issue 4: Impact analysis of short-term atmospheric control measures based on high-resolution inventory——Dr. Qi Ji
- ◆ Issue 5: Organization, implementation, and experience in the investigation and assessment of large and complex polluted sites——Dr. Peng Xiaohong
- ◆ Issue 6: Exploring the system of ecological compensation with Chinese characteristics——Senior Fellow Liu Guihuan



Providing environmental science and technology support services for local governments is an important task of CAEP. Up to now, CAEP has provided environmental support services for nearly 200 cities. In 2019, CAEP actively provided more than 200 consulting services to local governments in the fields of "Two Mountains" demonstration area construction, beautiful city, overall environmental planning, special line planning, compilation of the "Three Base Lines and One List" framework, ecosystem value service accounting, environmental risk assessment, and pollution source surveying, among others.



South China Sea Island

Strategic Cooperation

In 2019, CAEP signed strategic cooperation agreements with local governments and units including the Gansu Provincial Department of Ecological Environment, the Guigang Municipal People's Government, the Suzhou Municipal People's Government, the Beijing Institute of Science and Technology, the China Pacific Property Insurance Company, among others. We also signed a Memorandum of Understanding with the World Resources Institute.



▲ Signing the Memorandum of Understanding with the World Resources Institute



▲ Signing the Strategic Cooperation Agreement with Gansu Provincial Department of Ecological Environment



▲ Signing the Strategic Cooperation Agreement with Suzhou Municipal People's Government



▲ Signing the Strategic Cooperation Agreement with Guigang Municipal People's Government



▲ Signing the Strategic Cooperation Agreement with the Beijing Institute of Science and Technology

Culture Construction



▲ Inspection and feedback meeting of the Party group of MEE



▲ Secretary Lu Jun lectured on thematic education special party courses



▲ President Wang Jinnan made a special exchange on the spirit of scientists



▲ Summary meeting of the Institute theme education



▲ Warning education course on anti-corruption



▲ The song *My Motherland and Me*



▲ Political birthday of Party members



▲ A visit to the 70 year achievement exhibition of the Republic of China



▲ A visit to the World Horticultural Exposition



▲ A visit to "Expo 2019"



▲ Training of new employees in 2019



▲ The holding of the painting activity with the theme of "Women's Dream in Keeping Water Clean and Mountains Green"



▲ The holding of the theme activity of Beautiful Home, Happy Environmental Protection



▲ The holding of tug of war



▲ The holding of shuttlecock competition



▲ The badminton team of CAEP advanced to the top eight during the badminton games



▲ The fifth Green Cup Basketball Match



▲ Walking activity once a month



▲ The holding of basketball events



▲ The New Spring Tea Party of 2019