CHINA EUROPE Water Platform



# Opportunities of China-Europe Scientific & Technological Cooperation and Latest Progress of the Flagship Project for Water

# 中欧科技合作机会及水利旗舰项目的准备进展

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# 1. Key Points of Water Science and Technology Innovation during the 14th Five-Year Plan Period in China

# 十四五期间的科技创新要点

Facing the forefront of world's science and technology

面向世界科技前沿

Facing the main economic activities

面向经济主战场

**Strategic Directions**

**战略方向**

Facing the major needs of the country

面向国家重大需求

Facing the people's lives and health

面向人民生命健康

**MWR-水利**

- Microstructural water水的微观性质研究
- Green development, coordinated urban and rural development 绿色发展、城乡协调发展
- Smart water grid and system development, new energy水网建设、系统开发，新能源
- Special pollutant treatment of rural drinking water农村饮水，特殊污染物的处理等

**MOST-科技**

**Play a strategic support role, especially in solving outstanding development issues.**

**发挥科技创新的战略支撑作用， 解决经济社会发展的重大科技问题。**

✓ To issue a 14th 5-Year SciTech innovation Plan.

发布“十四五”科技创新规划

✓ To strengthen enterprises-driven innovation.

强化企业技术创新主体地位

✓To accelerate the research and application of high-tech.

加快高新技术研发应用

✓To vigorously develop sci&tech for agriculture and people's livelihood, to ensure the health and well-being of people.

发展农业和民生科技，保障人民生命健康和民生福祉

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# Sci&Tech Demands of Water Sector in New era of China
# 新时期中国治水科技需求

## 3. Healthy ecosystem生态改善需求

Aquatic biodiversity, habitat, soil erosion control, wetland conservation, eco-friendly water infrastructure

## 2.Better quality品质提升需求

High-quality water, a livable water environment, national cultural parks

## 5. Integrated governance统筹治理需求

Treating mountains, rivers, lakes, forests, grassland, and farmland as a community of shared life, systemic and integrated technology innovation, water eco- environment and water culture, etc.

## 4. Intelligent sensing and monitoring智能监控需求

Intelligent sensing in hydro-meteorology and engineering safety, smart analysis for flood peak warning and water resources, intelligent operation of gates and dams, etc.

## 1.Higher Security安全保障需求

of Excessive floods, flash floods, urban inundation, water supply in city clusters, food-energy nexus, construction and operation of rural water supply, etc

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# 2. Recent Progress of China-Europe Scientific and Technological Innovation Cooperation between MOST and EU Research and Innovation

# 中欧科技创新合作的最近进展

- In the field of international cooperation of scientific and technological innovation

  在国际科技创新合作方面

- **A more open, inclusive and mutually beneficial strategy**
  **要实施更加开放包容、互惠共享的国际科技合作战略**

**A deep, high-quality cooperation**
**有效提升科技创新合作的层次和水平**

- ✓ Multilevel and broad scope cooperation with countries innovative excellence
  加强与世界主要创新国家的多层次、广领域科技交流合作
- ✓ Active participation in multilateral S&T cooperation
  积极参与构建多边科技合作机制

**A global-oriented scientific research fund**
**设立面向全球的科学研究基金**

- ✓ Facilitate the launching of major international big science programs and projects
  加快启动国际大科学计划和大科学工程
- ✓ Encourage the joint research through international partnership
  鼓励支持各国科学家共同开展研究

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# Shared concept of development
# Willingness of cooperation
# Great potential for partnership
# 中欧双方发展理念契合，有合作意愿，合作潜力大

- A roadmap for China-Europe Scientific and Technological Innovation Cooperation under negotiation

  中国科技部仍然将继续与欧盟科技与创新总司协商推进制定中欧科技创新合作路线图

- Purpose of the roadmap: explore the linkage between the China’ s 14th Five-Year scientific research Plan with the Horizon Europe, and enhance the multi-beneficial interests between China and EU.

  将我国十四五期间的科研规划与地平线欧洲计划紧密对接，加强统筹协调，推进互惠互利

- Unfortunately, the progress of negotiation is hampered by Covid-19.

