



建设绿色技术银行 推进绿色技术与金融的深度融合

Establish the Green Technology Bank,
To Promote the Deep Integration of Green Technology
with Finance

上海科学技术交流中心

Shanghai Science and Technology Exchange Center

绿色技术银行管理中心

Green Technology Bank Management Center

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关于绿色技术银行

About Green Technology Bank.



2030年可持续发展目标

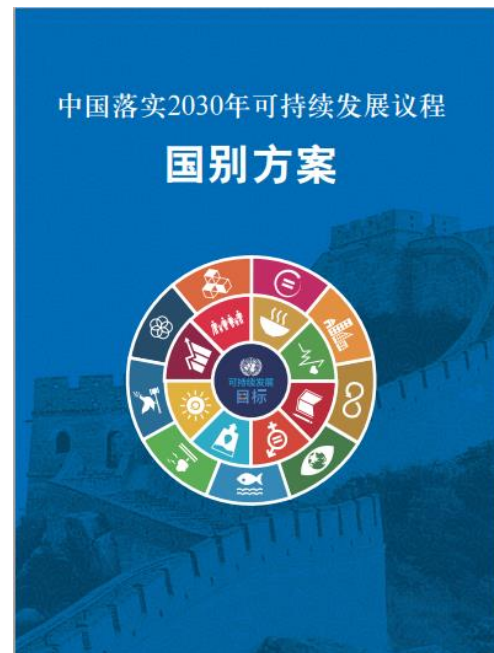
2030 Sustainable Development Goal

——Technology Bank

《中国落实2030年可持续发展议程国别方案》

China's National Plan on Implementation of the 2030 Agenda for Sustainable Development

——技术银行：开发、转让、传播和推广环境友好型的技术
Technology Bank: to Develop, Transfer, Disseminate and Promote Environment-friendly Technologies



国家科技部作为牵头部门，把建设“绿色技术银行”纳入《“十三五”国家社会发展科技创新规划》、《关于构建市场导向的绿色技术创新体系的指导意见》

As the leading department, the Ministry of Science and Technology of the People's Republic of China has incorporated the construction of Green Technology Bank" into the "13th Five-Year" National Science and Technology Innovation Planning and Guiding Opinions on Building a Market-oriented Green Technology Innovation System.

2. 以绿色技术银行等为载体，促进成果推广应用。

积极推动“绿色技术银行”在落实创新驱动发展战略、破解科技成果转化难题中发挥创新性、前瞻性的重要作用，加强科技与金融资本等要素的融合，加快科技成果转化，促进科技与经济的紧密结合。通过建设“绿色技术银行”，建立基于“信息平台”、“转化平台”和“金融平台”的科技成果转化机制，着力发挥“绿色技术银行”在落实联合国2030年可持续发展议程中的引领作用，促进国内先进技术向国外转移，以技术“走出去”支撑科技强国建设。努力发展“绿色技术银行”在资源节约、环境友好、安全高效、生命健康等可持续发展重点领域的支撑作用，转化应用一批适用技术。

坚持“绿色技术银行”国际化、市场化、专业化的发展方向，集聚全球技术、资本、人才、管理等要素，打造“一站式”创新服务平台，提高绿色技术服务市场化水平以及国际竞争力，积极推进生物医药、生物制造、生物能源等重点领域的先进适宜技术在我国及其他发展中国家的转化应用，为共同实现可持续发展提供支撑，最终形成面向全球的技术交易平台。



2016年9月，科技部与上海市人民政府部市专题会商， 绿色技术银行在上海先行先试。

In September 2016, the Ministry of Science and Technology held a special consultation with Shanghai Municipal People's Government, and decided that shanghai will take the lead in the reform practice of Green Technology Bank.



2017年12月，领导小组第一次会议召开，绿色技术银 行正式运行。

In December 2017, the first meeting of the leading group was held and the Green Technology Bank was officially launched.

