

Working Towards
Green Growth

R&D

Diverse R&D programs are underway to make

Korea's environmental technologies the best in the world.

Today's hard work turns dreams into reality.



Eco-innovation Programs



Global Top R&BD program

| Program Overview |

Target Developing world-class environmental technologies that can compete on the global stage

Period 10 years (2011-2020)

Budget 782 billion won (government expenditure)

Name of task	Project target	Technologies to be developed
R&D Center for Eco-Smart Waterworks System	<ul style="list-style-type: none"> Developing next generation smart networks that can be exported Localization of core original technologies, materials and components 	<ul style="list-style-type: none"> World-leading water purification technologies based on membrane separation Technologies for smart, state-of-the-art optimized water purification plants, etc.
R&D Center for Blue Water & Green Energy	<ul style="list-style-type: none"> Developing membrane-filtration, high-level treatment technologies ensuring recycling of energy and resources Enhancing re-use rate of treated wastewater and level of energy independence 	<ul style="list-style-type: none"> Technologies relating to high value-added separation membranes and recycled water production Technologies for energy retrieval and use as well as those for sewage sludge recycling
R&D Center for Environmentally Friendly Vehicles	<ul style="list-style-type: none"> Developing low-polluting automotive technologies at EURO-7 or SULEV level Developing low-carbon technologies 	<ul style="list-style-type: none"> Low-emission, low-carbon technologies Technologies relating to promoting low-carbon vehicles Platform technologies, etc.
R&D Center for Valuable Recycling	<ul style="list-style-type: none"> Creating new industries by recycling waste resources Contributing to the expansion of the list of items under Extended Product Responsibility 	<ul style="list-style-type: none"> Technologies for recycling waste resources from IT and automotive industry Technologies for recycling commodity packing materials and sparingly-soluble industrial wastes
Non-CO ₂ gas reduction technologies	<ul style="list-style-type: none"> Contributing to 10% reduction of Non-CO₂ greenhouse gases Reduction and retrieval efficiency improvement of fluorinated gases emitted by electronic business including semiconductor makers 	<ul style="list-style-type: none"> Methane reduction technologies for food waste treatment facilities Sulfur hexafluoride treatment technologies used for semiconductor etching
Green patrol technologies	<ul style="list-style-type: none"> Exporting green patrol technologies Over 80% localization of measuring equipment, sensors and components 	<ul style="list-style-type: none"> Multiple on-line heavy metal monitoring system (water quality) Ultra-mini monitoring system (air quality)
Smart tap water supply technologies	<ul style="list-style-type: none"> Developing low-energy, high-efficiency IT-based tap water supply system Localization and export of high value-added network sensors and system management know-how 	<ul style="list-style-type: none"> Integrated management system for tap water supply networks Technologies for network sensors and smart metering



Program for Promoting Commercialization of Promising Environmental Technologies

| Program Overview |

Target assisting the establishment and verification of test beds for fields which require urgent technology development and on-site application, thereby solving imminent environmental issues as well as promoting commercialization by enterprises

Period 2010-

Budget 8.85 billion won by 2011 (government expenditure)

Basic policy identifying and supporting promising tasks which are focused on policy application and commercialization potential, in order to promote the on-site utilization of the developed technology

Fields of assistance Green technologies that can be verified for industrial application so that they can help solve environmental problems in Korea

※Examples: technologies related to creating low-carbon, green city, high-level water treatment technologies applicable to large, medium and small rivers, industry-applicable technologies linked to central and local governments' promotion programs

Types of tasks tasks of applying developed technologies to verification equipment, aiming at optimization, facilities expansion and securing peripheral technologies

Scope of assistance duration up to two years, with the magnitude up to one billion won/task/year

Eligible entities enterprises or research bodies affiliated to enterprises (industry-academia-research consortia are also eligible)



Geo-Advanced Innovative Action Program

| Program Overview |

Target Improving the technologies for the remediation of contaminated soil and groundwater to the global top level for green growth

Period 2008-2017

Budget 139.7 billion won (government expenditure)

Basic policy Investing over 70% of budget in commercialization-oriented tasks to promote the application of soil & groundwater-remediation technologies

Four R&D Fields

- Prevention technologies: Technologies for preventing soil and groundwater pollution
- Pollution investigation technologies: Technologies for identifying pollution sources and assessing levels and impacts of pollution
- Remediation technologies: Physical, chemical and biological technologies for soil purification
- Technologies for follow-up control: for preventing soil & groundwater pollution and developing post-purification management system

| Types of Tasks |

Types	Description
Technologies for Commercialization	Technology development for commercialization with the participation of companies
Technologies for Commercialization (On-site verification)	Technology development for Commercialization with the participation of companies through on-site verification
Practical use by public authorities	Technology development aiming at practical use by public authorities for their policy building
Platform technologies	Fundamental research for seeking the technological feasibility and commercialization potential of R&D ideas
Planning	Drawing detailed roadmap for improving project efficiency and identifying new areas of technology development in GAIA project



Converging Technology Program



Program Overview |

Period 2009-

Budget 15 billion won by 2010 (government expenditure)

