SK forest

SK Forest's Journey
Inspired by Nature

The Future We Choose, Forest

The Future We Choose, Forest

A Letter from the CEO

Dear Stakeholders,

I express my sincere gratitude to all stakeholders for their interest in and support of SK forest's journey to create happiness and a better world. In 2022, SK forest published its first 「2021 Sustainable Management Report」, seeking to take a step forward and present management activities that fulfill our social responsibilities, extending from our prior achievements.

SK forest, the first forestry company in Korea, leaps forward.

SK forest, Korea's first forestry company, has significantly contributed to forest greening worldwide for the past 50 years since its establishment through recent globalization. The company has evolved into a global company by transferring various afforestation and reforestation technologies to help developing countries like Uzbekistan and Tunisia, and to restore degraded forests based on forest management experience, expertise, and technologies accumulated while pursuing various forestry projects in Korea. As the social demand to respond to the recent climate crisis intensifies, the roles and responsibilities of companies, such as the need to transition to eco-friendly businesses, are also rising. SK forest seeks to lead the vitalization of the carbon market by establishing a nature-based carbon credit platform to achieve carbon neutrality amid these changes in the business environment. In addition, we plan to accelerate our progress as a global company by preparing for the future, securing technological capabilities, and innovating existing products and services.

Creating new value by strengthening sustainable management.

SK forest will create a nature-based carbon market to fulfill the economic, social, and environmental values necessary in this era and further expand its safety and health activities to raise safety awareness among employees and prevent accidents. We shall practice law-abiding management by raising awareness through employee training and programs for ethical management and fair trade, as well as continuously inspecting and improving the management system. Furthermore, we will make all efforts possible for the sake of customers' happiness, contributing to the local community, and the development of our employees to realize genuine shared growth.

SK forest will gaze beyond the horizon with ambitious but prudent long-term visions and find a more valuable path for a better tomorrow. By adding the experience accumulated over the past 50 years and continuous innovation to these efforts, we shall deliver nature-originated value to our daily lives.

We ask for your continued interest and support in the future.

Thank you.

December 2022

In Bo Chung CEO, SK forest

Contents

A Letter from the CEO 2

01

Sustainable Value Story

SK forest's Journey 06
The Path of Korea's Leading Forest Restoration Company 09
Eyes on Forests in the Era of Climate Crisis 23
A New Beginning for the Coexistence of Nature and Humans 31
Deep Change in SK forest, the First Forestry Company in Korea 37
The World Pursued by NbS Providers 53

02

ESG DATA

Environment 61
Social 63
Governance 69

03

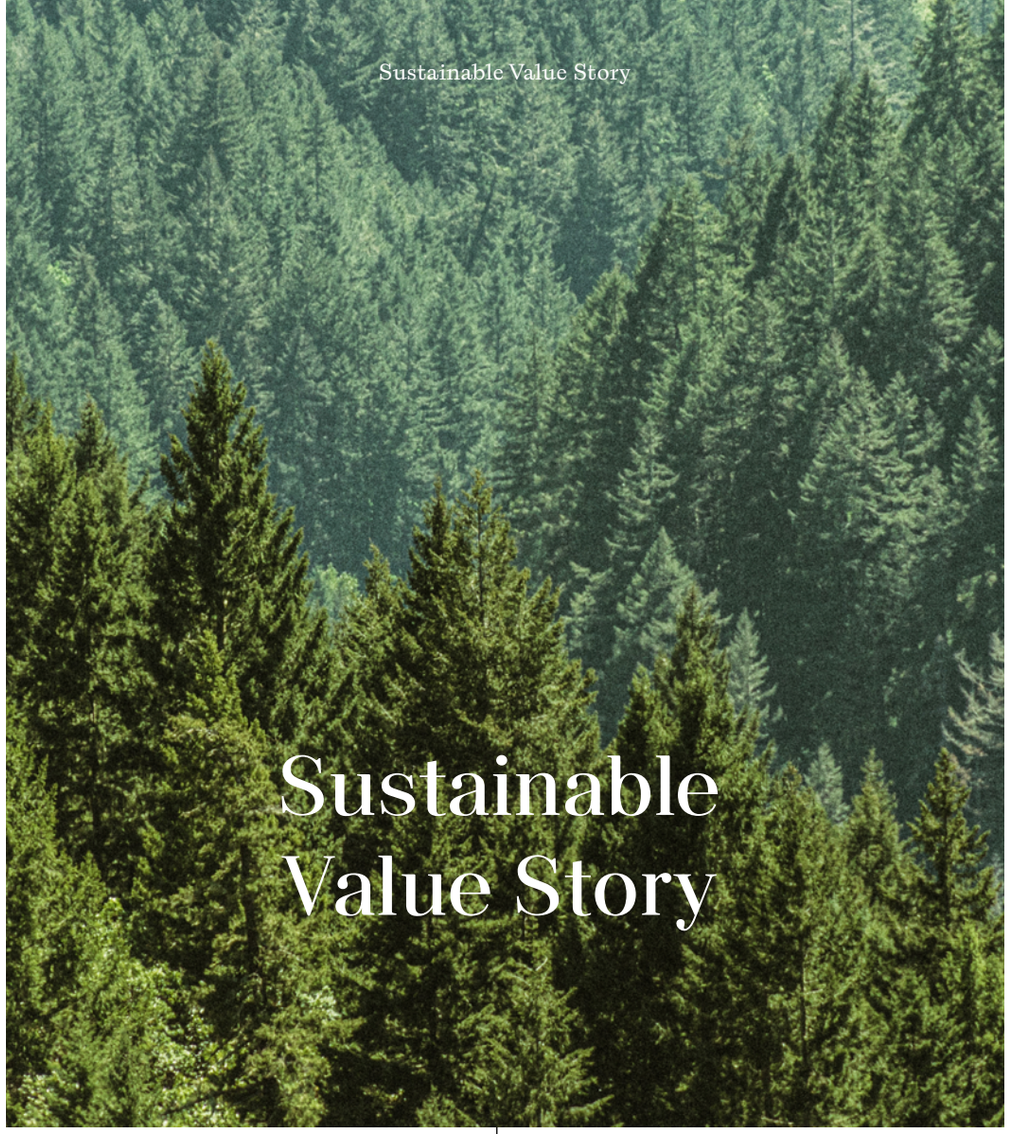
Appendix

Economic Achievements 73
Stakeholder Engagement 75
Materiality Assessment 76
GRI Index 78
Third-Party Assurance Statement 82

04

About SK forest

Introduction 85
Main Business Areas 86
Location 87
Major Awards and Memberships 87
About This Report 88



SK forest's Journey

1972
Established Seohae Development Co. Ltd (currently, SK)

1974, 1979
Opened Chungju, Cheonan, and Yeongdong plantations

1974, 1980
Chungju, Cheonan, and Yeongdong designated as Special Forest Project Zones (Korea Forest Service)

1976
Recognized as a Corporate Forest Manager (Korea Forest Service)

1980
Registered landscape gardening and facility construction licenses

1989
Registered landscaping construction license

1992
Granted academic forest to Chungnam National University

1994
Registered civil engineering construction business license

2006
Completed the second-phase landscaping for Ulsan Grand Park

2007
Completed urban greening for Incheon Songdo Park

2009
Opened a plantation in Hoengseong

2013
Registered the A/R CDM Goseong project based on the UN Framework Convention on Climate Change (UNFCCC)

2014
Launched Mobile Planters

2015
Completed forest restoration and research facility construction projects in Siem Reap, Cambodia

2016
Launched Soofe'e, SK forest's birch-sap cosmetic brand

2017
Completed the afforestation project in Navoi, Uzbekistan

2017-2018
Registered Chungju, Cheonan, Yeongdong, and Hoengseong Offices with the Forest Carbon Offset Program

Acquired the Forest Management Certification from the Korea Forest Certification Council (KFCC)

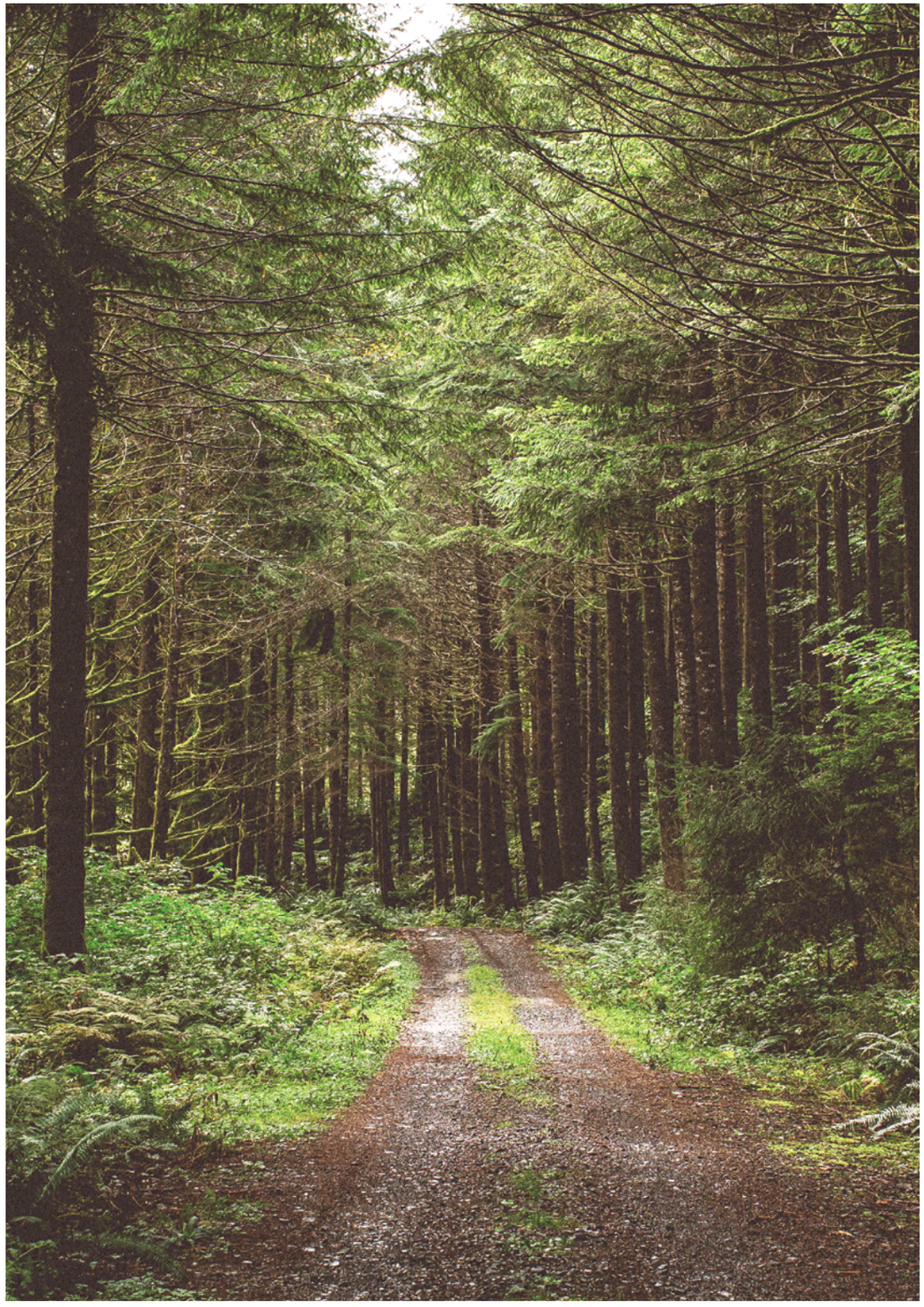
2018
Completed the rural community development project (environment sector) in Quang Tri Province, Vietnam

2019
Completed the cork oak forest restoration project in Jendouba, Tunisia

2020
Started P4G (partnership for green growth) projects for forest restoration and eco-friendly coffee agroforestry in Ethiopia

2021
Started the carbon-neutral forest cooperation project in Korea

Started investments in overseas nature-based carbon credits



Chapter 1.

The Path of Korea's Leading Forest Restoration Company

The Birth of Korea's First Forestry Company

Leading Sustainable Forest Management

The Value of Forest Benefits in Daily Life

1

The Birth of Korea's First Forestry Company

Korea is blessed with the highest proportion of forests among OECD countries after Finland, Sweden, and Japan. Undoubtedly, such affluent greenery is only granted from years of hard work.

In the past, farmers used slash-and-burn techniques to secure farmlands and places to live, and raked up young branches and fallen leaves to use as fuel. As a result, mountains were ruined as poverty forced people to cut down trees to make a living. Above all, forests were severely devastated during the Japanese occupation and the Korean War.

Later, the National Forestry Act was enacted, which stipulated matters necessary for the protection and development of forests. Since the 1970s, the government has actively facilitated forest reforestation policies for the preservation of the land and the sound development of the national economy.

The first generation of entrepreneurs deeply signified the contribution to the nation's development after undergoing difficult times such as the Japanese colonial period and the Korean War. Accordingly, the late Chey Jong-hyun, the inaugural chairman, secured non-economic forests in remote mountainous areas in order to study exemplary domestic and foreign tree species, driven by his belief that 'those who love their country shall grow trees'. In 1972, he established Seohae Development Co., Ltd. (currently known as SK forest Co., Ltd.), the first forestry company in Korea. The company started with the audacity of planting trees on a sloping ramp in a harsh environment, with two people sharing a single desk in the office, which is the founding and continuing spirit of SK forest.

1953

Now

The degree of forest density is expressed as the growing stock[1] per unit area. In 1953, the growing stock was 5.66㎥/ha, one-thirtieth of the current level[2], so one can imagine what the mountains might have looked like when the land was barren.

1) Stock: Volume of trees per unit area
2) Korea Forest Service, Basic Forest Statistics 2020

2
Leading Sustainable Forest Management

Growing by envisioning the future

Initially, the inaugural chairman faced strong dissatisfaction from those around him due to the business's unclear returns and long payback periods when endeavoring to plant trees and restoring greenery. At that time, it seemed implausible that one could contribute to national development by purchasing and professionally managing mountains. Nonetheless, SK forest got hold of forests in remote mountainous areas where it appeared challenging to create economic value, and envisioned contributing to the raising of social and environmental significance from a long-term perspective rather than one of immediate profits.

SK forest secured forests in Chungju, Cheonan, Yeongdong, and Hoengseong and began researching ecologically and economically suitable tree species by examining the geography and climatic characteristics of each region's mountain areas. Extensive research confirmed that hardwoods (e.g., black walnut, spruce, birch) were suitable for the forests which were selected by the company and which consequently contributed to the diversification of Korea's forest tree species.