绿色的技术的银行

Bank of Green Technology



汇聚先进实用绿色技术，强化科技与金融结合的综合性服务平台

Converge advanced and practical green technologies to strengthen the comprehensive service platform integrating science and technology with finance



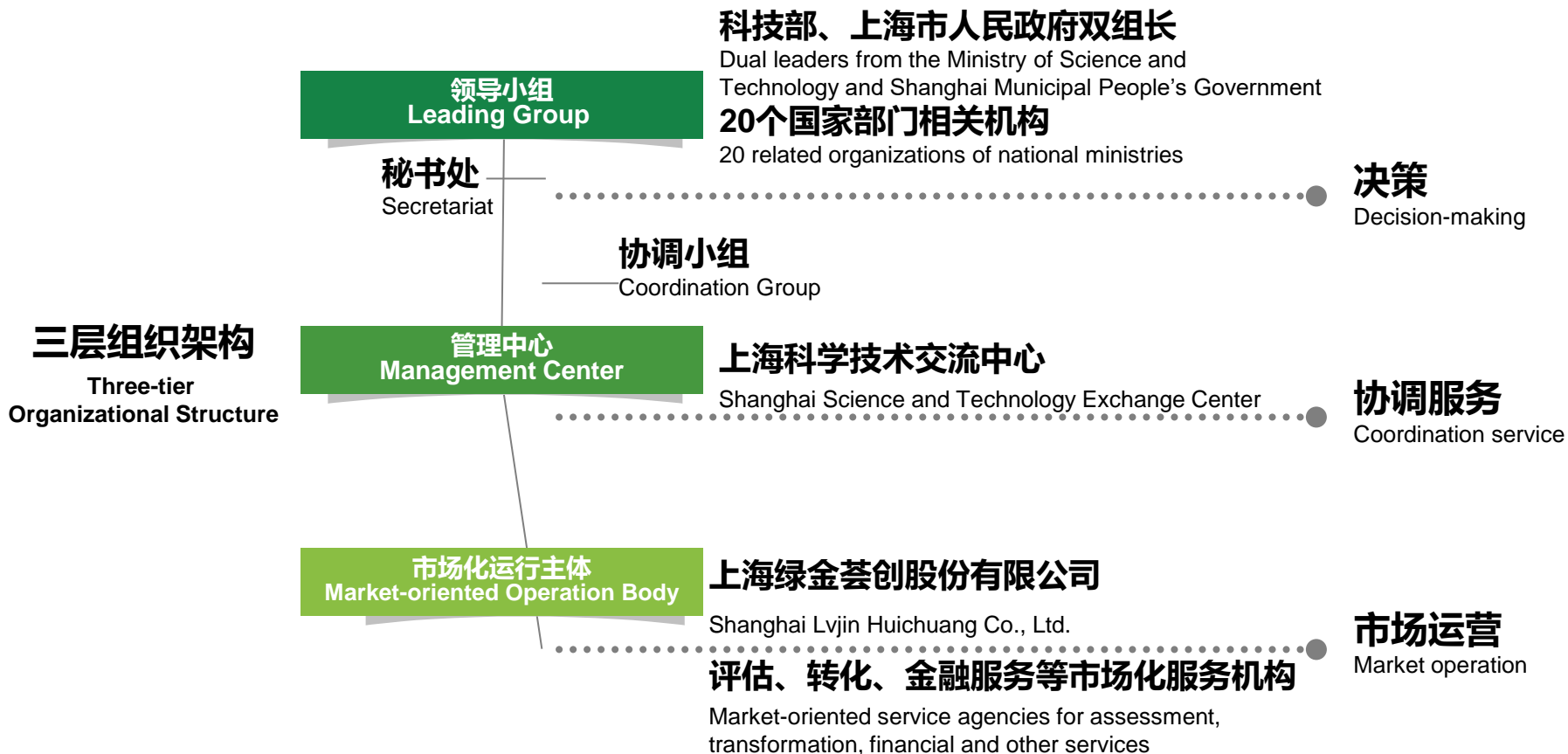
提供绿色发展领域“技术+人才+资金”的系统性解决方案

Provide systematic solutions for “technology + talent + capital” in the field of green development



可复制、可推广的绿色技术创新与发展的经验模式

Adopt an empirical model for green technology innovation and development that can be replicated and promoted





/02

绿色技术面临的金融问题

Financial problems of green technology

绿色技术发展中
面临的问题
Problems in the
Development of Green
Technology



高度依赖政府引导和支持
Highly dependent on government guidance
and support



- 市场缺乏创新动力
Weak driving force of innovation from market

- 没有形成分类和评价标准的共识
No consensus reached on classification and evaluation criteria

- 尚未形成完善的绿色技术创新的服务体系
No perfect service system of green technological innovation
- 环境问题的外部性和市场机制不成熟，导致缺乏内生动力
Externalization of environmental issues and immaturity of market mechanisms, resulting in a shortage of endogenous motivation