  受疫情影响，双方磋商进度滞后，有缓慢进展

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Confirmed by the MOST of China
中国科技部表示

- Water environment and water ecology are areas of priority support by MOST.
  在国内，水环境和水生态是科技部支持的重点领域

- Ready to incorporate the water sector into the priority areas under the framework of China-Europe Scientific and Technological Cooperation protocol.
  同意力推水科学成为中欧科技合作优先领域

- To launch the flagship project for water as soon as consensus achieved between China and EU，considering superior concepts and practices in water sector.
  考虑到欧方在水行业优势，一旦中欧双方达成一致，可进一步商议支持水利部申报中欧水利科技旗舰项目

- Besides the China-Europe mechanism, MOST of China has established many active bilateral mechanisms with Germany, Netherlands, Sweden, Denmark, Portugal and Finland to support cooperation in the field of water and environment
  中国科技部与德国、荷兰、瑞典、丹麦、葡萄牙、芬兰等国建有双边科技合作机制，对水和环境领域予以支持

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# 3. Preparation for Water Flagship Project on Chinese Side

# 中欧水利科技旗舰项目申报的准备情况

Revision修改

Focusing聚焦

Confirmation确认

**Opinions collection**
**书面征集意见**

**Expert consultation**
**召开专家咨询会**

**Report to the MOST**
**向科技部汇报进展**

More than a dozen of Chinese Research Partners
十几家中方科研伙伴

Supported by 8~9 top water experts from IWHR
上十位业内专家

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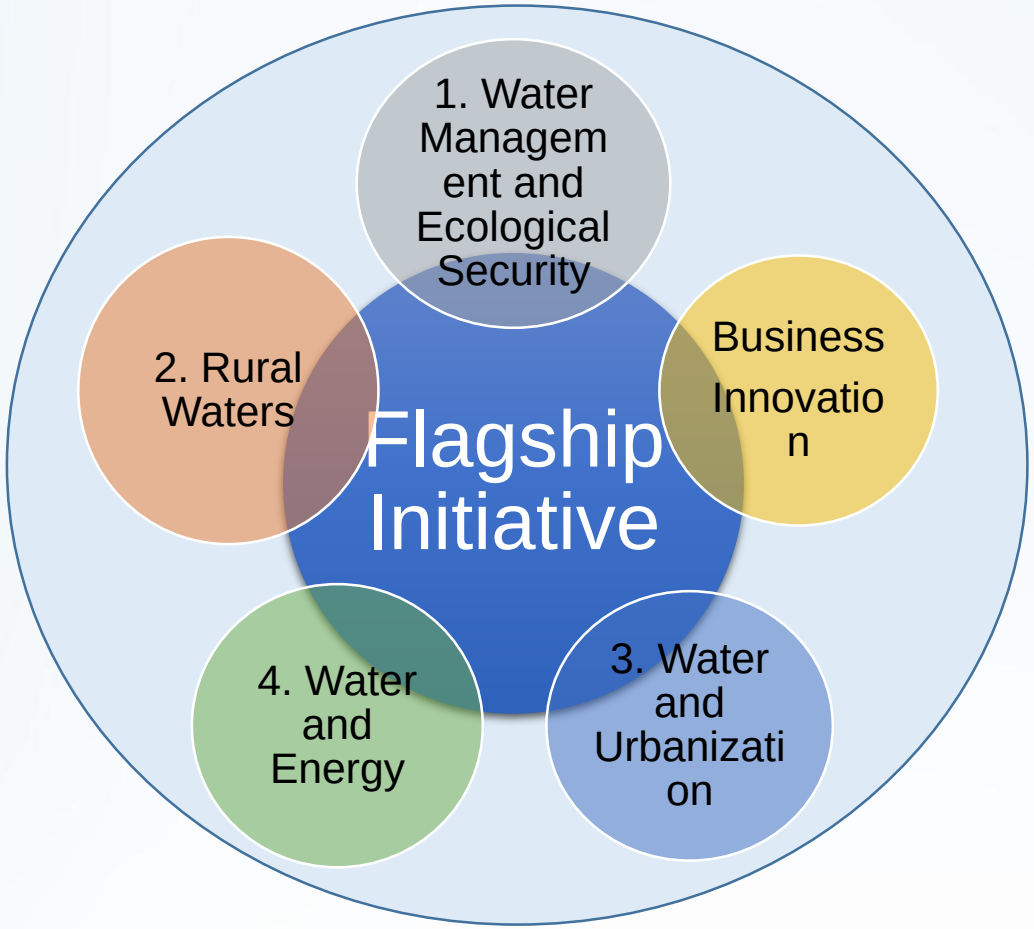


Topic I: Basin Ecological Integrity in Water Scarce Areas

题目一：水资源短缺地区流域生态安全

Topic II: Impacts of Climate Change on Food Production and Agricultural Water Supply Guarantee and Adaptation Strategy

题目二：气候变化对粮食生产和农村供水保障的影响以及应对策略

Topic III: Integrated Management of Urban Water Systems for Sustainable Development and Climate Adaptability