Although it was rare to have a plan to manage mountains, SK forest established forest management plans to do so professionally from the early stage of securing forests. Since then, its value has been recognized as a leading sustainable forest management company. In particular, through a long-term forest management plan in 1974, forest areas around Chungju, Cheonan, and Yeongdong were designated by the Korea Forest Service as Special Forest Project Zones[1)], and full-scale reforestation efforts began. In 1976, the company was selected as a Corporate Forest Manager[2)], a tittle given to corporations managing forests by example. In addition, it earned the Korea Forest Management Certification (KFCC FM)[3)] in 2017, indicating that it preserves the natural ecosystem, provides benefits to residents and workers, and manages forests sustainably without committing illegal actions.

A tree planted on bare mountains in anticipation of the future has now been transformed into lush forests. The history of SK forest's growth is written across the green landscape nurtured by forest reforestation efforts over the past 50 years.

1) Special Forest Project Zone: A certification that approves a long-term forest management plan to enable complex forestry, by such means as the creation of forest resources, recreation forests, arboretums, and landscape tree cultivation in designated districts with a forest area of more than 300 ha
2) Corporate Forest Managers: Selected by the Korea Forest Service as a corporation that manages forests of 500 ha or more in an exemplary manner according to a forest management plan, or a corporation that has a reforestation record of 300 ha or more and manages forests in an exemplary manner according to a forest management plan
3) Korea Forest Management Certification (KFCC, Korea Forest Management Certification Council) FM (Forest Management): A third-party certification system that evaluates and implements sustainable forest management based on objective standards and indicators in environmental, social, and economic aspects to respond to the climate crisis and eradicate illegal timber

Deforestation prevention policy

By conducting sustainable forest management for all forests under its control, SK forest sets the basic management policy of securing forest stability, adaptability, and diversity; maintaining and promoting public functions of forests such as national land conservation, water source cultivation, and landscape maintenance; and meeting the principles of forest management such as economic feasibility and productivity.

Commitment to prevent deforestation

1 We take full responsibility for forests and forest products in terms of environment, society, and economy; and achieve sustainable forest management under forest certification requirements by earning the Korea Forest Management Certification Standard (KFCC-S-01) for all business sites.

2 We conduct management activities that meet the purpose of the Korea Forest Management Certification for all business sites and contribute to the development of domestic forest certification in response to the international community's demand for forest certification.

3 We establish and maintain a system based on the Forest Management Certification manual, and practice continued system improvement through periodic monitoring and performance measurement. In addition, all members of the organization understand the company's management policy, secure sufficient competence to perform related tasks, and ensure that the management policy is materialized through continuous work capability development. Furthermore, we promote deforestation prevention education for all personnel, including forest workers, forest managers, and those employed by partners who operate in forests.

Monitoring policy compliance

1 Forest managers at SK forest conduct forest management and maintain and retain records; and cease current activities where negative impacts are assumed on significant matters and ecology (environment), and inform supervisors and related managers.

2 Forest management carried out within all management planning zones applies to environmental (e.g., soil, water resources, animals, and plants.), social (e.g., communities), and economic (e.g., wood, non-timber forest products) factors, as well as all sectors that can affect ecology (environment) (e.g., machinery, equipment, chemicals, stakeholder-related business management).

3 We conduct ecological (environmental) impact assessments regularly and whenever necessary to prevent deforestation, complying with policies, and verify the results of ecological (environmental) impact assessments as follows.

- Forest managers shall continuously review and block negative impacts on ecology (environment), including minor risks, before they occur.
- Forest managers shall continuously review and confirm the ecology (environment) even after forest management activities to prevent adverse impacts.
- Forest managers shall record and minimize negative change through communication with responsible supervisors and managers where such change is identified after forest management.
- When consigning forest management, we shall ensure all measures are taken to uphold workers' safety and the environmental protection of forests based on contracts with consigned entities. In particular, we specify the safety equipment to be provided for the safety of workers and conduct sufficient safety training before work to retain records related to all measures. In addition, responsible managers shall ensure monitoring for proper safety and environmental management.

Biodiversity policy

SK forest appreciates the significance of conserving biodiversity and shall carry out measures to maximize the positives and minimize the negatives by examining the biodiversity of the business sites.

1 We shall strive to prevent, minimize, and mitigate elements and factors that threaten biodiversity throughout our business. For new projects, biodiversity status shall be identified and evaluated to monitor its value and impact. We shall apply this principle to the entire supply chain, including the primary business sites of SK forest and its partners.

2 We shall comply with applicable national and local legal requirements in our business sites addressed by the International Convention on the Protection of Biodiversity and Land Management (World Heritage areas, IUCN Category I-IV protected areas).

3 We shall strive to prevent net biodiversity-related losses (NNL, No Net Loss) and maintain a net positive impact (NPI) for business sites encompassing important habitats concerning biodiversity. In particular, we shall monitor the biodiversity of SK forest-owned forests to minimize impacts on biodiversity.

-Monitoring to maintain biodiversity
-Monitoring of genetic-resource protected areas
-Monitoring of native, endangered, or rare species
-Monitoring to prevent illegal hunting, capturing, and harvesting activities
-Monitoring of synthetic measures to increase or protect the population of threatened or endangered species
-Identifying the impact of animal populations on reforestation, growth, and biodiversity
-Environmentally sensitive areas, including water resources
-Areas where soil erosion is expected
-Areas where water conservation should be a priority

4 We shall monitor biodiversity protection annually for the 4,470.8ha business sites of SK forest and reinforce management activities to achieve the minimum net loss in areas requiring biodiversity protection.

Social value created by non-stop forest management

"Place a name tag on each tree, keep a logbook, and observe when trees were fertilized and how much they have grown."

– Chey Jong-hyun, Inaugural Chairman

Caring for mountains is far more than merely planting trees, requiring patience and consideration to grow deep-rooted trees that are not easily shakable by physical forces.

Over the past 50 years, SK forest has created forestland with an area of about 4,500 ha, which is about 13 times the size of NYC Central Part (341 ha), and has cultivated about 4 million trees. We create diverse social value through carefully cultivated mountains offering such benefits as air purification, conservation of water resources, and prevention of soil erosion.

Annual social value of KRW 44.6 billion,
as per the SK group social value measurement guide

Total scale under management :
4,470.8 ha/3,879,000 trees

Item	Scale	Measured social value (2021)
Air purification	Carbon absorption : 580,000 tons Oxygen production : 420,000 tons	KRW 22.8 billion
Water purification	Suspended solid leakage prevented : 674 tons	KRW 7.3 billion
Water source retention	Water stored : 1,2390,000 tons	KRW 0.6 billion
Soil erosion prevention	Soil spillage prevented : 1,290,000 ㎥	KRW 11.1 billion
Soil collapse prevention	Soil collapse prevented : 340,000 ㎥	KRW 2.8 billion

Social contribution through forests

SK forest has donated forests to Chungnam National University to foster talented individuals, and has been pursuing win-win growth by sharing forests with different stakeholders such as local communities and social enterprises. We will continue to create and expand varied social value based on forests.

Future talent cultivation

Chey Jong-hyun, the inaugural chairman, emphasized the talent-nurturing philosophy of "Grow a tree as if you grow a person, and nurture a person as you nurture a tree." Based on this philosophy, SK forest donated 1,006 ha of forestland to Chungnam National University in 1992, which is now established as an academic forest and used for research activities by professors and students

Win-win cooperation activities

Since 2019, SK forest's forests and forest products have been shared with local residents and social enterprises to help them directly create social and economic value. We seek a win-win arrangement by allowing residents to manage walnut and pine trees and use the proceeds from selling forest products for regional development. In addition, we provide forest training center space to social enterprises and donate the wood to operate forest-related programs or support product development and sales.

Raising awareness of forest management

From 2021, we have been raising awareness of the significance of sustainable forest management by operating 'ForeSK; lab', a forest experience and ecological education program.

Forestry capabilities extending to the world

Based on our expertise and experience in creating and managing domestic forests, SK forest forms partnerships with various stakeholders, including government agencies, international organizations, and academia, to transfer advanced technologies to developing countries, restore wastelands, and sustainably use and manage them.

Forests as a symbol of national prestige and friendship – Cambodia

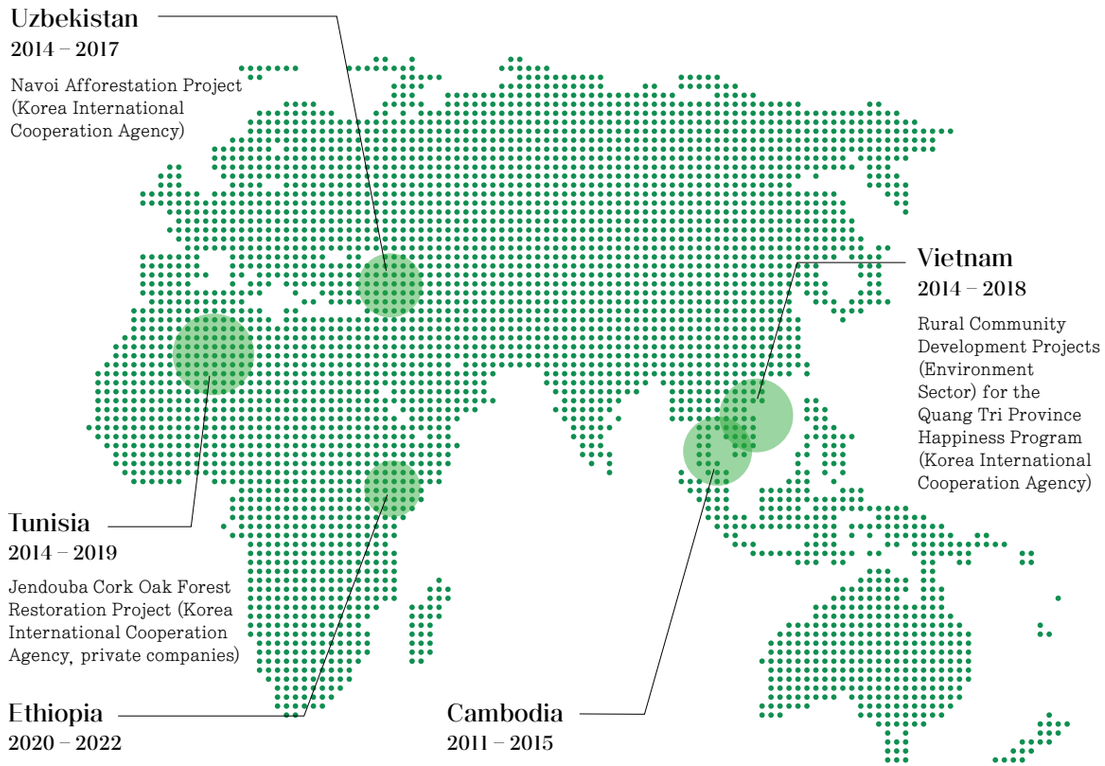
In 2011, SK forest started taking off on the global stage. In order to restore areas damaged by forest fires in Phnom Penh and Siem Reap, the capital of Cambodia, trees were planted on 89ha, more than 120 times the size of a soccer field (0.7ha), in cooperation with government agencies such as the Korea Forest Service and Korea Rural Community Corporation. In addition, a 125-ha trial forest was created with the aim of enhancing the forest's value, and a nursery and a forest research center were established to provide technical support so that the Cambodian government could grow seedlings and manage the mountains independently. Currently, this area has become a hub for creating a new forest complex by Cambodia and the Korean government and a symbol of friendship between the two countries.

Forests that provide habitat for wild animals by preventing desertification – Uzbekistan

Forests are closely linked to combating desertification. Since 2014, SK forest has been conducting the first reforestation project between the two countries to protect wildlife and natural landscapes in Navoi, Uzbekistan. We built a foundation for reforestation, including irrigation facilities, water tanks, and work paths, and planted about 150,000 trees on the 135ha land to breathe life into it. In addition, 2,200 trees, including pinus nigra, were planted on an area of 0.5ha to create a 'Forest of Friendship' to provide a space for residents to relax. Furthermore, international education and technology exchanges for sustainable forest reforestation projects have served as a stepping stone for strengthening the forestry sector capacity of the two countries and fostering a mutually beneficial relationship.

Forests that prevent disaster risks and protect living environments – Vietnam

Forests not only reduce disaster risks but also provide and protect livelihoods. For example, Quang Tri Province, located on the eastern coast of Vietnam, is prone to typhoons and floods, and landmines and bombs are buried in land which was ravaged by war, making it difficult to access. Despite such risks, SK forest planted about 85,000 trees of 15 species, including white samet (melaleuca cajuputi) and acacia, to remove landmines and prevent natural disasters by creating a 60-haerosion control forest. We passed on forestry skills through stakeholder workshops. After reviewing past failures regarding wasteland restoration, we contributed to preventing the area's degradation and providing a living space for residents through efforts such as uncovering native tree species, establishing nurseries, and applying selective planting methods.



Forests as a stable income source for residents – Tunisia/Ethiopia

Forests also provide an effective source of income for residents. Residents of Tunisia's Jendouba region used the forests for firewood and livestock grazing. However, reckless degradation has severely tarnished the region's beautiful and dense oak forests. As a result, forests have disappeared, water resources become depleted, and ecosystems threatened. In particular, even the production of cork, a high-value-added business in the region, has been in danger of being halted. Since 2014, SK forest has planted about 160,000 trees for forest restoration and has promoted the restoration of 100 ha of oak forest. Four nurseries were built, and 500,000 seedlings were grown, and this activity represents the first successful case of creating a large-scale production area in Tunisia.

In 2020, SK forest stepped forward with government agencies and international organizations to secure the sustainability of Ethiopian coffee farms that have been negatively affected by reckless logging. We are carrying out a forest restoration project in which 210,000 seedlings such as eucalyptus are planted in a nursery in the total 1,000ha project site. In addition, we will continue cooperating to establish a sustainable coffee farm business model that produces coffee without environmental pollution, through such channels as passing on various forestry techniques to residents.

3

The Value of Forest Benefits in Daily Life

Urban green spaces that enrich the quality of life

SK forest has contributed to creating urban green spaces based on its long experience planting trees and caring for forests. Starting with the Walkerhill Hotel landscaping construction in 1978, we have accumulated expertise in the field of landscaping for about 40 years, providing high-quality services from landscape design to construction and maintenance. In this way, we create landscapes and contribute to solving social and environmental problems caused by urbanization, such as air pollution, urban flooding, and the heat island phenomenon.

From 1996, we participated in the creation of Ulsan Grand Park to provide at least 3.3 m2 of green space per Ulsan citizen for ten years. In addition to this, SK forest has been active as a specialized company in creating green spaces in parks and residential, commercial, cultural, and educational spaces across the country, including Songdo New City (Incheon), Joint Innovation City in Gwangju (Jeollanam-do[1]), New National Museum of Korea, Songdo Campus of Incheon National University, and Paradise City in Yeongjongdo.