- 新技术投资风险不稳定
Risk of instability of new technology investments
- 新技术缺少成熟的盈利模式，市场资金难以自发流入
The new technology lacks a mature profit model, and it is difficult for market funds to flow spontaneously.
- 目前的投融资体制下，中小企业面临比较严峻的融资约束，严重限制了中小企业创新激情
Under the current investment and financing system, SMEs face relatively severe financing constraints, which seriously limits the innovation passion of SMEs

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/03

解决方案与进展

Solutions and Progress

解决方案与进展

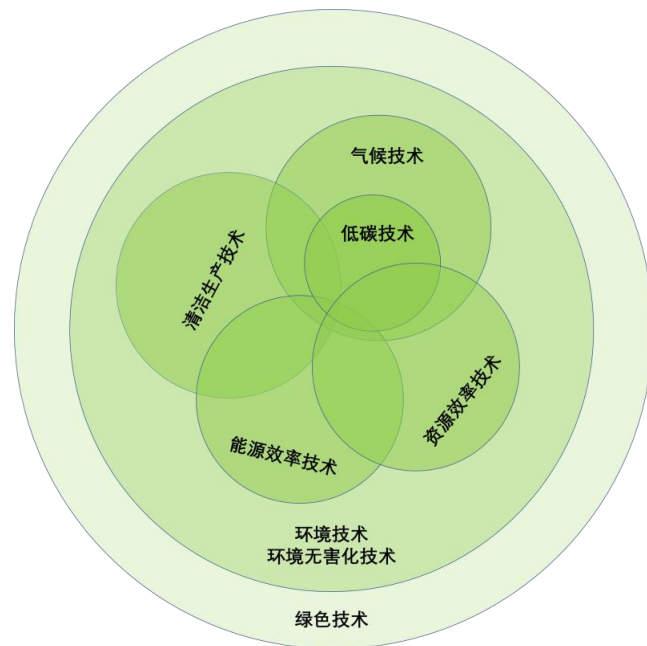
Solutions and Progress

- 01 | **辨析绿色技术定义**
Defining of green technology
- 02 | **绿色技术的分类和评价**
Classification and evaluation of green technology
- 03 | **平台建设**
platform construction
- 04 | **面向重点区域提供综合解决方案**
Provide integrated solutions to key areas
- 05 | **布局重点项目**
Lay out major projects

01 辨析绿色技术定义

Differentiate and analyze the definition of green technology

- **绿色技术定义与内涵：**针对绿色技术概念界定模糊的问题，开展了绿色技术相关定义的辨析研究，将绿色技术定义为：以促进人与自然和谐发展以及实现区域可持续发展为目标，能够提高资源能源利用效率，避免、消除或减轻污染的动态技术系统，包括工艺流程、产品设备和技术服务等。
- **Definition and connotation of green technology:** aiming at the vague definition of the concept of green technology, we have carried out research on the definition of green technology, and defined green technology as: **the dynamic technology system that is designed to promote the harmonious development of people and nature and achieve regional sustainable development, to improve the resources and energy utilization efficiency, and avoid, eliminate or mitigate pollution, including process flows, product equipment, and technical services.**



清洁生产技术	Clean production technology
气候技术	Climate technology
资源效率技术	Resource efficiency technology
能源效率技术	Energy efficiency technology
低碳技术	Low carbon technology
环境技术	Environmental technology
环境无害化技术	Environmentally sound technology
绿色技术	Green technology

