

Development of Scientific and Technological Research Work of CRAES

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Presentation Outline

- Overall Development of Scientific and Technological Research Work through Completion of Key Tasks
- Major Scientific Research Achievements
- Prospect for Future Research



Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

I. Research Centering Key Tasks of National Environmental Protection

- National Key Science and Technology Program
 - Water Pollution Control and Treatment
- Survey on National Pollution Sources
 - Pollution Discharge Coefficients
- Environmental Macro-strategy Research
 - Water Environment, Eco-Environment, Recycle of Solid Waste and Oceanic Environment

Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

II. Providing Technical Support to MEP

- Actively Provided Scientific and Technical Support for Environmental Protection in Earthquake Relief
 - Measures for Preliminary Assessment on Water Environmental Quality and Protection of Water Safety in Quake Hit Areas in Wenchuan, Sichuan Province
 - Technical Guideline for Monitoring and Protection of Drinking Water Sources in Shallow Aquifer in Quake Hit Areas

Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

II. Providing Technical Support to MEP

- Actively Provided Scientific and Technical Support for Environmental Protection in Earthquake Relief
 - Preliminary Analysis on Quake Lake's Impact on Lower Reaches Water Quality and Recommendations for Countermeasures
 - Technical Guideline for Protection of Collective Drinking Water Sources in Quake Hit Areas
 - Technical Plan for Emergency Response of Drinking Water Safety in Quake Hit Areas

Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

II. Providing Technical Support to MEP

- Survey and Plan of National Drinking Water Sources
 - Technical Guideline for National Drinking Water Sources Conservation Zoning
 - Survey of Drinking Water Sources and Environmental Protection in Cities
 - Environmental Protection Plan for Drinking Water Sources

Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

II. Providing Technical Support to MEP

- Role in Environmental Pollution Incidents
 - Blue-green Algae Bloom in Taihu in Spring and Summer of 2007
 - Analysis of the Reasons of Blue-green Algae Outbreak, Recommendations for Countermeasures and Emergency Response in Taihu Lake was adopted
 - Control and Monitoring of Algae Bloom of Yanghe Reservoir in Hebei Province

Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

II. Providing Technical Support to MEP

- Analysis Report on the Environmental Impact of Ozone for Decision-making
- Atmospheric Environment Research During Beijing Olympic Games
 - Gook-Luck Beijing – Air Quality Test in Olympic Games Period, CRAES Took Advanced Measures Including Aerial Survey to Conduct Multi-measure and Multi-point Observations

Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

II. Providing Technical Support to MEP

- Carrying out Ecological Assessment of National Key Lakes and Reservoirs
- Developing the Plan of “Manganese Triangle” Pollution Control
- Carrying out Technical Work for UN GPA Conference
- Organizing Bilateral Seminar on Water Environment as One of the Events of Sino-Russian Friendship Year

Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

II. Providing Technical Support to MEP

- Health Effects Assessment of Water Pollution in Huaihe River Basin



Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

III. Scientific Innovation and Development

- Research Tasks from National Science and Technology Plan
 - Resource Recovery of Households Electric Appliances; Reuse Technologies of Packaging Waste (20 million yuan)
 - Identification and Monitoring of Risk Sources of Major Environmental Pollution Incidents (14 million yuan)
 - Three Gorges Reservoir Project Supported by MOST as an International Cooperation Project

No.	Type	Project Title	Supported by
1	973 Project	Research on Mechanism of Lake Eutrophication Process and Blue-Green Alga Outbreak	MOST
2	863 Project	Regional Control of Complex Atmospheric Pollution and Decision Making Supporting Technique	MOST
3	Supporting Program	Development of Key Technical Standard of Environmental Pollutants Discharge	MOST
4	Supporting Program	Development and Application of General Technologies for the Development of Circular Economy in Qingdao Municipality	MOST
5	Social Service	Research on Technical System of Risk Assessment of New Chemicals	MEP
6	Basic Work	Survey on China's Situation of Vehicle Energy Saving and Emission Reduction	MOST
7	Social Service	Risk Assessment and Risk Management of Soil Environment in Petrochemical Polluted Areas	MOST

Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

III. Scientific Innovation and Development

- Director Generals Meeting of National Environmental Research Institutes to Strengthen Cooperation
- International Cooperation
 - Innovation and Environmentally-Friendly Society Task Force of CCICED
 - 4th Tripartite Presidents Meeting Among CRAES, NIER and NIES
 - Sino-German Workshop on Biodiversity Conservation

Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

III. Scientific Innovation and Development

- International Cooperation
 - Research and Studies for the Assessment of Land Based Pollutant Loads in the Yellow Sea and its Control Supported by KOICA
 - ACEDP Projects – Trans-boundary Water Pollution Management; River Health and Environmental Flow in China
 - Exchange Visits – Korea, Japan, Germany, Canada, Norway, Sweden, Australia

Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

III. Scientific Innovation and Development

- Development of Key Technologies for Pollution Control, Emission Reduction and Technical Management
 - Semi-dry and Semi-wet Desulphurization Process for 2 X 13.5 million kw Unit in Shaanxi Province
 - Technical Plan for the Clean-up of Solid Waste in the Bottom of the Fourth-phase of Three-Gorges Reservoir and Feasibility Study of Capacity Building of Comprehensive Treatment of Chrome Residue Pollution

Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

IV. Incremental Improvement of Technical Management Work and Technological Level

- Environmental Standard is one of the three strategies of science and technology development of CRAES
 - Measures for Implementing Environmental Standards Regulated by Government Report and Development Plan for Environmental Standard Research
 - Urgent Formulation and Revision Plan for Water Pollutants Discharge Standard of Taihu Lake Basin

Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

IV. Incremental Improvement of Technical Management Work and Technological Level

- Environmental Standard is One of the Three Strategies of the Science and Technology Development of CRAES
 - National Regulations and Standards of Water Quality Monitoring and Protection
 - Coal Bed Gas (Coal Mine Gas) Emission Standard

Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

IV. Incremental Improvement of Technical Management Work and Technological Level

- Circular Economy and Cleaner Production
 - Sector Cleaner Production Standard System (9 sectors)
 - Survey of Cleaner Production Auditing of Key Enterprises in 31 Provinces/Municipalities
 - Management Methods for National Ecological Industrial Park
 - 48 Training Courses for National CP Auditors with 2500 trainees

Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

IV. Incremental Improvement of Technical Management Work and Technological Level

- Management of Chemicals
 - Issued 128 Registration Certificates for Environmental Management on Import of Chemicals and 8316 Clearance Notification for Environmental Management on Import/Export of Toxic Chemicals
 - Participated in the Negotiation and Implementation of Stockholm Convention, Rotterdam Convention and Inter-governmental Forum on Chemical Safety, Strategic Approach to International Chemicals Management

Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

IV. Incremental Improvement of Technical Management Work and Technological Level

- Vehicle Pollution Control
 - In 2007, 5,302 Applications for New Vehicle Registration for the Second Phase
 - 12,538 Applications for the Third Phase
 - Development of Indicator System for National Environmentally-friendly Vehicles
 - 2007 Annual Report of Vehicle Pollution Control
 - Long and Medium-Term Plan for the Prevention and Control of Vehicle Emissions 2006 - 2020

Overall Development of Scientific and Technological Research Work through Completion of Key Tasks

V. Market-oriented Development and Improvement in the Capacity to Serve the Society

- Environmental Engineering Service
 - Decentralized Waste Water Treatment Technologies and Maintaining the Operation of Advanced Jhokasou System
 - Technical Consultation for Dongguan Municipal Waste Water Treatment Plant
- Environmental Impact Assessment
 - EIA of Ningbo Petro-chemical Project with the Capacity of 800,000 tons
 - EIA of Xiamen PX Project

Major Scientific Research Achievements

I. Research Reports and Papers

- Several Hundreds of Academic Papers Published in Domestic and International Journals and tens of Academic Books Also Published

II. Awards of Science and Technology Results

- 2nd Prize of National Scientific and Technological Progress
- 11 MEP Scientific and Technological Progress Awards
- 2nd Prize of Liaoning Provincial Scientific and Technological Progress

Major Scientific Research Achievements

III. Transfer of Scientific and Technological Results

- Policy Proposals in the Areas of Algae Bloom in Three Gorges Reservoir, Development of Vehicle Industry, Air Pollution Control, Pollution Control in Key Lakes, etc.



Prospect for Future Research Work

I. Improve Scientific and Technical Support Capability

- National Energy Conservation Efforts
- Special Program on Water Pollution Control and Treatment , Survey on Pollution Sources and Macro-Strategy Research
- Improvement of Capacity Building of Laboratories
 - Solid Waste Pollution Control Lab and Associated Facilities
 - Diesel Engine Test Lab with BASF of Germany in 2007

Prospect for Future Research Work

II. International Cooperation

- International Exchange
- Joint Research on Global Hot Topics, including climate change and its environmental effects, ozone pollution, mercury pollution, biodiversity, etc.
- Further Strengthen the Cooperation with NIES and NIER



**THANK YOU VERY MUCH
FOR YOUR ATTENTION!**