SK forest is pursuing research and development for sustainable tree management by incorporating information and communication technology (ICT)[2]. In 2014, we launched a mobile planter that makes it easy to move or plant trees and which manages their quality for various urban applications. The company has registered patents[3] on portable tree designs and technologies optimized for tree management and water conservation through remote soil moisture monitoring and automatic irrigation, which have been installed in Seoul City Hall, Gwanghwamun Square, Hangang Park, Incheon University Songdo Campus, and Cheonan Independence Hall.

In 2021, going a step further, we took the lead in creating an environment that allows people to enjoy the value of forests indoors and outdoors easily and comfortably by applying related technologies to “planterior” design.

1) -do: Korea’s administrative division equivalent to a province
2) Information and Communication Technologies (ICT): Hardware consisting of information devices and software technologies necessary for operation/information management of these devices, and all methods of collecting/producing/processing/preserving/delivering/utilizing information using these technologies
3) Patent registrations for ‘Manufacturing Method for Tree Planters and Planters Produced Applying such Method (10-1251988 / 2013.04)’ and ‘Smart Tree Irrigation Management System (10-2078062 / 2020.02)’

SK forest's landscaping performance in Korea

Type	Year	Region	Project
Parks	1996-2006	Ulsan	Ulsan Grand Park Landscaping Project
	2004-2007	Incheon	Incheon Songdo Park and Green Area Construction
	2012-2016	Gwangju	Gwangju Joint Innovation City Landscaping Project (Jeollanam-do)
Residential	2004-2007	Seoul	Nonhyeon 2nd Apelbaum Landscaping Project
	2011-2012	Seongnam	Pangyo Apelbaum Landscaping Project
	2015-2016	Incheon	Yonghyeon SKY VIEW Landscaping Project (Incheon)
	2020-2021	Gwacheon	Gwacheon Uberfield Landscaping Project
Commercial, Cultural, Educational	2003-2005	Seoul	New National Museum of Korea Landscaping Project
	2009-2010	Incheon	Incheon University’s Songdo New Campus Landscaping Project
	2011-2014	Yeosu	Gyeongdo Marine Tourism Complex Landscaping Project (Yeosu)
	2017-2019	Incheon	Paradise City Hotel Landscaping Project (Yeongjongdo)

Soofe’e – a small forest on the skin

In addition to the space of mountains or forests, SK forest created Soofe’e to introduce the value of forests closer to daily life. Soofe’e, referred to as “a small forest on the skin”, is a cosmetic made from birch sap planted and cultivated by SK forest and has been steadily loved since its introduction in 2016.

Based on in-house research, birch sap was recognized as food raw material by the Ministry of Food and Drug Safety in 1999. Furthermore, human application tests confirmed that various ingredients in birch sap, such as minerals and amino acids, have 19 skin improvement effects like moisturizing, soothing, and anti-aging.

Chapter 2.

Eyes on Forests in the Era of Climate Crisis

Climate Crisis a Threat to Human Beings

Carbon Neutrality, a Common Goal for Responding to the Climate Crisis

Forests on the Path to Carbon Neutrality

1

Climate Crisis, a Threat to Human Beings

Humans have been living in forests for thousands of years, obtaining food and burning trees to get the energy they need to survive. Trees and forests are precious life resources indispensable for human beings. However, forests are destroyed by industrial development. As a result, our very existence is threatened.

In many parts of the world, the frequency of wildfires has jumped due to abnormal climates, such as record-breaking heat waves. Due to the climate crisis, desertification has accelerated, and various species have lost their habitats or are on the verge of extinction. In particular, COVID-19 has warned of what happens when humans abuse nature.

2

Carbon Neutrality, a Common Goal for Responding to the Climate Crisis

One of the main culprits of the climate crisis is the emission of greenhouse gases such as carbon dioxide. According to the 6th assessment report released by the Intergovernmental Panel on Climate Change (IPCC) in 2021, by 2040, the Earth's temperature will rise 1.5°C above pre-industrial levels if current greenhouse gas emissions are maintained. The report states that reducing greenhouse gas emissions is the only way to keep the temperature from rising further and for humanity to be able to continue surviving.

The Paris Agreement[1], adopted by 195 countries around the globe to reduce greenhouse gas emissions, has been active since January 2021, and 136 of the signatory countries have declared their goal of becoming carbon neutral[2] by 2050. In December 2020, Korea also proclaimed a national target towards carbon neutrality by 2050. Major domestic and foreign companies are also participating in the implementation of carbon neutrality by declaring membership in RE100[3].

SK group's declaration of carbon neutrality

"Mission to remove carbon generated by SK"

"SK will contribute to reducing carbon emissions by 200 million tons, which is 1% of the global carbon reduction target (21 billion tons) by 2030"

- SK group chairman, Chey Tae-won, during the CEO seminar in October 2021

1) Paris Agreement: An international agreement to respond to climate change to prevent the global average temperature from rising more than 1.5 degrees Celsius above pre-industrial levels
2) Carbon Neutrality: Absorbing carbon to neutralize its output and achieve zero effective emissions
3) RE100: Campaign to cover 100% of the electricity used with renewable energy

"Today's world is the result of an accumulation of past human decisions. Likewise, tomorrow's world will also be built on the choices we make from this moment on. So, instead of asking, "What will the future be?", you should ask yourself, "How do you want to shape the future?

[…]

We must create a new framework within the next 10–20 years. The 2020s are humanity's last chance to avert the catastrophic destruction of our planet, and the responsibility rests with our generation."

- From 「Blue Sky, Red Earth」, Cho Cheon-Ho

3 Forests on the Path to Carbon Neutrality

Carbon neutrality starts with recognition and reflection of the limitations of the socio-economic development model after the Industrial Revolution. The direction and strategy for achieving carbon neutrality are clear. First, it is necessary to convert existing fossil fuels to renewable energy while reducing energy consumption as much as possible. In addition, even after energy conversion, unavoidable carbon emissions must be absorbed or removed through outlets such as plants.

Particularly, industries such as petrochemicals and cement, which emit carbon in processes that use petroleum or coal as raw materials rather than fuels, face difficulties in achieving carbon neutrality. This is because it is necessary to find a way to replace the raw material or reduce carbon through new technologies such as carbon capture, utilization, and storage (CCUS). However, the reality is that there are still limits to the actual reduction possible due to technology and cost hurdles.

The international community is paying attention to nature, especially forests, as an effective way to achieve carbon neutrality. Forests are 'natural' carbon capture and storage reservoirs that absorb and store carbon dioxide from the atmosphere. According to the UN-REDD Program, these processes can be applied faster and without risk than any technology developed for carbon reduction with a high removal effects in relation to cost.

At the 26th Conference of the Parties (COP26) to the United Nations Framework Convention on Climate Change (UNFCCC) held in 2021, the leaders of 141 countries signed the Glasgow Summit Declaration, promising to prevent forest loss and restore forests by 2030. And for forest protection and restoration in developing countries, 12 countries, including Korea, the United States, the United Kingdom, and Norway, signed a pledge to invest USD 12 billion (KRW 14.4 trillion) by 2025.

Many countries worldwide use forests as carbon sinks to achieve carbon neutrality. Korea also plans to implement 95% (25.5 million tons of a total of 26.7 million tons) of such resources to reduce carbon emissions by 40% in 2030 (compared to 2018) and achieve carbon neutrality by accounting for 93% (23.6 million tons of a total of 25.3 million tons) of its sinks[1)] by the forest sector by 2050[2)].

As such, forests are vital in the journey toward carbon neutrality. It is time for concrete strategies and active implementation to contribute to achieving carbon neutrality, such as conserving forests and enhancing carbon absorption capacity.

1) Carbon sinks account for 26.7 million tons out of the 70.5 million tons targeted for absorption and removal by 2030 / 25.3 million tons through carbon sinks out of the 117.3 million tons targeted for absorption and removal in 2050
2) Korea Forest Service, 2050 Carbon Neutrality Promotion Strategy from Forest Sector (December 2021)

Chapter 3.

A New Beginning for the Coexistence of Nature and Humans

Nature-based Solution Providers (NbS Providers)

1

Nature-based Solution Providers (NbS[1] Provider)

"To prevent a climate disaster, we must achieve something huge that we have never done before, much faster than we have ever done. To do that, you have to build a consensus that doesn't exist, and you have to create something new to make a difference."

- From「How to avoid a climate disaster」, Bill Gates

SK forest believes in the intrinsic value of nature. In order to sustainably use, manage, and protect natural ecosystems while restoring damaged environments, we act upon climate crisis response by restoring nature's innate resilience and vitality to address social issues and build harmonious coexistence between nature and humans through activities.

Many individuals, companies, institutions, and governments are discussing social consensus and efforts to overcome the climate crisis. Still, most current activities remain in a passive realm, seeking to evade violating laws and regulations. Also, the carbon-neutrality goal agreed upon by the international community is deemed unattainable with the current level of efforts. Instead, more proactive participation must be driven to realize such carbon neutrality.

SK forest proposes a market-oriented perspective that induces the voluntary involvement of various social members to achieve the carbon neutrality goal. One example is a nature-based carbon market providing economic incentives for conservation activities such as forest restoration. This nature-based carbon market creates social and environmental value, such as carbon reduction and residents' improved quality of life, and economic value, such as carbon credit gain and asset value growth of target sites. SK forest seeks to support the realization of social, environmental, and economic value, which shall ultimately prevent the reckless development of nature, conserve biodiversity, and improve human health and welfare by engaging various social members in the nature-based carbon market.

1) Nature-based Solutions (NbS): Measures to protect, sustainably manage, and restore natural or modified ecosystems in ways that effectively and adaptively address social problems, thereby simultaneously providing the benefits of biodiversity and human well-being -From the 2016 World Conservation Congress of the International Union for Conservation of Nature (IUCN)

SK forest implements the following strategies to institute and revitalize the nature-based carbon market.

1

First, the company builds a platform to transparently and safely trade nature-based carbon credits based on blockchain[1]. The platform will evolve into a social arena in which any entity can participate in carbon neutrality by actively providing action plans for carbon reduction and motivating more companies, various institutions, and even individuals to practice their daily routines voluntarily.

2

Second, SK forest expands new carbon sinks at home and abroad by creating domestic and overseas forests and green infrastructure[2] based on its expertise in preserving forests and green spaces around the globe for the past 50 years. To this end, the company elevates its expertise in efficient and effective measurement and management technology for trees and forests based on information and communication technology (ICT). In addition, we are committed to helping realize carbon neutrality for individuals, companies, institutions, and governments by providing reliable, nature-based carbon credit[3] to the domestic and international certification-based platform.

3

Lastly, SK forest implements sustainable processes throughout the value chain, from raw materials for products and services to production and disposal to reduce the carbon footprint. In particular, to encourage the interest and commitment of various social members in achieving carbon neutrality, the company intends to offer nature-based carbon credits certified by SK forest to its Soofe'e customers. As a result, Soofe'e will serve as a bridgehead to practice coexistence with nature in everyday life on top of incorporating nature into its products.

SK forest will drive forward assuredly in responding to the climate crisis, with its management principle increasingly resonating with more diverse social members and by voluntarily engaging in carbon neutrality efforts.

1) Blockchain: Distributed data storage technology that records transaction details in a ledger that anyone can view and replicates and stores them on multiple computers
2) Green Infrastructure: Urban infrastructure (e.g., parks, forests, and wetlands) that enhances the quality of human life and promotes ecosystem services such as water circulation and flood control
3) Carbon Credit: In Korea, a carbon credit is a concept encompassing both an allowance and a credit. However, in this report, the term “credit” is used for the voluntary market to distinguish it from compliance market quotas

Chapter 4.

Deep Change in SK forest, the First Forestry Company in Korea

The Rise of the Nature-based Carbon Market

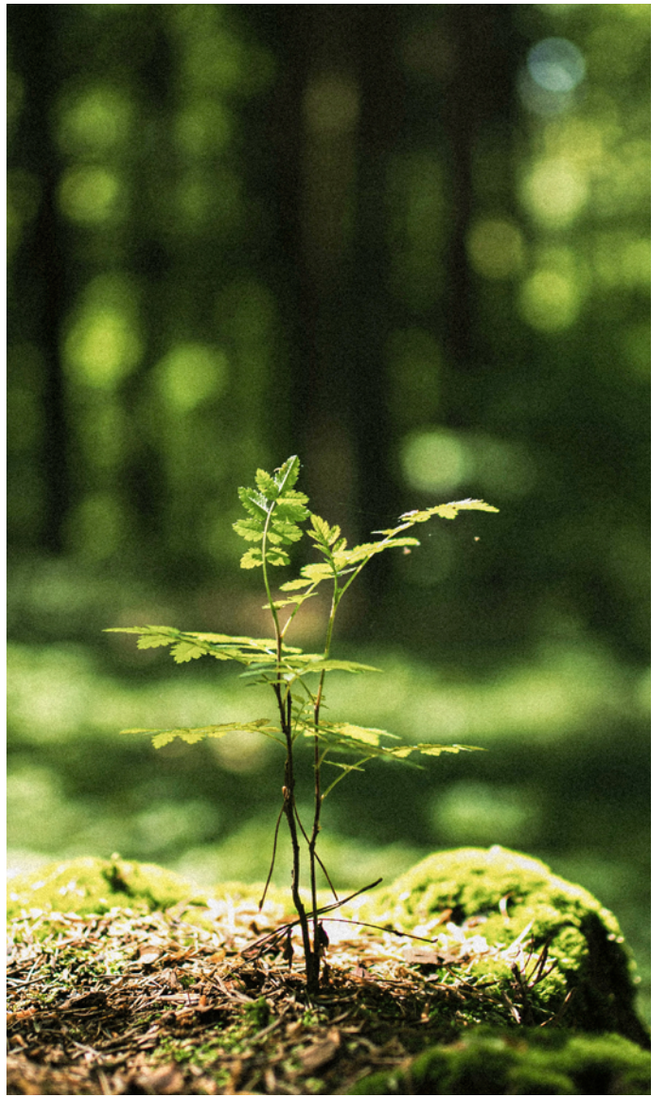
A Platform to Lead the Nature-based Carbon Market

Expansion and Advancement of Nature-based Projects

Soofe’e to Reduce Carbon Footprint in Daily Life

1

The Rise of the Nature-based Carbon Market



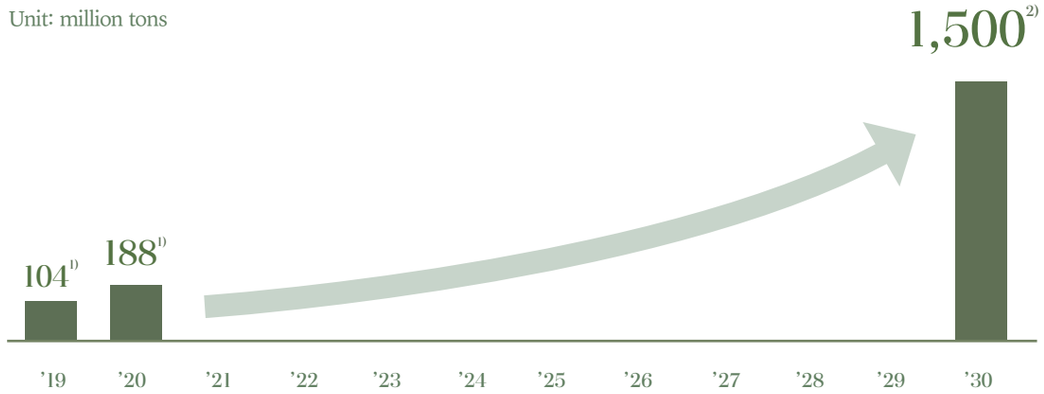
The United Nations Framework Convention on Climate Change (UNFCCC) proposed a regulatory market that enforces reduction obligations to effectively support carbon reduction among various measures to respond to climate crisis. Korea's representative compliance market is the Korea Emission Trading Scheme under the 'Act on the Allocation and Trading of Greenhouse Gas Emission Permits'. According to this regulation, the government applies the total carbon emissions to companies and institutions that emit carbon above a certain level. If they comply, corporations and institutions can secure and offset carbon reduction performance through activities such as afforestation and reforestation. Still, expanding and revitalizing the market is challenging because the compliance market only targets companies or institutions with reduction obligations. As a result, the activities and methods that can be recognized as constituting carbon reduction performance are limited. For this reason, the importance of a flexible and open voluntary carbon market is emerging to complement the limitations of the compliance market and to promote the realization of carbon neutrality.