02 绿色技术的分类和评价

Classification and Evaluation of Green Technology

- **构建了三级绿色技术分类体系**：共设 5 个一级指标（**环境质量、资源利用、能源利用、生命健康、生态安全**）、25 个二级指标、84 个三级指标。

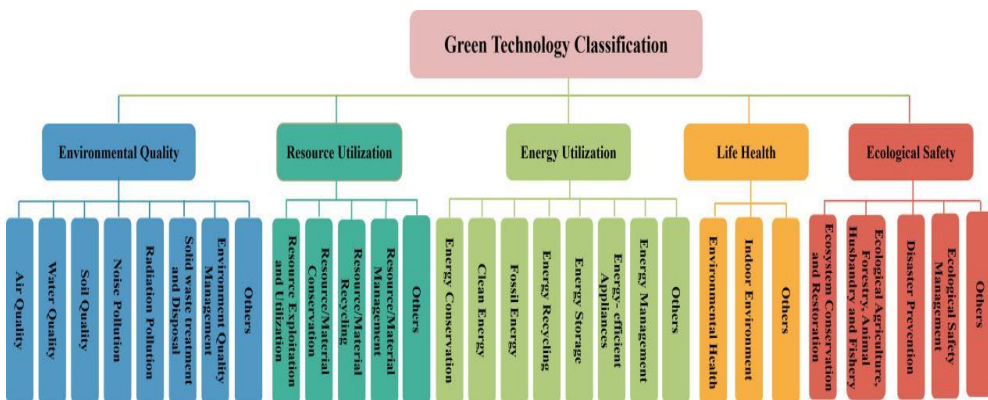
A three-level green technology classification system was established: five first-level indicators (environmental quality, resource utilization, energy utilization, life health, and ecological safety), 25 second-level indicators, and 84 third-level indicators.

- **形成了绿色技术评价方法**，从**技术水平、行业市场及前景、政策、知识产权、团队信息等5个维度**，由评估机构、技术专家、技术需求方、金融机构、管理中心代表联席评估。

Form the green technology evaluation method from five perspectives, namely, the technical level, industry market and prospects, policies, intellectual property and team information, which is jointly assessed by evaluation agencies, technical experts, technology demanders, financial institutions, and management center representatives.