Basic Policy

- Overcoming the limitations of existing technology and creating markets by fusing bio-, nano- and information technologies to give birth to a new breed of know-how, which will boost the Korean environmental industry onto a higher plane
- Developing basic and original technologies ahead of other nations to sharpen the competitive edge in the promising fields of the industry

Major Activities

Category	Description of technologies
Developing composite materials	- Developing know-how for the synthesis of pollution-preventing nano materials - Developing nano-based pollution prevention materials
Developing converging technologies for resource circulation	- Converging technologies for retrieving useful materials - Converging technologies for extracting energy from waste biomass
Developing measurement and analysis equipment	- nano sensor materials - nano/bio-based environmental measurement/analysis devices - Packaging and standardization for commercialization
Developing converging environmental processes	- Nano/bio based pollutant-free processes - Nano/bio based soil rehabilitation technologies - High efficiency processes for treating pollutants
Developing green eco-bio technologies	- Biotechnologies for creating comfortable living environment - Technologies for creating healthy ecologies based on bio-environmental engineering

Program Organization |

- Priority will be given to core technology fields which have potential of substantial ripple effects when successful, although not likely to be immediately applicable.
- Related tasks will be implemented in the form of a consortium among the industry, academia and research bodies.
 - Tasks to be put to public subscription: applications for team tasks (designated subscription) and individual tasks (open subscription) will be invited for the above five fields
 - Duration of the tasks: up to five years, including two for original technology development and the remaining three for pursuing commercialization know-how



Environmental Health R&D Program

Program Overview |

Target

- Protect human health from environmental hazard
- Maintain a healthy ecosystem
- Provide technological support for environmental health policies

Period 2012-2021

Budget KRW163.9billion by 2021 (Government)

Basic policy Focusing on linkage and application of policies toward environmental health technology-development on public sector.

R&D Fields Assess environmental impact on human health and safety evaluation of ecosystem



Climate change Correspondence R&D Program

Program Overview |

Target

- GHG (Green House Gas) emission reduction comprehensive management technic
- Climate change adaptation comprehensive management technic

Period 2013-2020

Budget KRW 83.5 billion by 2020 (2 billion in 2012, pilot project)

Basic policy Developing technical support for effective performance of national climate change response policies

R&D Fields Comprehensive management technologies for GHG emission reduction and climate change adaptation



Program aimed at advancing environmental industries and developing environmental policy-oriented technologies

| Program Overview |

- Target** Developing global standard technologies to sharpen the competitive edge of the Korean environmental technologies and industry, thereby improving the quality of the ecosystem as well as playing the major role in green growth on the international scene
- Period** 10 years (2011-2020)
- Budget** 721 billion won (government expenditure)

| Projects and fields of the Program |

Description	Fields	Technologies to be developed (examples)
Industrial strategic Technology Program	Technologies for air quality improvement and for responding to climate changes	Multi-point, simultaneous monitoring system for substances harmful to air quality
	Technologies for improving living environment	Light-weight, sound-absorbing wall materials made of recycled waste paper
	Technologies for ecosystem rehabilitation and management	Ecosystem rehabilitation know-how using buried seeds, on-site soil and forestry wastes
	Technologies for hazard assessment, management and reduction	Kits for diagnosing toxicity of aquatic ecosystem and related automated equipment
	Eco-process based technologies	Means of re-use of wastewater from electronic industries by using photo-catalyst
	Technologies for responding to climate change policies	Means of measuring aerosol levels within the troposphere
Public welfare Technology Program	Technologies for responding to environmental health policies	System for early identification of the genes triggering environment-originated pulmonary diseases
	Technologies for responding to aquatic environment policies	Technologies for improving efficiency of aeration tanks of wastewater treatment plants handling high-concentration loads including livestock nightsoil
	Technologies for responding to water works policies	Original technologies for high-level treatment of sewage and wastewater based on osmotic vaporization membrane
	Technologies for responding to resource recycling policies	Comprehensive management system for waste reuse and recycling
Platform technologies to be developed	Technologies for responding to nature preservation policies	Technologies for developing bio-materials for rehabilitating river and wetland ecosystems

| Types of tasks |

Description	Definition of tasks
Verification (commercialization)	Technologies developed by businesses, for which users (large companies or SMEs) proposed development by expressing intentions of purchase
For certification	Tasks financed by private investment institutions following assessment, aimed at commercializing already developed pilot products
Commercialization	Tasks pursued aiming at verification of already developed technologies and pilot products or at acquisition of eco-labeling certification
Verification (test-beds)	Tasks pursued with participation of universities, businesses and Government-funded research bodies aimed at commercializing technologies required by the industry and market
Practical use by public welfare	Setting up large-scale R&D test-beds based on the public policy-derived demands, aiming at early commercialization of developed technologies and at securing operation records
Platform technologies to be developed	Tasks pursued with participation of universities, businesses and Government-funded research bodies aiming at practical use by government and municipalities for their policy building and administrative improvement
	Tasks pursued by universities, Government-funded research bodies and other non-profit-seeking research entities aimed at developing top-of-the-line core environmental technologies or ideas that can be applied to policy building

정림
한국
세상

Korea Environmental Industry & Technology Institute

www.keiti.re.kr

215, Jinheung-ro, Eunpyeong-gu, Seoul, Korea 122-706
Tel. 02-3800-500 Fax. 02-3800-599, 699