All members of society should make every effort to achieve carbon neutrality to respond to the climate crisis while maintaining the current standard of living. Voluntary markets are open to companies and institutions included in compliance markets and members of society who are not obligated to reduce carbon. Various attempts and methods to reduce carbon beyond afforestation and reforestation recognized by the compliance market, such as deforestation and forest degradation prevention and forest management, are also recognized.

Members of society who participate in the voluntary carbon market have substantial autonomy and responsibility in participating in global carbon reduction activities and sharing social responsibility for the present and future generations. Even now, the number of entities such as companies and institutions that are voluntarily declaring carbon neutrality and trading carbon credits is increasing rapidly. Accordingly, the size of the global voluntary carbon market is likely to increase significantly.

Global voluntary carbon credit market forecast

Unit: million tons



In the voluntary market, carbon credits based on nature are attracting particular attention. The nature-based carbon credit is valuable in that it overcomes current technological and economic limitations and prevents further environmental destruction risk and damage that accompanies the introduction of artificial technology. Carbon reduction activities such as planting trees and caring for forests are primary nature-based carbon credit issuance methods. These activities are preferred in the market over carbon reduction activities by introducing technology because they can create varied forms of social and environmental value, such as habitat and biodiversity conservation through forests and improvement in the quality of life for residents. As of 2021, nature-based carbon credits account for more than 50%[3] of the voluntary global market. We found that the potential demand in the voluntary domestic market, including nature-based carbon credit, is estimated to reach approximately 60 million tons[4].

1) Ecosystem Marketplace, State of the Voluntary Carbon Markets 2021 (September 2021)
2) TSVCM, Taskforce on scaling voluntary carbon markets (January 2021)
3) Ecosystem Marketplace, Markets in Motion (August 2021)
4) Scope 1, 2 market demand (①) 41 million tons + Scope 3 market demand (②) 19 million tons
①: Required reduction based on national NDC × Recommendation range of offset credits based on SBTi standards
((BAU 851 million tons - 2030 target reduction 437 million tons) × 10%))
②: The CDP-based reduction required for industries with high carbon reduction response needs (finance, pharmaceuticals, telecommunications, etc.)
× Application and forecast of the average share of offset credit utilization by leading global companies (Delta, Shell, Disney, etc.)
((CDP 90 million tons - 2030 target reduction 53 million tons) × 50%)
-References: Korea NDC, Bank of Korea, Greenhouse Gas Inventory & Research Center, CDP Korea Report, DART, JRC (EDGAR), literature research

2

A Platform to Lead the Nature-based Carbon Market

Global interest in the carbon market as a way to achieve the carbon reduction goal is growing significantly, and the consensus on the realization of carbon reduction through the carbon market is also increasing. Nevertheless, there are two hurdles to overcome in activating the voluntary carbon market. One is the problem of buyers' limited access to carbon credit, and the other is the lack of stability in credit transactions.

SK forest aims to increase credit accessibility by establishing a platform to form a nature-based carbon market and transparently providing information such as nature-based business content and performance such as afforestation, forest management, and carbon credit price. In addition, the company intends to increase the accessibility for buyers, such as individuals, SMEs, and institutions, by providing small-scale carbon credits to the carbon market, which has previously been difficult to access due to large transaction units based on projects. As such, the absorption of diverse demand groups through the platform will lead to increased interest and participation by more members of society in carbon neutrality, which will play a role in monitoring nature-based business, leading to continuous improvement in business performance.

In addition, SK forest plans to secure the credibility of carbon credits by supplying credits linked to the domestic Forest Carbon Offset Scheme[1)] and overseas' VCS[2)] to the platform. Expanding access to these credits will enable performance-based impact investment[3)] by allowing buyers to review projects that have proven actual performance, such as carbon reduction, biodiversity conservation, and improvement in the quality of locals' livelihoods. In addition, it will give credibility to the buyer's credit purchase activities in connection with public relations and ESG evaluation responses and social recognition.

Another feature of the SK forest platform is transaction stability. We aim to increase transparency in credit transactions by building a nature-based carbon credit distribution system based on blockchain[4)]. Blockchain technology enhances the asset safety of buyers by enabling the tracking and management of credits from distribution to retirement, the final stage recognized as a reduction in performance. In addition, it gives credibility, by such methods as preventing double counting of emission reduction in the retiring of buyer's carbon credit. Furthermore, it will allow buyers to generate revenue through reliable credit resale. Buyers can use these credit revenues as a financial resource for other carbon-neutral strategies, such as technology investment for direct reduction.

1) Forest Carbon Offset Scheme: A system that enables social contribution and carbon neutrality events through voluntary trade and incineration by receiving certification of forest carbon absorption from the Korea Forest Service in recognition of voluntary carbon sink promotion activities
2) VCS (Verified Carbon Standard): A voluntary carbon credit evaluation and certification standard created by Verra (a private voluntary carbon certification body) with high credibility in the international market with 49 diverse and specific methodologies and strict verification and credit issuance. It carries out about 1,600 global projects, has a market share of 73% by issuing credits worth 289m tCO2eq per year, and occupies a 91% share of the global voluntary carbon market transaction
3) Impact investment: An investment method that aims to address social and environmental issues and can also generate investment returns
4) Provisional patent application for 'blockchain-based forest carbon emission trading system and MRV system (10-2022-0068458, 2022.06)'

3

Expansion and Advancement of Nature-based Projects

Planting trees and caring for forests cannot be accomplished with short-term knowledge and experience. Instead, it should be possible to establish a delicate and precise management plan considering various ecological factors, use and manage it sustainably, and, in turn, restore the damaged ecosystem. SK forest intends to meet the growing demand for nature-based carbon credits that can respond to climate crises based on its expertise in preserving forests and green spaces at home and abroad for the past 50 years.

SK forest has carried out nature-based projects such as reforestation and forest management applicable to compliance and voluntary carbon markets. In order to secure nature-based carbon credits, in 2013, we were the first in Korea to register the Afforestation and Reforestation Clean Development Mechanism (AR CDM)[1] in the United Nations Framework Convention on Climate Change (UNFCCC). We conducted research on the selection of appropriate trees and planted a total of 250,000 trees after selecting three types—cypress, larch, and birch—in reflection of locals' feedback, seeking to restore the 75 ha forest in Goseong, Gangwon-do, which has proved difficult to properly manage after pasture lands were created, into a sustainable forest. Since 2017, we have obtained Forest Carbon Offset Scheme certification for the forests of Chungju, Cheonan, Yeongdong, and Hoengseong, laying the foundation for securing voluntary carbon credit. It is predicted that about 37,000 tons[2] of carbon will be reduced annually over the next 30 years through this project, which is equivalent to the amount of carbon emitted by about 20,000 passenger cars[3] driving 15,000 km each year.

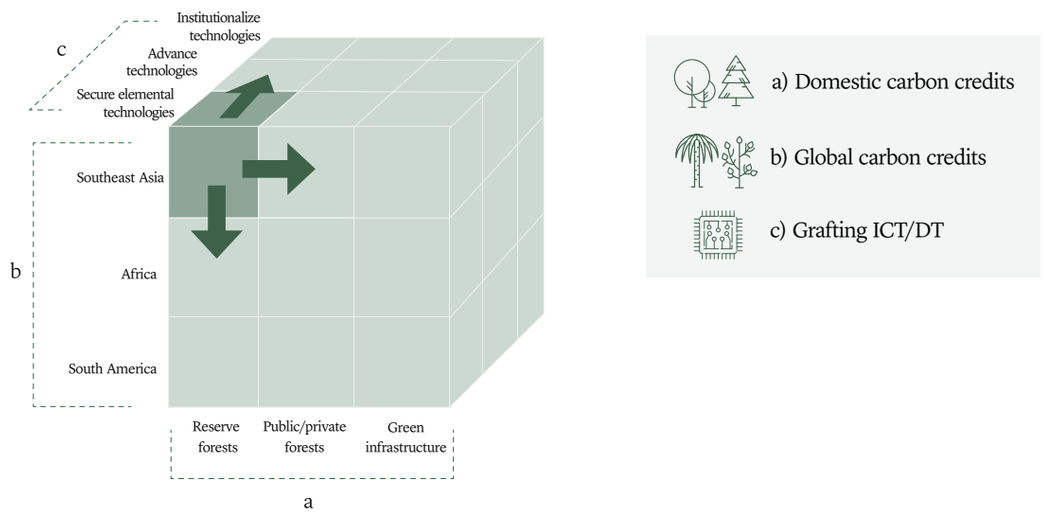
1) AR CDM (Afforestation and Reforestation Clean Development Mechanism): A project in which carbon sequestration through afforestation/reforestation of degraded forests is recognized by the United Nations Framework Convention on Climate Change (UNFCCC)

2) This figure is the average of the total absorption for the next 30 years, which is expected to decrease due to the aging of forests, etc., although the SK Group's Social Value Measurement Guide estimates carbon absorption in 21 years at 580,000 tons

3) National Institute of Forest Science, Standard carbon uptake of major forest species (July 2019)

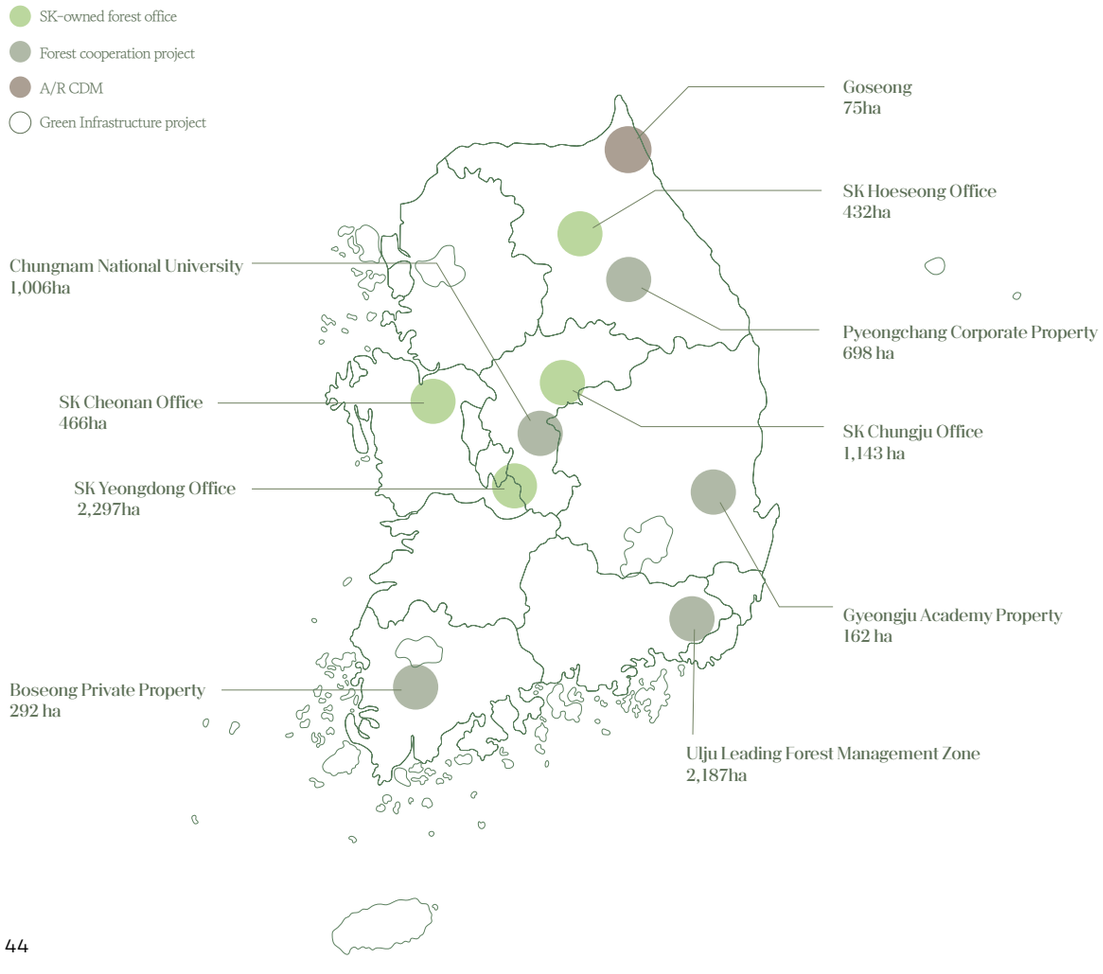
SK forest took the lead in registering nature-based carbon emission rights and carbon credits and will continue to promote the expansion and advancement of nature-based projects for an adequate supply of high-quality credits.