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绿色技术银行企业标准



绿色技术评价导则

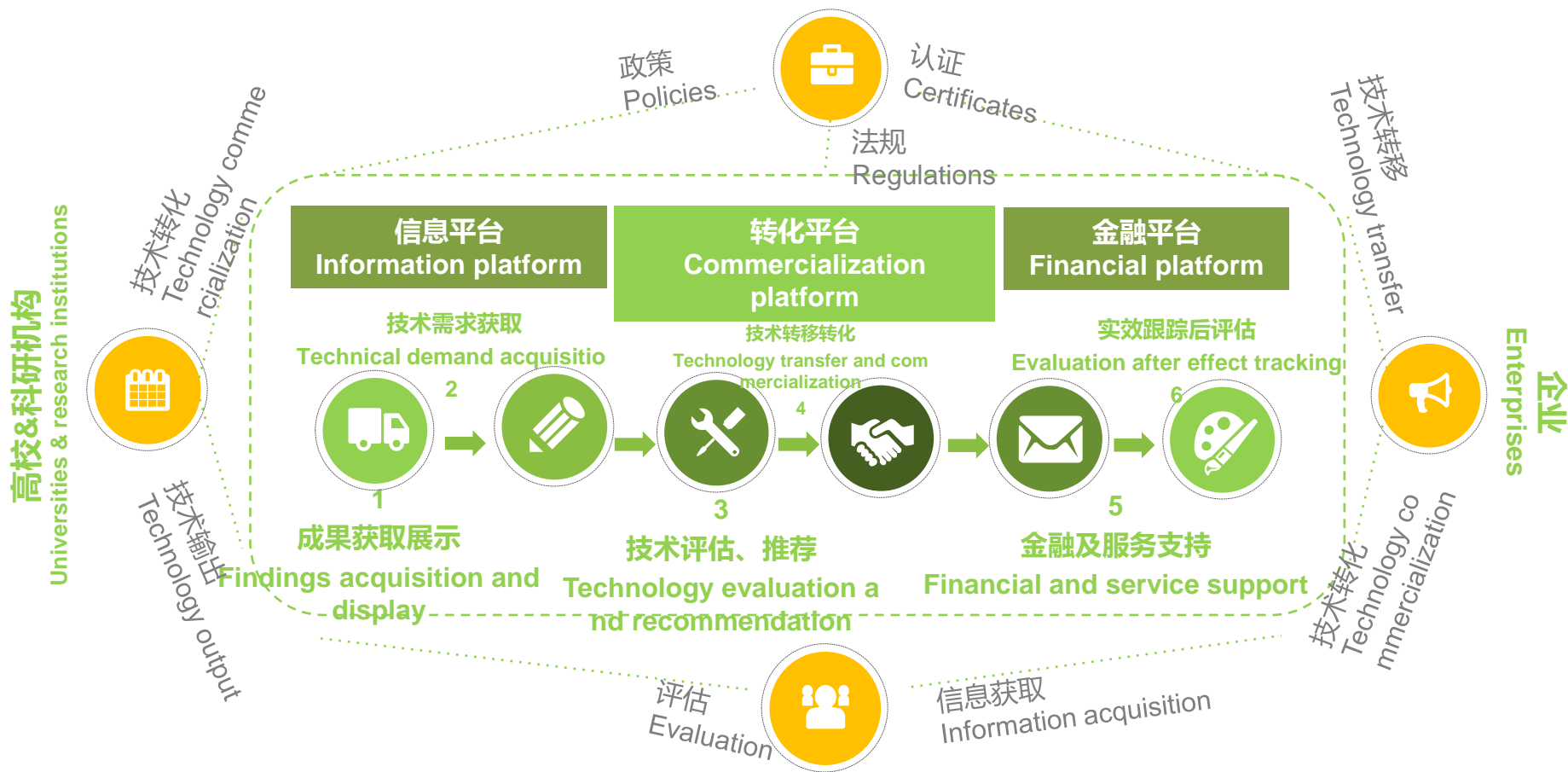
Green Technology Evaluation Guideline

（征求意见稿）

***** 发布

***** 实施

绿色技术银行 发布



■ 实现项目的收储、筛选、集成、检索匹配

realize the storage, screening, integration, and retrieval matching of warehoused items

■ 制定绿色技术标准体系，实现分级分类管理

Develop a green technology standard system to achieve hierarchical and classified management

■ 入库项目7367项，形成16项成套技术解决方案

7,367 warehoused items, forming 16 sets of technical solutions



- 实现绿色技术评估、知识产权管理、技术转移转化、政策法律咨询等服务支撑；

Realize the service support such as green technology assessment, intellectual property management, technology transfer and commercialization, and consultation on policies, laws and regulations;

- 集聚专业服务机构：与近40家技术转移机构建立紧密合作关系，实现30余项绿色技术成功转移转化，合同金额超过1亿元。

Be concentrated with professional service organizations: establish close cooperation relationship with nearly 40 technology transfer organizations, achieve the successful transfer and commercialization of more than 30 green technologies, with the contract value of more than CNY 100 million.



浦江国际金融广场
(绿色技术银行总部所在地)
Pujiang International Financial Plaza
(Location of Green Technology Bank
Headquarters)

■ 设立**35亿元**绿色技术成果转化基金

Established a CNY 3.5 billion green technology achievement commercialization fund



■ 成立绿色技术金融协同创新联盟，集聚工商银行总行等30余家核心金融机构。

Established the Green Technology Finance Collaborative Innovation Alliance, which has gathered more than 30 core financial institutions including ICBC Head Office.

■ 对接上海中小微企业政策性融资担保基金，推出绿色技术贷款担保服务产品。

Connected to Shanghai Small and Medium Enterprises' Policy Financing Guarantee Fund and launched green technology loan guarantee service products.

04 面向重点区域提供综合解决方案

Provide Integrated Solutions to Key Areas

——国家2030可持续发展议程创新示范区

National Innovation Demonstration Zone of the 2030 Agenda for Sustainable Development



2018年，国务院批复了太原、桂林、深圳3个2030国家可持续发展议程创新示范区。作为2030国别方案中由科技部牵头的2项工作，绿色技术银行与可持续发展议程示范区从筹建起就展开了紧密合作。

In 2018, the State Council approved three national innovation demonstration zones of the 2030 Agenda for Sustainable Development in Taiyuan, Guilin and Shenzhen. As part of the 2030 country program led by the Ministry of Science and Technology, the Green Technology Bank and the Demonstration Zone of Agenda for Sustainable Development have been working closely together since establishment.

在科技部的指导下，与太原市政府签订了战略合作协议，为太原可持续发展议程示范区提供优水优用、矿区修复等一揽子解决方案，促成了黑臭水体治理等示范项目的落地。

Under the guidance of the Ministry of Science and Technology, we signed a strategic cooperation agreement with Taiyuan Municipal People's Government to provide a package solution for superior water use and mine rehabilitation for Taiyuan Demonstration Zone of Agenda for Sustainable Development, which facilitated the implementation of demonstration projects including black and odorous water treatment.