题目三：可持续发展和气候适应性城市水系统综合管理

Topic IV: Sustainable Hydropower Development and Operation under the context of Transition to Low-carbon Energy

题目四：低碳能源转型背景下的可持续水电开发和运行模式

Combination of Enterprises-Universities-Researches

产学研相结合

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## Topic I: Basin Ecological Integrity in Water Scarce Areas

- Construct basic database of biodiversity, optimize ecological water flow regulation scheme, formulate water shortage mitigation strategy and monitoring system based on integrated river basins management tools, optimize water use, control ecosystem degradation;
- Develop biodiversity monitoring and restoration technology, construct ecosystem assessment technology system;
- Construct water ecological compensation mechanism, promote stakeholders to participate in
- Put forward the operational mechanism and policy suggestions for sustainable utilization of river ecosystem.

## 题目一：水资源短缺地区流域生态安全

- 构建生物多样性基础数据库，优化生态水量调度方案，基于流域综合管理工具，制定缺水缓解战略及监测系统，优化用水，遏制生态系统退化；开发生物多样性监测与恢复技术，构建生态系统评估技术体系；构建水生态补偿机制，推动利益相关者共同参与，提出河流生态系统可持续利用的运行机制和政策建议。

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## Topic II: Impacts of Climate Change on Food Production and Agricultural Water Supply Guarantee and Adaptation Strategy

- Integrate climate change factors into agricultural water-saving, rural water supply, irrigation water management, food guarantee strategy, rural drought and flood disaster responding strategy, solve the new issues and tasks of water-saving and rural agricultural water supply guarantee, and increase adaptive management level of water resources.

## 题目二：气候变化对粮食生产和农村供水保障的影响以及应对策略

- 将气候变化因素纳入农业节水、农村供水、灌溉用水管理、粮食保障策略、农村旱涝灾害应对策略，解决节水和农村农业供水保障新课题、新任务，增加水资源适应性管理水平。

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## Topic III: Integrated Management of Urban Water Systems for Sustainable Development and Climate Adaptability

- Remote sensing technology, Internet of Things and other intelligent technologies, as well as a large number of non-traditional data sources, such as hydrological information provided by citizen, are analyzed and integrated in innovative and customized ways to serve urban flood control, waterlogging, water supply and drainage;
- A natural-based solution is used to build green infrastructure, carry out comprehensive water management research and practice in urban areas

To promote the transformation to a safe, intelligent sustainable and resilient city.

## 题目三：可持续发展和气候适应性城市水系统综合管理：

- 将遥感技术、物联网等智能技术和公民提供水文信息等大量非传统数据源，以创新、定制化的方法分析集成，服务于城市防洪排涝、供水、排水；采用基于自然的解决方案，建设绿色基础设施，开展城市综合水管理研究和实践，推动向安全、智能、可持续发展、韧性的城市转变。

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## Topic IV: Sustainable Hydropower Development and Operation under the context of Transition to Low-carbon Energy

- Launch the research on key technologies of ecological environmental impact and adaptive management of small hydropower development
- Launch the research on key technologies of green small hydropower operation and dispatch design
- Incentive policies for comprehensive development of renewable energy integrated with water, wind and light

To promote regional energy integration and green energy transformation

## 题目四：低碳能源转型背景下的可持续水电开发和运行模式：

- 开展小水电开发的生态环境影响与适应性管理关键技术研究
- 绿色小水电运行和调度设计的关键技术
- 水风光一体化可再生能源综合开发激励政策研究

促进区域能源一体化和能源绿色转型。

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# Next Steps下一步

- To strengthen communication and joint researches by existing mechanism, for example PI Project
- 利用好现有渠道和机制，利用伙伴关系工具项目增进双方交流、沟通和联合科研

- To promote the integration of water under the framework of S&T innovation cooperation between China and EU
- 推动提高水行业在中欧科技领域的比重

- To work together with shared targets and find opportunities for flagship projects
- 相向而行，积极争取申报水利旗舰项目

- To encourage partners under CEWP to explore more possibilities to deepen cooperation
- 鼓励中欧双方专家找寻更多机会进行交流合作

More Opportunities

## Perspective of Water S&T Innovation in China

To achieve innovative development in water sector driven by development of national grids of water, including integrity of infrastructure, information and management

**中国治水科技创新愿景：**

以国家智能水网建设驱动水利创新发展。

“三网合一”

**Infrastructure**
**水物理网**

**Information**
**水信息网**

**Management**
**水管理网**

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# 感谢！

# THANK YOU FOR YOUR ATTENTION!

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