Expansion and advancement strategy of nature-based projects



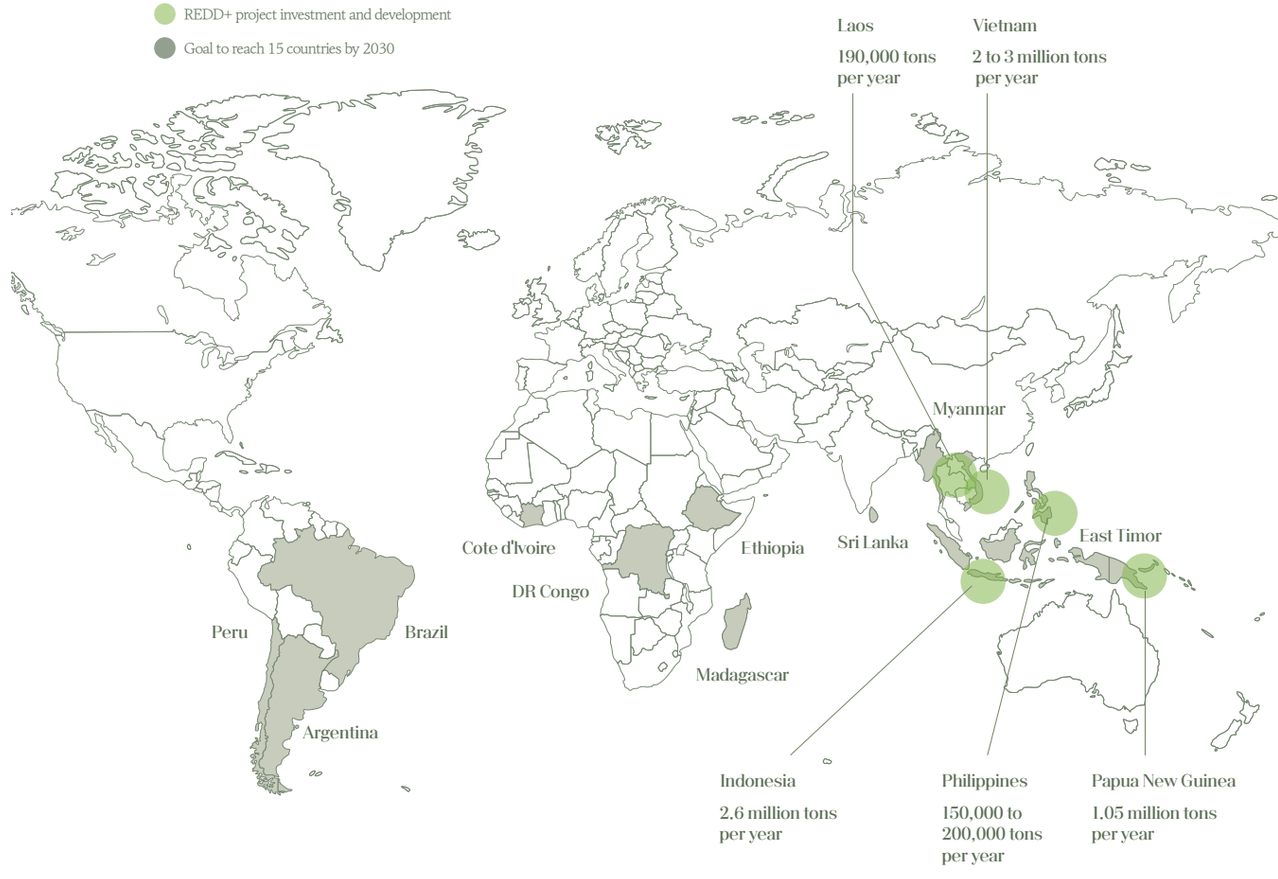
a) Domestic carbon credit — the focal point of value-expanding cooperation

SK forest conducts forest cooperation projects based on the Forest Carbon Offset Scheme for public and private forests in Korea beyond the company-owned forests. We intend to sustainably manage local governments' and public institutions' forests, which occupy 74% (4.65 million ha)[1] of the nation's 6.3 million ha of forest area, plus the private forests of schools, businesses, and individuals. In addition, even in densely populated cities, we plan to actively utilize nature's innate potential to respond to the climate crisis. While forests are decreasing due to the expansion of urban areas, SK forest is utilizing landscaping to build green infrastructure in daily life, such as urban forests and river wetlands. In addition, when it is trivial to secure new green space due to physical limitations, we are creating vertical gardens[2] optimized for water conservation by using recycled materials and mobile planters that are easy to move, as well as planting trees and managing their quality in various indoor and outdoor spaces such as building roofs and walls. As such, SK forest will contribute to the expansion of sustainable forest management and the development of carbon sinks by realizing a three-dimensional landscape using multi-layered urban structures and topography.



b)Global carbon credit — responsibility towards a common goal

SK forest recognizes its responsibility to manage forests worldwide as a global public good to respond to the climate crisis. We will invest and independently develop 'REDD+[3]' to prevent deforestation and forest degradation and secure VCS-certified carbon credits based on partnerships with various stakeholders such as government agencies, international organizations, and academia. In particular, when a small regional project is carried out in a developing country, the deforestation may spill over to other nearby regions, which may have a widespread negative impact. Therefore, we handle such projects on a sub-national level to maximize performance and obtain the best results. In addition, SK forest directly purchases and distributes carbon credits by reviewing nature-based projects invested in and developed by overseas suppliers. In this way, the company will contribute to the rapid expansion of carbon sinks worldwide to respond to the climate crisis.



1) Korea Forest Service, Basic forest statistics for 2020 (September 2021)
2) Patent application for 'Intelligent IOT Wall Garden System Using Recycled Plastic and Aluminum (10-2021-0152502 / 2021.11)'
3) REDD+ (Reducing Emissions from Deforestation and Forest Degradation Plus): Refers to various projects implemented in developing countries to reduce carbon emissions caused by deforestation and forest degradation, including activities for forest conservation, sustainable forest management, and improvement of forest carbon storage capacity

c)Incorporating information and communication technology (ICT) innovation that drives reliability

SK forest is building an information and communication technology-based measurement, reporting, and verification (MRV)[1] system to increase the reliability of carbon credit supply through nature-based projects. We will measure, report, and verify changes in forests by estimating the rate of deforestation and predicting carbon uptake at the tree level using satellite imaging and deep learning technology[2] to analyze the current status of nature-based projects based on quantitative value. SK forest's MRV technology will be used throughout the entire business process, including the initial stage of nature-based project development and quantitative analysis of results during and after implementation. Specific strategies can be designed to increase carbon uptake by identifying causes and devising remedies to prevent predicted deforestation. This is a technology-based measurement, reporting, and verification system that goes beyond the measurement limits of existing manpower-based forest site surveys, and which will objectively and efficiently monitor the business process and enhance the transparency and accuracy of carbon reduction performance. SK forest will build an ecosystem that smoothly supplies reliable carbon credits to the platform by utilizing advanced technology in the domestic Forest Carbon Offset Scheme and overseas VCS certification process.

SK forest will achieve management automation and cost reduction based on expertise in forests and green spaces and a combination of information and communication technology. First, in terms of risk management in nature-based projects, we want to quickly detect anomalies by actively using sensors and imaging devices, and lead the prompt response of relevant organizations. SK forest has developed a forest fire and landslide detection and notification device[3] based on low-power, long-distance communication technology. It can be used even in remote mountainous areas that lack electricity or wireless internet, and can be installed at low cost because there is no additional infrastructure construction expense incurred.

Information and communication technology is also used in the maintenance of nature-based projects. We have developed the Code G Care System[4], which combines an automatic tree-watering system with indoor air quality measurement and outdoor comparison devices. In addition, we are materializing effective plant management by developing the InBody technology for plants, which measures the response of plants according to their growth environment, along with a technology that can check plant activity and growth status through image monitoring[5]. Furthermore, in order to replace the electric energy required for tree management with eco-friendly energy, we are researching technologies that convert energy generated in everyday life, such as vibration, movement, light, heat, and electromagnetic waves. As such, SK forest will continue accumulating technologies that can not only automate management but also save energy and reduce management costs.

1) MRV (Measurement, Reporting, Verification): A system that measures, reports, and verifies greenhouse gas emissions like carbon. Measurement refers to measuring or monitoring data and information on emissions, mitigation activities, changes related to sustainable development, and support for mitigating the climate crisis. Reporting improves accessibility for users by collecting or disclosing information in inventory and other standardized formats. Verification refers to checking the completeness and reliability of reported information through periodic review, analysis, or independent evaluation
2) Patent application for 'A System for Predicting the Amount of Carbon Dioxide Capture Using Satellite Imagery (10-2022-0084460 / 2022.07)'
Patent application planned for 'DB Assetization of Numerical Data and Drone Image Data for AI/ML/DL for Estimating Forest Carbon Potential'
3) Patent registrations for 'Low-Power Mobile Communication-Based Wireless Landslide Detection and Notification Solution (10-2021-0069798 / 2021.10)' and 'Low-Power Mobile Communication-Based Wireless Forest Fire Detection and Notification Solution (10-2022-0063086 / 2022.05)'
4) Patent application for 'A Management System that Combines Air Quality Meters and Water Management Devices (10-2021-0146776 / 2021.10)'
5) Patent application for 'Methods and Servers for Plant Bioimpedance Processing (10-2022-0042821 / 2022.04)'

Values beneficial to suppliers

In the voluntary carbon market created by SK forest, individuals, companies, institutions, and governments that have project sites for domestic and foreign nature-based projects can participate as suppliers. The supplier entrusts SK forest with related professional tasks such as business planning, management, and due diligence to estimate carbon reduction and distribute carbon credits. In addition to carbon credits, various forms of value are created across many aspects.

Suppliers can also obtain economic value in the form of increased property value of the project site as well as carbon credit income. Furthermore, the credit income can be reinvested in other social and environmental value-creating or nature-based projects. In other words, it is possible to secure the project's sustainability by using it as a financial resource for project operation and follow-up management. For example, Chungnam National University recently signed a carbon-neutral industry-academic cooperation agreement with SK forest for academic forests donated by SK forest in the past. The carbon absorbed by the forest will be converted into credits and used as financial resources for Chungnam National University's power generation and scholarship projects. SK forest will similarly invest in technology with credit profits to sustainably expand and advance nature-based projects.

Suppliers can use SK forest's expertise and technology to conserve forests, green spaces, and create social and environmental value in such forms as carbon reduction, biodiversity conservation, and improvement in local residents' quality of life. The supplier achieves carbon reduction by promoting carbon sinks such as forests and contributes to direct carbon reduction by such means as saving energy for heating and cooling, due to the direct effects of creating green spaces. For developing countries, it is significant that the vulnerable classes directly benefit from the creation of social and environmental value. This is because nature-based projects are of practical help by reducing disaster risk and providing an alternative source of income for the underprivileged. SK forest strives to achieve continuous forest protection and restoration in developing countries. Developing countries will be able to acquire SK forest’s technology and expertise as well as develop legal and institutional policies for forestry together, thereby increasing the capacity for follow-up management and expansion of nature-based projects.

4

Soofe’e to Reduce the Everyday Carbon Footprint

SK forest believes that a sustainable management philosophy for the harmonious coexistence of nature and humans can be reflected throughout all decision-making. This belief is the basis for achieving sustainable growth through activities that enrich the lives of the present generation without damaging nature for future generations. Based on this belief, SK forest’s Soofe’e aims to achieve sustainable growth by establishing the 5R (Reduce, Reuse, Recycle, Return, Recovery) principles.

Soofe’e’s value chain _ Reduce, Reuse, Recycle

SK forest has created Soofe'e, which can be used worry-free, to harness the sap of birch trees that have been planted and cultivated to convey nature's vitality to everyday life. In this way, we not only include nature in Soofe'e, but we are reducing our carbon footprint by considering the coexistence of nature and humans in the entire Soofe'e process, starting from nature and returning to nature.

Raw materials and extraction

Soofe’e uses sap from the SK forest’s Chungju birch forest, which has received the Sustainable Forest Management Certification (KFCC FM), as a raw material. The sap is directly harvested by drilling small holes in the trees, and for a sustainable method that minimizes the impact on the tree, it is harvested once a year at timed intervals for each tree. Birch sap has received ‘COSMOS Approved’[1] certification, indicating that it is a natural cosmetic raw material following strict verification and evaluation of the entire process including raw material, manufacturing process, and quality control assessments. In addition, the Soofe’e Birch Rich Origins line is certified ‘EVE Vegan’[2], indicating no animal ingredients and no testing on animals.

Design and production

The cosmetic containers in the Soofe’e Birch Rich Origin line use uncoated glass for easy recycling. The product bag is designed to reduce resource usage and require no separate plastic or paper bags. The box is made from uncut, eco-friendly, non-wood paper, 100% sugar cane residue, which is recyclable and biodegradable. In addition, we used vegetable oil and soybean oil inks that reduce air pollutants, such as volatile organic compounds, during the printing process of packaging materials, which decompose easily upon disposal, and have exemplary color development, reducing the required amount of use.

Disposal

Empty containers can be refilled and reused at refill stations, saving resources for producing containers and cartons. We also collect and recycle empty containers.

1) COSMOS Approved: An international standard for organic and natural cosmetics, which is unified by European certification agencies such as Germany's BDIH, Italy's ICEA, France's Comebio & Ecocert, and the UK's Soil Association. 'COSMOS Approved' is a certification for the raw material ingredient.
2) EVE Vegan: A global certification established by the association Vegan France that evaluates whether products of various categories such as food, beverages, cosmetics, and fashion meet vegan standards.

Soofe’e’s social contribution _ Return, Recovery

SK forest seeks to provide carbon credits certified by our forests to customers who purchase Soofe'e in order to promote the interest and participation of various members of society in achieving carbon neutrality. Furthermore, we will donate 10% of Soofe'e's sales to campaigns that raise awareness of climate crisis and of the necessity of nature conservation activities, as well as grow forests that create social value, thereby contributing to enhancing the resilience of nature.

Soofe’e was selected in the manufacturing sector for promoting carbon neutrality across the nation in 2021, hosted by the Ministry of Environment, and pursued the ‘Carbon-Neutral Life Practice’ campaign. To create sustainable forestland in 2022, we launched the ‘Rescue Earth’s Forests 2022’ campaign with the Asian Forest Cooperation Organization (AFoCO).

To draw attention to the climate crisis among various members of society and to encourage nature conservation practices in everyday life, activities such as raising ‘pet plants,’ picking up trash in mountains or parks, and using disposable cups were promoted through social media from March 21 (World Forest Day) to April 22 (World Earth Day). Also, due to sea level rise, 10% of Soofe’e’s sales were donated to restore the endangered mangrove forest in Tai Binh, Vietnam where 2,022 seedlings were planted, equivalent to the number of people who participated in the campaign.

In addition, we are carrying out the ‘Green On’ campaign to create forests with 10% of the purchase amount of Soofe’e for domestic companies. In March 2022, the first forest was created at Dajeong Elementary School in Sejong Special Self-Governing City through this campaign.

Soofe’e will continue to carry out various activities to reduce our daily carbon footprint alongside many members of society.

Chapter 5.