04 面向重点区域提供综合解决方案

Provide Integrated Solutions to Key Areas

——一带一路沿线国家

“The Belt and Road” countries



在菲律宾，推广**高真空软土硬化技术**，用于拉古纳湖的清污治理，该项目由菲律宾总统杜特尔特见证，在2018举办的博鳌论坛上进行签约。

In the Philippines, the high-vacuum soft soil hardening technology was promoted for the decontamination of Laguna Lake, which was signed at the Boao Forum 2018 under the witness by Philippine President Duterte.

在中亚地区，对接哈萨克斯坦、土库曼斯坦等国，推广**地热分布式供能系统技术方案**。

In Central Asia, technical solutions for geothermal distributed energy supply systems were promoted in Kazakhstan, Turkmenistan and other countries.

在荷兰，推广**绿色环保包装材料整体技术方案**。

In the Netherlands, the overall technical solutions for green packaging materials were promoted.



■ 面向企业提供绿色投融资服务

Provide green investment and financing services for enterprises

深远海域海上风电项目：由上海绿色技术创业投资基金投资3.5亿，带动社会资本4.5亿元，形成共8亿元资金规模，推动智慧型海上风电开发和能源结构调整。

Offshore wind power projects: attracted a total funds of CNY 700 million, including CNY 350 million from Shanghai Green Technology Venture Capital Fund and a consequent social capital of CNY 350 million, and promoted smart offshore wind power development and energy structure adjustment.

■ 引入第三方融资机构，布局数据中心节能技术集成与示范项目

Introduce third-party financing institutions to deploy the energy-saving technology integration and demonstration projects of the Internet Data Center

现状:

Status quo:

1. 数据中心（IDC）建设年均增长超过30%，总能耗五年翻一番，能源成本高达50-60%

Internet Data Center (IDC) construction has grown at an average annual rate of more than 30%, with the total energy consumption doubled every five years, and an energy cost of 50-60%.

2. 中国数据中心平均电源使用效率（PUE）小于2.2（美国小于1.9，国际先进水平小于1.1）

The average PUE of China's data centers is less than 2.2 (less than 1.9 in the US, and less than 1.1 as the internationally advanced level)



目标:

Targets:

1. 技术指标：新建PUE值严格控制在1.3以下，改建互联网数据中心PUE值严格控制在1.4以下；
Technical indicators: Strictly control the PUE value of newly-built centers below 1.3, and the PUE value of the rebuilt Internet Data Center below 1.4;

2. 金融模式：通过股权投资、设备供应方融资，以及融资租赁等融资模式实现项目资本运作，有条件地推出担保特色产品，实现投贷保联动。
Financial model: realize project capital operation and conditionally launch special guaranteed products to achieve linkage between investment and loan guarantee through the financing modes such as equity investment, equipment supplier financing, and financial leasing.

■ 政、银、企三方合作，布局绿色技术领域的金融服务和风险防控项目

Cooperation between the government, bank and enterprises to arrange financial services and risk prevention and control projects in the field of green technology

现状:

Status quo:

绿色技术前期投资金额大、回报周期长、风险不稳定

In the early stage, the green technology features a large amount of investment, long ROI cycle, and unstable risks



目标:

Targets:

1.构建绿色技术领域投贷联动的信贷管理制度、审批流程和差异化担保服务系统;

Construct the credit management system, approval process and differentiated guarantee service system for investment and loan linkage in the green technology field;

2.构建高维深度信息挖掘的风险测度模型和动态监测预警模型，挖掘与对接金融产业支撑绿色技术供应链中的各类风险数据，建立风险防控系统。

Construct the risk measurement model and dynamic monitoring and early warning model for high-dimensional in-depth information mining, explore and link the financial industry to support various types of risk data in the green technology supply chain, and establish the risk prevention and control system.

- 若有合作意向，可以向本国政府外交部、科技部等部门提出申请;与我国外交部或科技部联系具体事宜;

Those who have intentions to cooperate can apply to the Ministry of Foreign Affairs, the Ministry of Science and Technology et al. of your local government, and can contact the Ministry of Foreign Affairs or the Ministry of Science and Technology of China for specific affairs;

- 合作模式：成套技术的转移转化，技术产业化资金贷款，PPP或其他合作模式;

Cooperation mode: transfer and commercialization of complete sets of technology, technology industrialization fund loans, PPP or other cooperation modes;

- 联系方式

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Thanks

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