The World Pursued by NbS Providers

SK forest's Business Model

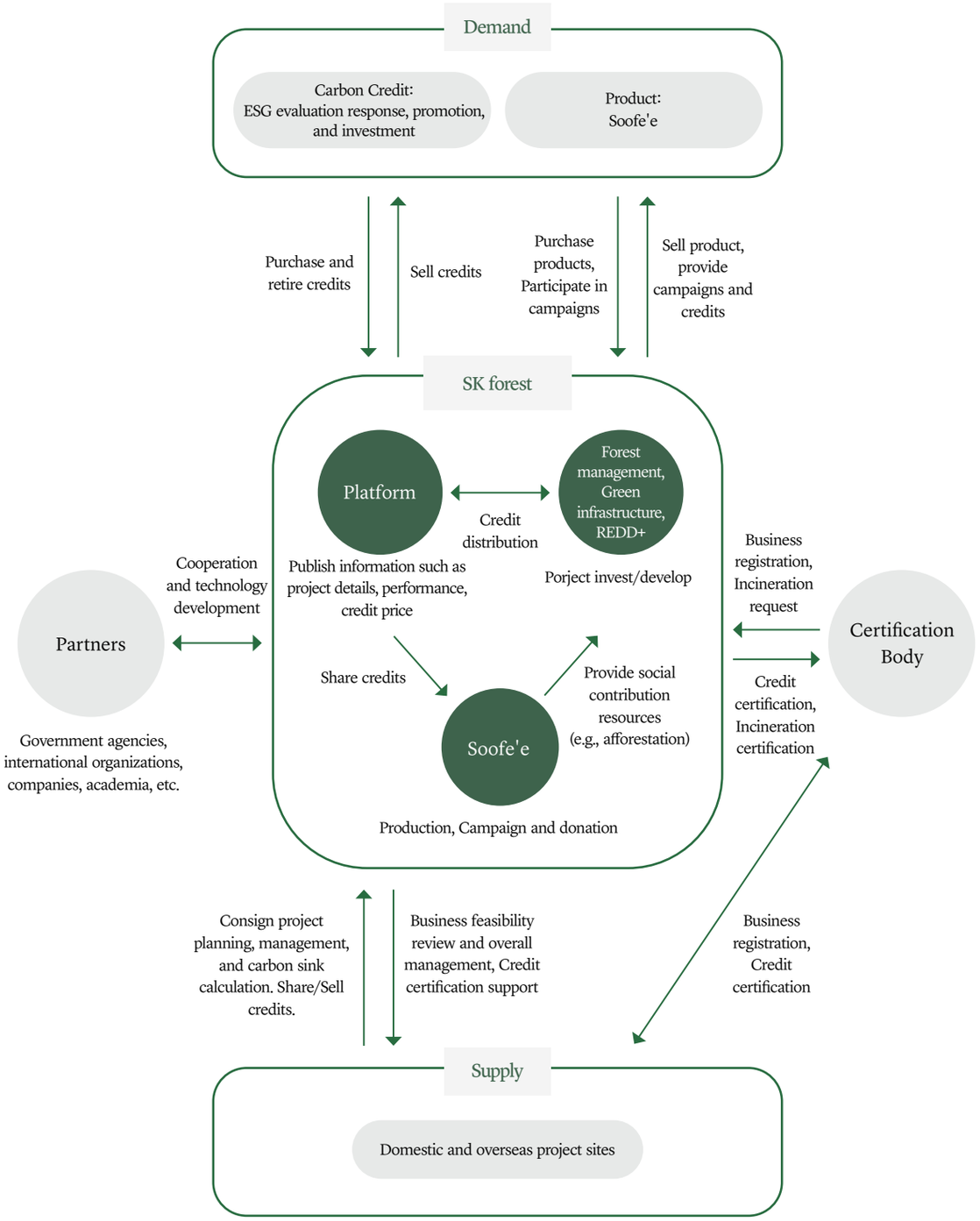
Our Goals

A Nature-based Solution Provider for All

1

SK forest's Business Model

SK forest challenges social problems in the era of the climate crisis, building a carbon market based on domestic and foreign forests and green infrastructure.



2
Our Goals

We aim to secure 20 million tons of carbon credit, 10% of SK Group's 200 million tons of carbon reduction target by 2030, and make it tradable on the platform. This is about 30% more than the potential demand of 60 million tons in the domestic voluntary market in 2030.

By establishing a nature-based carbon market, SK forest aims to create a virtuous cycle of value for responding to the climate crisis. The virtuous cycle of value will transform the current lifestyle and industrial structure and ultimately enable a harmonious life between nature and humans.

Target carbon credit
20 million tons

- 3.3 million tons
- 0.7 million tons
- 16 million tons

Nature-based carbon market

Platform	Occupies about 30% of the potential demand of 60 million tons in the domestic voluntary market in 2030

Nature-based projects

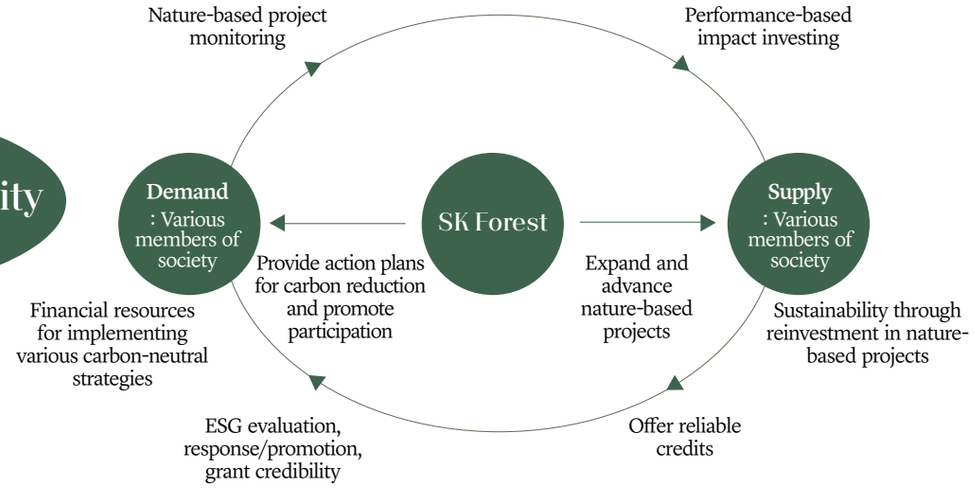
Forest management	Cooperation in public and private forest management and SK-owned forest management
Green infrastructure	Urban green spaces and indoor/outdoor three-dimensional landscaping
REDD+	Prevention of deforestation and forest degradation in developing countries, and sustainable forest management

Carbon ——— Neutrality

Society
Improve the quality of life of local residents

Environment
Carbon reduction

Economy
Carbon credit income, improve the property value of the project sites



3

A Nature-based Solution Provider for All

SK forest has contributed to global forest reforestation for the past 50 years since Korea's first forestry company was born. Taking a deep breath and looking into the future, we find a more valuable path for a better tomorrow. As an NbS provider for the sustainable life of 'everyone', including present and future generations and all living things, SK forest will gradually expand its scope to the oceans and coasts, river basins, grasslands, and pastures. We will contribute to addressing the social and environmental problems facing humanity, such as water shortages, environmental pollution, disasters, and diseases due to the climate crisis and resource depletion, through activities to protect and sustainably use and manage natural ecosystems and to restore damaged ecosystems.

"We are just as noble, fragile, flawed, and clever as
those who broke the bad habits hundreds of years ago,
boldly faced challenges, and built and created things.
Like them, we are endowed with only four resources:
the earth, the ocean, the sky, and each other."

— From 「The Story of More: How We Got to Climate , Hope Jahren

We must act now.

Humanity's last chance and responsibility to respond to the climate crisis has been entrusted to us. Would you like to join us 'now' on SK forest's journey to create greater happiness and a better world by delivering more natural value to peoples' everyday lives?

ESG DATA

Environment

SK forest provides nature-based solutions (NbS) to address social and environmental problems. To respond to the climate crisis, we protect natural ecosystems, use and manage them sustainably, and restore damaged ecosystems. In particular, based on sustainable forest management in Korea, we intend to contribute to the reduction of not only our greenhouse gases (GHG) but also society as a whole through the prevention of deforestation and forest degradation (REDD+) overseas and the establishment of a voluntary carbon market. The GHG, energy, waste, and water data below include our six business establishments and sole-contractor projects.

GHG emissions

Item		Unit	2019	2020	2021
Total GHG emissions (Scope 1 + Scope 2)		tCO2eq	262.9	376.3	503.9
By type	Direct (Scope 1)	tCO2eq	191.6	285.3	398.6
	Indirect (Scope 2)	tCO2eq	71.4	91.0	105.3
GHG emission intensity (Scope 1 + Scope 2)		tCO2eq/sales (KRW billion)	3.0	7.1	6.2

Energy usage

Item			Unit	2019	2020	2021
Total energy consumption (Conventional + Renewable)			GJ	4,286	6,029	7,957
Total conventional energy consumption(Direct + Indirect)			GJ	4,286	6,029	7,957
By type	Direct	City gas	GJ	150	157	179
		Gasoline	GJ	558	480	682
		Diesel	GJ	2,050	3,491	4,894
		Kerosene	GJ	38	0	1
	Indirect	Electric power	GJ	1,491	1,901	2,201
Total renewable energy consumption[1)]			GJ	0	0	0
Share of renewable energy			%	0	0	0
Energy use intensity			GJ/sales (KRW billion)	48.1	113.8	97.6

1) Solar, wind, geothermal, hydro, other (biomass, etc.)

Water usage

Item		Unit	2019	2020	2021
Total water consumption (Surface water + Groundwater + Others)		ton	824.0	959.0	765.7
By type	Surface water	ton	824.0	959.0	765.7
	Groundwater	ton	0	0	0
	Others	ton	0	0	0
Recycled water		ton	0	0	0
Recycling rate		%	0	0	0
Water use intensity		ton/sales (KRW billion)	9.2	18.1	9.4

Waste generation

Item		Unit	2019	2020	2021
Total waste generation (General + Designated)		ton	196.3	462.9	406.9
By type	General waste	ton	196.3	462.9	406.9
	Designated waste	ton	0	0	0
Total waste treatment (Incinerated + Landfilled + Recycled)		ton	196.3.	462.9	406.9
By type	Incinerated	ton	31.6	25.0	16.0
	Landfilled	ton	0	99.9	0
	Recycled	ton	164.7	338.2	390.9
Waste recycling rate		%	83.9	73.1	96.1
Waste intensity		ton/sales (KRW billion)	2.2	8.7	5.0

Environmental violation

Item	Unit	2019	2020	2021
Number of violations of environmental laws	Case	0	0	0
Environmental improvement charge	KRW	0	0	0

Social

SK forest established the ultimate goal of management as the satisfaction of its members and stakeholders and reflected this in the articles of association.

Employees

SK forest establishes policies and systems for the satisfaction and growth of its members based on the founder's spirit of 'Grow a tree as if you grow a person and nurture a person as you nurture a tree'. We do not allow gender discrimination in the hiring process, and we have formed and operated a Labor Management Council. In addition, to establish a horizontal organizational culture and to be reborn as a job-oriented professional organization, the job titles of employees and general managers were reorganized and unified as managers. Furthermore, the evaluation system has been reorganized to give recognition and rewards according to individual performance. Employees can select the internal and external training necessary to enhance their job competency and develop themselves by receiving support for language and book expenses. In addition, we introduced telecommuting, flexible work, and self-approval annual leave systems to enhance work immersion and achieve work-life balance through employees' voluntary selection of work hours and locations. In addition, we are operating various welfare programs such as long service awards, school expenses for children, expenses for family events, eco-friendly agricultural products, and communication expenses. Policies and systems for the growth and happiness of employees are monitored through employee satisfaction surveys to increase their effectiveness.

Employee status

Item		Unit	2019	2020	2021
Total number of employees[1)]		Persons	79	89	98
By type	Full-time	Persons	63	66	71
	Non-regular	Persons	16	23	27
By age	Under 30	Persons	10	12	13
	Between 30 and 50	Persons	58	68	77
	50 and above	Persons	11	9	8

1) Based on withholding tax return reports

Employee diversity

Item		Unit	2019	2020	2021
Total number of female employees		Persons	15	17	22
Female	Executives	Persons(%)	0(0)	0(0)	0(0)
	Managers[1)]	Persons(%)	1(14.3)	1(14.3)	1(9.1)
Disabled		Persons(%)	0(0)	0(0)	0(0)
Veteran		Persons(%)	0(0)	0(0)	0(0)
Foreigner		Persons	0	0	0

1) Based on current positions

Turnover

Item		Unit	2019	2020	2021
Total number of entrants		Persons	15	21	27
By type	Fresh graduate	Persons	0	3	3
	Experienced	Persons	15	18	24
By gender	Male	Persons	12	18	21
	Female	Persons	3	3	6
Employee turnover		Persons	6	13	16
By type	Dismissal	Persons	0	0	0
	Voluntary resignation	Persons	6	13	16
	Retirement	Persons	0	0	0
By gender	Male	Persons	5	12	15
	Female	Persons	1	1	1
Average years of service		Years	6.4	5.9	5.9
By gender	Male	Years	7.0	6.4	6.5
	Female	Years	3.7	4.0	3.8

Salary and compensation

Item		Unit	2019	2020	2021
Gross salary average[1)]		million KRW	58	58	59
By gender	Male	million KRW	62	61	62
	Female	million KRW	42	45	49
Gross salary average[2)]		million KRW	53	54	56
By gender	Male	million KRW	56	56	58
	Female	million KRW	42	45	49
Equal pay[3)]		%	68	74	79
By position	Executives	%	0	0	0
	Managers	%	81	96	105
	Non-managers	%	77	81	87

1) Including executives
2) Excluding executives
3) Ratios of women's average salary to men's

Job training

Item	Unit	2019	2020	2021
Total training cost	‘000 KRW	25,478	22,967	29,995
Training cost per employee	‘000 KRW	322	258	306

Work-life balance

Item		Unit	2019	2020	2021
Participation rates of flexible[1)]		%	-	100	100
Total incidence of parental leave		Persons	1	3	3
By gender	Male	Persons	0	1	1
	Female	%	1	2	2
Return rate after[2)]		%	0	100	50
By gender	Male	%	0	0	0
	Female	Persons	0	100	100
Number of employees who worked for more than 12 months after returning from parental leave		Persons	0	0	1
By gender	Male	Persons	0	0	0
	Female	Persons	0	0	0

1) Flexible working systems were implemented in 2020 (for all employees)
2) One male left the company in 2021

Satisfaction

Item		Unit	2021
Employee satisfaction[1)]		Points	3.7
By type	Company vision	Points	4.3
	Communication	Points	3.7
	Job satisfaction/efficiency	Points	3.8
	HR system	Points	3.4
	Welfare	Points	3.9

1) On a 5-point scale

Safety and health

SK forest has established a safety and health management policy to create a working environment in which employees and stakeholders can be assured of safety and health. The organization responsible for safety and health shares safety and health regulations and manuals with all business sites and provides related training or distribution of materials when established or revised. The company periodically monitors the implementation of manuals and measures based on risk assessment and reports and shares the results to prevent accidents. In addition, it supports annual health examinations and conducts health activities to promote the health of its employees via an industrial nurse every month. Occupational safety and health education, which is compulsory by law, is conducted annually. The company has achieved zero severe accidents over the past three years.

Safety

Item		Unit	2019	2020	2021
Employees[1]	Total working hours and number of people	Hours	420,608	374,000	597,080
		Persons	212	187	295
	Lost time injuries (LTI)	Case	0	1	1
	Lost time injury rate (LTIR)	Case/200,000 working hours	0.00	0.53	0.33
	Industrial accident rate	%	0.00	0.53	0.34
	Number of deaths	Case	0	0	0
	Rate of death	%	0	0	0
	Occupational illness	Case	0	0	0
	Occupational illness frequency rate (OIFR)	Case/200,000 working hours	0	0	0

1) Based on withholding tax return reports (including day labor)

Health

Item	Unit	2019	2020	2021
Participation rate in health examinations	%	90.4	91.2	91.4
Total health examination cost	‘000 KRW	25,290	24,340	30,543
Health examination cost per employee	‘000 KRW	383	333	407

Safety and health violations

Item		Unit	2019	2020	2021
Total number of serious accidents		Case	0	0	0
By type	Employees	Case	0	0	0
	Partners	Case	0	0	0
Number of violations of safety and health laws		Case	0	0	0

Supply chain management

SK forest creates a fair and competitive industrial ecosystem with partners and leads mutual development. In selecting partners, financial soundness and performance are considered, and risks are managed by regularly monitoring partners’ credit status. In addition, for transparent and fair subcontract transactions, the company abides by the ‘Four Subcontracting Practices’ established by the Fair Trade Commission, uses standard subcontract contracts, and pays subcontract payments in cash or as an alternative payment method within 60 days. In the future, SK forest shall lay the foundation for sustainable growth by spreading ESG management throughout the industry.

Partners

Item	Unit	2019	2020	2021
Total number of partners	Partner	85	95	94
Number of ESG risk-assessed partners[1]	Partner	-	-	-
Percentage of partners implementing remedies	%	-	-	-

1)No ESG risk assessment implemented

Quality management

SK forest strives for safety accident prevention and quality management of products and services. There have been no reports or violations regarding the safety or quality of products and services.

Quality violations

Item	Unit	2019	2020	2021
Violations of quality laws[1]	Case	0	0	0

1) Including product/service safety, labeling, and advertising regulations

Information security

SK forest has established policies for information protection. The organization responsible for information security conducts regular security audits and reports the results along with necessary actions. In order to protect customers' personal information, a personal information processing policy has been established and managed, and we are subscribed to personal information protection liability insurance. In addition to the annual statutory compulsory education on personal information protection, we also conduct information security education to emphasize the importance of information security to our employees. We have not had any data breaches.

Information security training

Item	Unit	2019	2020	2021
Information security training hours per employee	Hours	1	1	1
Participation rate in information security[1]	%	94.0	100	100

1) Participants compared to subjects

Information leakage

Item	Unit	2019	2020	2021
Number of corporate data leaks	Case	0	0	0
Number of customer information leaks	Case	0	0	0

Community

SK forest creates social value by utilizing its assets and creating and delivering donations to coexist with the local community. In addition, since the establishment of the company, a tree planting event has been held every year for 50 years, and volunteer activities for the walnut field with the local community are also carried out.

Community support

Item	Unit	2019	2020	2021
Total donations[1)]	million KRW	78	7	2
Total service hours	Hours	52	536	0
Based on volunteer hours per employee	Hours	0.65	6.02	0

1) Excluding social contribution project expenses

Human rights management

SK forest pursues the happiness of its employees and stakeholders. To raise employees' awareness of human rights, we conduct education on the prevention of sexual harassment, which is legally mandatory, and education on improving awareness of the disabled. In addition, human rights issues can be consulted or reported through the Labor Management Council and the Ombudsman Committee. In the event of workplace harassment or sexual harassment, we take appropriate measures, such as an investigation to confirm the facts, disciplinary action against the perpetrators, and a change of work location. There have been no reports or violations related to human rights.

Reporting and violation of human rights

Item	Unit	2019	2020	2021
Reports related to human rights	Case	0	0	0
Cases related to human rights	Case	0	0	0
Violations of human rights laws	Case	0	0	0

Governance

Board of directors

SK forest pursues sustainable management through the establishment of sound corporate governance. Since 2020, social value creation has been reflected in the CEO's key performance indicators at a ratio of 50%.

Member of the board of directors

Position	Name (gender)	Major career	Term of office	Expertise
CEO (Chairperson of the Board of Directors) Internal director	In Bo Chung (male)	Current) CEO and President of SK forest Co., Ltd. Former) Head of SV Promotion, SK Innovation	2021. 01 ~2023. 03	Management, ESG
Internal director	Jae-Deuk Lee (male)	Current) Head of Innovation Growth, SK forest Former) Team leader responsible for SV promotion at SK Co., Ltd.	2020. 10 ~2023. 03	Environment, ESG
Non-executive director	Hyung-Geun Kim(male)	Current) Head of Portfolio Mgmt Division, SK Co., Ltd. Former) CEO and President of SK Airgas Co., Ltd.	2021. 01 ~2023. 03	Finance, risk

Status of the board of directors

Item		Unit	2019	2020	2021
Independence	Ratio of outside directors	%	0	0	0
	Chairperson by outside directors	Y/N	N	N	N
	Advisory group for recommending outside director candidates	Y/N	N	N	N
	Number of guidelines limiting the number of other positions	Guidelines	0	0	0
Diversity	Board diversity policy	Y/N	N	N	N
	Number of female directors	Persons	0	0	0
Expertise	Number of directors with industrial experience	Persons	2	2	2
	Number of ESG experts	Persons	1	2	2
	Number of financial experts	Persons	2	2	1
	Number of risk experts	Persons	1	1	1

Operation of the board of directors

Item		Unit	2019	2020	2021
Number of board meetings		Times	7	10	6
Number of reports and resolutions		Case	14	22	12
By agenda	Agree	Case	14	22	12
	Disagree		0	0	0
	Amend		0	0	0
	Abstain		0	0	0
Number of ESG-related agendas		Case	0	0	1
Board attendance rate		%	100.0	85.0	94.4

Board responsibilities

Item	Unit	2019	2020	2021
Subscription to executive liability insurance	Y/N	Y	Y	Y
Number of leadership-related issues	Case	0	0	0

Board evaluation and remuneration

Item	Unit	2019	2020	2021
Self-evaluation	Y/N	N	N	N
Independent evaluation by a third party	Y/N	N	N	N
Disclosure of annual remuneration for each director	Y/N	N	N	N
ESG reflection on CEO performance indicators	Y/N	Y	Y	Y

Ethical management

SK forest's ethical management is the basis of all value-creating activities for the happiness of stakeholders, and the code of ethics is established and operated for ethical management practice. We provide guidelines for employees to judge and act under the decision-making principles of legality, transparency, and rationality in their daily work. And every year, through the pledge of ethical practice, ethical management training, and practice workshops, we pledge our will to practice the code of ethics and our responsibility to comply. In addition, through an employee survey on ethical management operations, we identify areas for improvement and take appropriate actions. Partners also pledge to abide by ethical management and practice ethical management together. Any stakeholder, including employees, can consult or report through the SK group company's ethical management reporting channel and e-mail skf.ethics@sk.com. If the report is deemed to indicate an ethical violation, severe disciplinary action shall be taken. There have been no reports or violations of our ethics.

Ethical management training

Item	Unit	2019	2020	2021
Ethical management training hours per employee	Hours	2	2	2
Participation rate in ethical management training[1)]	%	93.8	98.8	97.9

1) Participants compared to subjects

Reporting and violations of ethics

Item	Unit	2019	2020	2021
Reports related to ethics[1)]	Case	0	0	0
Cases related to ethics	Case	0	0	0
Violations of anti-corruption laws	Case	0	0	0

1)Including anti-corruption and fair trade

Appendix

Economic Achievements

Statement of financial position

Unit : million KRW

Item	2019	2020	2021
Total assets	**78,656**	**78,433**	**83,552**
Current assets	23,597	23,383	25,827
Quick assets	23,050	22,358	24,937
Inventory	547	1,025	890
Non-current assets	55,059	55,050	57,725
Investment assets	664	664	664
Tangible assets	35,484	35,343	37,103
Intangible assets	74	103	59
Biological assets	17,784	17,775	17,770
Other non-current assets	1,053	1,165	2,129
Total liabilities	**10,088**	**8,786**	**13,673**
Current liabilities	9,383	7,811	12,232
Non-current liabilities	705	975	1,441
Total equity	**68,568**	**69,647**	**69,879**
Capital	20,000	20,000	20,000
Capital surplus	37,008	37,008	37,008
Retained earnings	11,560	12,639	12,871

Income statement

Unit : million KRW

Item	2019	2020	2021
Sales	**89,109**	**53,015**	**81,537**
Sales and administrative expenses	**6,410**	**7,323**	**7,514**
Salaries	2,864	3,100	3,613
Severance	370	472	443
Welfare expenses	392	494	564
Operating income	**2,785**	**556**	**680**
Non-operating income	**700**	**670**	**607**
Interest income	246	287	201
Dividend income	10	10	10
Net income	**2,612**	**1,079**	**232**

Stakeholder Engagement

Definition of stakeholders and communication

SK forest defines stakeholders who significantly impact business activities as customers, employees, investors, partners, government, NGOs, and local communities. Various communication channels are operated, and stakeholders' opinions are actively reflected in management activities.

Stakeholder groups	Main communication channels	Expected (interested) issues
Customers	-Website -Monthly newsletter -Supporters -Social contribution activities	-Customer satisfaction enhancement -Customer privacy and protection
Employees	-In-house portal -Survey -Labor Management Council -Employees meeting	-Safe working environment -Respect for the human rights of employees -Work-life balance -Diversity and inclusion -Employee growth and self-development -Equal opportunity and fair performance evaluation
Investors	-Disclosure data -Phone and email	-Strengthening transparent management centered on the board of directors -Response to internal and external risk management -Expanded stakeholder communication
Partners	-Website -Phone and email	-Shared growth -Cooperation and communication -Support projects such as infrastructure -Ethical management and fair trade -Protection of workers' human rights
Government	-Seminar -Press Release -Social contribution activities	-Participation in key policies -Carbon neutrality and GHG reduction -Compliance with laws and regulations -Creation of economic value
NGOs	-Website -Social contribution activities	-Minimized emission of environmental pollutants
Community	-Website -Local group meeting -Social contribution activities	-Social Contribution -Revitalized local economy -Corporate social responsibility -Job creation

Materiality Assessment

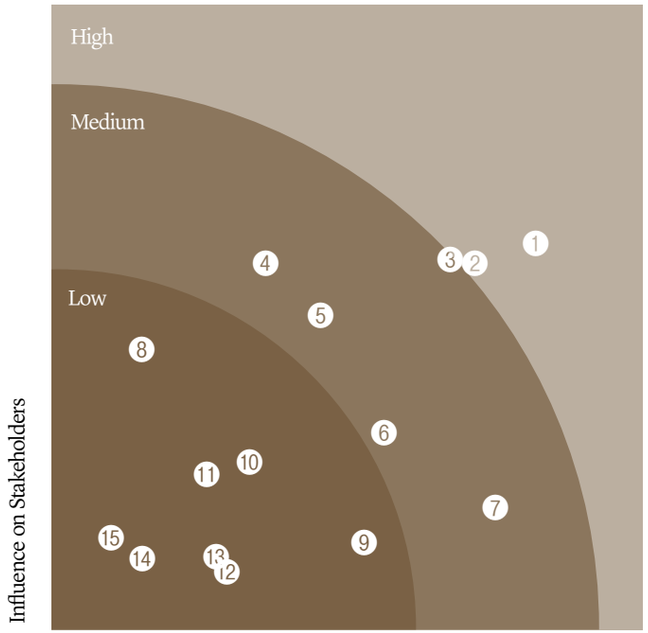
SK forest identifies significant business environment and industry issues, reviews the international guidelines for sustainability management (GRI Standards) and global ESG evaluation standards to compose and evaluate material topics, and discloses our sustainability management activities and performance to stakeholders. The materiality assessment determines the report topic and focuses on performance and plans for key issues. The top 5 out of 15 issues were selected as key issues based on the degree of business impact and stakeholder interest through procedures such as internal/external environment analysis and a stakeholder survey.

Materiality assessment process

Stage	Description
Derive topics for sustainability management	Analyze the business environment, business strategy, and business performance and derive 15 topics for SK forest's sustainable management through ESG evaluation and analysis of disclosure requirements (GRI, DJSI, SASB, MSCI, etc.).
Prioritize through a materiality assessment and derive key topics	Analyze the results and prioritize topics by evaluating the significance of each topic and measuring the business impact for experts through a survey of internal and external stakeholders of SK forest. -Survey period: January to February 2022 -Subjects: customers, employees, investors, partners, governments, NGOs, local communities, etc.
Report and verify material topics	Include all issues in the Sustainable Management Report for the significance of each topic identified through a materiality assessment, verify the materiality assessment process and results, and report content through third-party assurance.

Materiality assessment results

As a result of the Materiality Assessment, 'Business Portfolio Advancement', 'Climate Crisis Response', and 'Sustainable Forest Management' were selected as key topics for SK forest's sustainability management in 2021. Although competitiveness within the industry and customer business activities were deemed important, ESG-related topics were placed at the top, confirming the social responsibility that internal and external stakeholders demand from SK forest. Activities and performance on the 5 selected material topics are fully reported throughout the Sustainable Management Report.



Priority	Topics
1	Project portfolio advancement
2	Response to climate crisis
3	Sustainable forest management
4	Biodiversity and land use
5	GHG emissions
6	Business strategy/risk management
7	Economic performance
8	Resource circulation
9	Occupational safety and health
10	Compliance
11	Ethics/integrity
12	Employment and labor
13	Community
14	Human rights management
15	Governance

Material topic

Priority	UN SDGs	Material topic	Report page
1	10,11,12	Project portfolio advancement	37-51
2	13	Response to climate crisis	23-27
3	8,11,13,15	Sustainable forest management	53-59
4	15	Biodiversity and land use	09-21
5	13	GHG emissions	61

GRI Index

Universal standards

Index		Index content	Report page
Organizational profile	GRI 102-1	Name of the organization	85
	GRI 102-2	Activities, brands, products, and services	86
	GRI 102-3	Location of headquarters	85
	GRI 102-4	Location of operations	85
	GRI 102-5	Ownership and legal form	85
	GRI 102-6	Markets served	86
	GRI 102-7	Scale of the organization	85
	GRI 102-8	Information on employees and other workers	63
	GRI 102-9	Supply chain	63-68
	GRI 102-10	Significant changes to the organization and its supply chain	Moved the Seoul office (2022)
	GRI 102-11	Precautionary principle or approach	37-51
	GRI 102-12	External initiatives	77
	GRI 102-13	Membership in associations	87
Strategy	GRI 102-14	Statement from senior decision-maker	2-3
	GRI 102-15	Key impacts, risks, and opportunities	2-3
Ethics and integrity	GRI 102-16	Values, principles, standards, and norms of behavior	71
	GRI 102-17	Mechanisms for advice and concerns about ethics	71
Governance	GRI 102-18	Governance structure	69-70
	GRI 102-22	Composition of the highest governance body and its committees	69
	GRI 102-23	Chair of the highest governance body	69
Governance	GRI 102-31	Review of economic, environmental, and social topics	70
	GRI 102-33	Communicating critical concerns	70
	GRI 102-34	Nature and total number of critical concerns	76-77
Stakeholder engagement	GRI 102-40	List of stakeholder groups	75
	GRI 102-41	Collective bargaining agreements	63
	GRI 102-42	Identifying and selecting stakeholders	75
	GRI 102-43	Approach to stakeholder engagement	75
	GRI 102-44	Key topics and concerns raised	75
Reporting practices	GRI 102-45	Entities included in the consolidated financial statements	Not applicable
	GRI 102-46	Defining report content and topic boundaries	76-77
	GRI 102-47	List of material topics	76-77
	GRI 102-48	Restatements of information	No change
	GRI 102-49	Changes in reporting	No change
	GRI 102-50	Reporting period	88
	GRI 102-51	Date of most recent report	88
	GRI 102-52	Reporting cycle	88
	GRI 102-53	Contact point for questions regarding the report	88
	GRI 102-54	Claims of reporting in accordance with the GRI Standards	88
	GRI 102-55	GRI Index	78-81
	GRI 102-56	External assurance	82-83
Management approach	GRI 103-1	Explanation of the material topic and boundaries	76-77
	GRI 103-2	The management approach and its components	76-77
	GRI 103-3	Evaluation of the management approach	76-77

Topic specific standards-economic performance(GRI 200)

Index		Index content	Report page
Economic achievements	GRI 201-1	Direct economic value generated and distributed	73-74
	GRI 201-2	Financial implications and other risks and opportunities due to climate change	23-59
Indirect economic impacts	GRI 203-1	Infrastructure investment and services supported	9-59
	GRI 203-2	Significant indirect economic impacts	9-59
Anti-corruption	GRI 205-2	Communication and training about anti-corruption policies and procedures	71
	GRI 205-3	Confirmed incidents of corruption and actions taken	71

Topic specific standards-environmental performance(GRI 300)

Index		Index content	Report page
Energy	GRI 302-1	Energy consumption within the organization	61
	GRI 302-2	Energy consumption outside of the organization	61
	GRI 302-3	Energy intensity	61
	GRI 302-4	Reduction of energy consumption	61
Water and effluents	GRI 303-5	Water consumption	62
Biodiversity	GRI 304-4	Habitats protected or restored	9-21
Emission	GRI 305-1	Direct (Scope 1) GHG emissions	61
	GRI 305-2	Energy indirect (Scope 2) GHG emissions	61
	GRI 305-4	GHG emissions intensity	61
Waste	GRI 306-3	Waste generated	62
	GRI 306-4	Waste diverted from disposal	62
	GRI 306-5	Waste directed to disposal	62
Environmental grievance mechanisms	GRI 307-1	Non-compliance with environmental laws and regulations	62

Topic specific standards-social performance(GRI 400)

Index		Index content	Report page
Employment	GRI 401-1	New employee hires and employee turnover	64
	GRI 401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	63-65
	GRI 401-3	Parental leave	65
Labor relations	GRI 402-1	Minimum notice periods regarding operational changes	
Occupational safety and health	GRI 403-1	Workers representation in formal joint management-worker health and safety committees	66
	GRI 403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	66
	GRI 403-5	Worker training on occupational health and safety	66
	GRI 403-6	Promotion of worker health	66
	GRI 403-9	Work-related injuries	66
	GRI 403-10	Work-related ill health	66
Training and education	GRI 404-1	Average hours of training per year per employee	65
	GRI 404-2	Programs for upgrading employee skills and transition assistance programs	63-65
Diversity and equal opportunity	GRI 405-1	Diversity of governance bodies and employees	63
	GRI 405-2	Ratio of basic salary and remuneration of women to men	64
Human rights assessment	GRI 412-2	Employee training on human rights policies or procedures	68
Community	GRI 413-1	Operations with local community engagement, impact assessments, and development programs	68
	GRI 413-2	Operations with significant actual and potential negative impacts on local communities	
Customer health and safety	GRI 416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	67
Customer information protection	GRI 418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	67
Socio-economic compliance	GRI 419-1	Non-compliance with laws and regulations in the social and economic area	66,67,68,71

Third-Party Assurance Statement

To the readers of SK forest's integrated report 2021

Introduction

After receiving a request for verification of the 2021 SK forest Sustainable Management Report (hereinafter, the Report), Marcspon (hereinafter, the Verifier) verifies the organization, business performance, and activities and submits the following verification opinion. SK forest is responsible for preparing the Report, and this Verifier's responsibility is limited to presenting its verification opinions on data related to sustainability management within the scope specified below.

Verification scope and criteria

SK forest describes the organization's performance and activities related to sustainability in the Report. Verifier performed Type 1 and Moderate Level verification of AA1000AS (2008), an international verification standard, and evaluated compliance with inclusivity, materiality, and responsiveness principles. At this time, the professional judgment of the verification team was applied as the materiality criterion.

Confirmation of the satisfaction of the core option reporting requirements of the GRI Standards is included in the scope of verification. Accordingly, the detailed indicators of material topics derived through the materiality evaluation procedure were as follows.

- GRI Standards reporting principles
- Universal standards
- Topic-specific standards
  - Management approach of Topic-specific Standards
  - GRI 203: Indirect Economic Impact
  - GRI 205: Anti-corruption
  - GRI 302: Energy
  - GRI 304: Biodiversity
  - GRI 305: Emissions
  - GRI 307: Environmental Compliance

Among the reporting boundaries of the Report, data and information about SK forest's business partners and contractors outside the organization were excluded from the scope of verification.

Verification method

The Verifier verified the truth of the contents of the Report and the internal process for Report creation and reported data as follows.

· Review of the methodology and process used to produce the data
· Review of reference documents and data of the Report's pivotal claims
· Review of promotional activities and achievements
· Review of materiality issue selection process and results
· Confirmation of the content and quality compliance based on the GRI Standards Guidelines

Limitations and solutions

The verification was conducted based on the assumption that the data and information provided by SK forest are complete and sufficient. Therefore, data verification was performed in a limited scope through query and analysis of the data collected by SK forest and a limited sampling method. To overcome this issue, we reviewed the quality and reliability of information by referring to independent external sources and public databases such as the electronic disclosure system.

Verification results and opinions

Based on the results of document reviews and interviews, the Verifier discussed the revision of the Report with SK forest on several occasions and reviewed the final version to confirm the reflection of revisions and improvement recommendations. As a result of the verification, SK forest's Report was written according to the core option of the GRI Standards, and no inappropriate parts were found regarding compliance with the principles presented in AA1000AS (2008). The verification team's opinions on the principles are as follows.

Inclusivity Principle	SK forest develops and operates stakeholder communication channels in various forms and levels to practice them and commit to the organization's responsibilities towards stakeholders. The Verifier did not find any key stakeholder groups that were left out in this process and confirmed that efforts were being made to ensure that their views and expectations were appropriately incorporated into the organization's strategy.
Inclusivity Principle	SK forest determines the materiality of key issues affecting the organization's sustainability performance through its independent evaluation process. The Verifier did not find any critical issues left out in this process.
Responsiveness principle	SK forest prioritizes identified key issues and reports its performance, countermeasures, and plans in a comprehensive and balanced way whenever possible. The Verifier did not find evidence that SK forest's response activities were inappropriately recorded in the Report.

Suggestions for sustainable management improvement

The Verifier highly appreciates SK forest's efforts and achievements to improve sustainability management and recommends active management centered on visible goals to continuously improve the level in the future. The Verifier encourages SK forest to establish long-term goals for each area of sustainability management, manage the achievement level every year, and concurrently inspire employees to be more actively motivated to achieve goals. In addition, beyond establishing a system for promoting sustainability management, efforts should be made to gradually inform external stakeholders of the promotion results and gain sympathy.

November 2022
Han Jeong-Won, Executive Consultant, marcspon

marcspon

About SK forest

Introduction

SK forest started as Seohae Development Co., Ltd. in 1972 and has been leading sustainable forest management for the past 50 years. At the same time, the company restored an urban ecosystem in which nature and humans exist in harmony through green infrastructure, like urban forests, and also launched a nature-based cosmetic product, Soofe'e. SK forest will create value for present and future generations by establishing a nature-based carbon market on the foundations of its experience and expertise in domestic and overseas forest management, landscaping, and cosmetics.

Company name	SK forest Co., Ltd.
Date of establishment	November 1, 1972 (Former Seohae Development Co., Ltd.)
Largest shareholder (stake)	SK Co., Ltd. (100%)
CEO	In Bo Chung
Business	Carbon platform, forest management, Green infrastructure, cosmetics
Address	Headquarters: 2FL. Buak-ro 4, Icheon-si, Gyeonggi-do
	Seoul Office: 51, Jong-ro, Jongno-gu, Seoul
Sales	KRW 81.5 billion (2021)
Number of employees	99 people (as of December 31, 2021)
Website	www.skforest.com

Main Business Areas

Carbon platform

Responding to the climate crisis, we plan to create a nature-based carbon market in which any members of society voluntarily participate in carbon neutrality. We are building a platform that enables easy and stable carbon credit trading.

Forest management

We aim to create diverse social and environmental value through forest-protecting activities, use and manage forests sustainably, and restore damaged ecosystems. We have forest management expertise and know-how to establish optimal management goals and strategies encompassing the ecological factors affecting forests. Based on our 50-year-long experience and expertise, we manage the largest corporate forest in Korea and expand sustainable forest management for both company-owned as well as domestic public and private forests. In addition, we fulfill our social responsibility to respond to the global climate crisis by preventing the destruction of overseas forests and restoring wastelands.

Green infrastructure

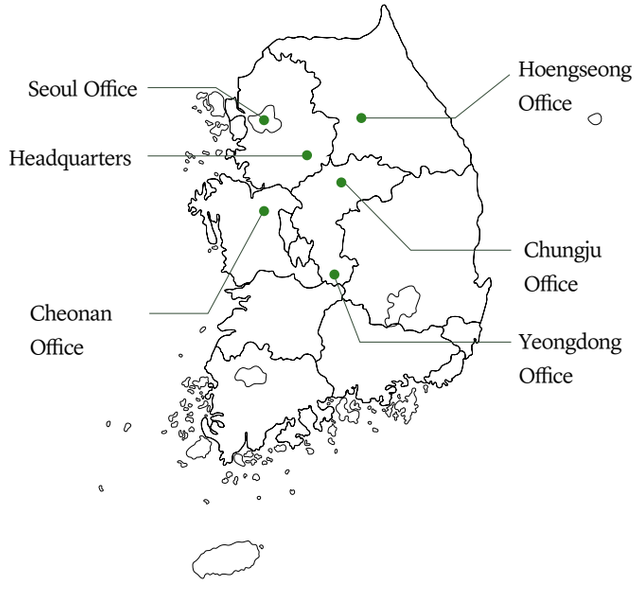
We take the lead in reducing carbon emissions and improving residents' quality of life by designing and re-creating urban nature. Based on the expertise and technology accumulated over the past 40 years, we provide high-quality landscaping services from design to construction and maintenance. We will actively respond to the climate crisis by building green infrastructure while exploring and developing tree measurement and management systems.

Cosmetics

We produce and market Soofe'e, made from the sap of birch trees planted and grown ourselves. In order to fulfill our social responsibilities to the present and future generations, we strive to minimize the impact on nature throughout the entire process of our product value chain. In addition, we are fully engaged in social value-creating activities through campaigns and donations so that various members of society can take an interest in responding to the climate crisis and participate in carbon-neutral practices in daily life.

Locations

SK forest operates four business offices besides the headquarters and Seoul office.



Major awards

1980 Commendation for Afforestation Merit (Korea Forest Service)
1981 Civil Merit Medal (President)
1988 Tin Tower Order of Industrial Service Merit (President)
1999 Korean Landscape Society Achievement Award
2000 Korean Society of Forest Science Achievement Award (President of the Korean Society of Forest Science)
2000 Seoul City Landscape Award (Seoul Mayor)
2002 Landscape Industry Promotion Presidential Citation (President)
2006 1st Korea Green Grand Prize (Korea Forest Service/ Chey Jong-hyun, inaugural chairman)
2007 Korea Ecological Landscape, Greening Grand Prize (Ministry of Environment)
2007 Korea Civil Engineering & Construction Technology Award (Korean Society of Architecture, etc.)
2009 Grand Prize in IFLA Landscape Planning Category (International Federation of Landscape Architect)
2010 Forest Hall of Fame Dedication (Korea Forest Service / Chey Jong-hyun, inaugural chairman)
2010 Iron Tower Order of Industrial Service Merit (President)

Memberships

Construction Guarantee
Construction Association of Korea
Korea Special Contractors Association
Forest Managers Association
Korea Society of Forest Science
Korea Industrial Technology Association
Korea Association of Ecological Restoration
Korean Institute of Landscape Architecture

About This Report

Overview

SK forest published its first Sustainable Management Report in 2022. The report contains major activities and achievements related to SK forest's sustainability management. Starting with the publication of the first report, we have striven to communicate with various stakeholders and faithfully carry out sustainability management by actively hearing opinions and disclosing transparent results.

Period

The report contains the details of SK forest's activities from January to December 2021. Regarding major quantitative performance, data from the last three years is included to analyze annual trends. In addition, some details from before 2021 and the first half of 2022 are also included in relation to information that may affect stakeholders.

Scope

In addition to the SK forest headquarters and Seoul office, the report contains the sustainability management performance of four business offices (Cheonan Office, Yeongdong Office, Chungju Office, and Hoengseong Office). Some data with different reporting scopes are indicated separately.

Standards

The Report has been prepared per the core options of the Global Reporting Initiative (GRI) Standards, the international reporting guidelines for sustainability management.

Assurance

The data in the report was subjected to third-party assurance by an external agency to enhance reliability and quality, and the results are included in 82p.

Inquiries

Please contact us below for any inquiries about the Report.
Issued by: SK forest Co., Ltd. / Address: 51, Jong-ro, Jongno-gu, Seoul
Website: http://www.skforest.com / E-mail: skf_sustainability@sk.com

SK forest