We're here to do things right
and enjoy our lives together

BYUCKSAN ENGINEERING BYUCKSAN POWER

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# Ethical Management, Different Approach with Advanced Engineering Technologies, and Social Responsibility beyond Customer Satisfaction All made possible at Byucksan Engineering Group

## Ethical

Byucksan Engineering Group is committed to ethical management of business. Everything we do will be righteous in its purpose, goal and even manners. We strictly comply with rules and principles, and exercise our corporate social responsibilities by paying the utmost respect to our customers and partners.

## Different

We are earnestly trying to be the best with passion and challenging spirit. We wish Byucksan Engineering Group can play a leading role in the global trend of change. Our completion is found at the differentiated technological expertise and know-how. We will fully contribute to customers' success and create a future growth engine with outstanding global talents.

## Socially Responsible

A primary reason and an ultimate purpose why we are in pursuit of profit from corporate activities are found at sharing. We work and share together with everyone, which would be our corporate duties to fulfill social responsibility.

| Mission |

# We Design and Build a Happier World

## satisfying customers, employees, shareholders, and ultimately human societies

### Byucksan Engineering Group

We build a richer future with the best technologies,
We satisfy customers with unrivaled passion, and
dream a world of happiness by fulfilling social responsibilities.

The engine of Byucksan Engineering Group is driven by humans.
We truly rely on love and trust. The two values enable us to pursue a decisive business innovation and ethical management for leading the current trends, and do also the numerous experts to compete against the worlds in technology. Trust is another name of love.

Byucksan Engineering Group will make continuous effort to be a faithful company cherishing the value of human and technological development, and our deliverables are always tending to the customer satisfaction.

We desire to create a happier world with customers.

| Vision |

# "Great People Great Works"

**We are truly desirous of pursuing the future vision to be Byucksan Engineering Group in service competency and a Global EPC Contractor in service range.**

**Now we are designing and building a Good Working Place, Byucksan Engineering Group.**

# We inspire the world with the best technologies.

**Byucksan Engineering will build a richer future with technologies for the humans, deliver a satisfaction to customers with unrivaled passion and create a happier world through social contribution.**

Byucksan Engineering has challenged to expand and diversify new business horizons in domestic and overseas markets during the last three decades since founded in 1979. We have grown to one of the reputed general engineering consultants with high competitiveness home and abroad.

Our engine of innovative growth is mainly powered by technological expertise aquired, rich experiences accumulated and challenging sprit cultivated for the previous years. The essential gears of the engine are composed of the highly qualified, suitably experienced engineers and their professional effort for the challenge against the demanding competition. They lead us to perform respectably the engineering services in the multidisciplinary areas of energy, industrial plants, environment, electric power, housing, various infrastructures, etc.

We deliver the high quality engineering services based on certified licenses for quality management system (ISO9001), environmental management system (ISO14001) and health & safety systems, quality seismic design, and other numerous standards of qualification. Byucksan Engineering also provides environmentally friendly construction works particularly in environment, energy and housing areas.

We envision a world-class general engineering service provider leading the 21st century. We aim to achieve the vision by upgrading our competency and position in the market into an engineering group company and a global EPC contractor, respectively. For the goals we have earnestly paid our business attention to the overseas markets such as Latin America, Asia, Middle East, Africa and any other regions requested.

We promise to be always with you as one of the most reliable business partners by satisfying truly your needs. Our performance for the customer satisfaction is done by the quality in technology and the humanity in deliverables. We sincerely uphold and exercise our corporate philosophy, "ethical, different, socially responsible" for a true realization of happier world.

We hope to be invited by you, and willingly invite you to the world full of happiness.

**CEO & President**

# Setting up new standards of engineering consultancy services

**Byucksan Engineering provides entire scope of engineering services from feasibility study, design to supervision and also covers construction and operation & maintenance works as well. Our professional expert group has successfully executed every role of services such as FEED, PMC, CM, EPC and EPCM.**

We build a better world together
**with creative technology!**

## Energy

- Combined Heat & Power Generation and District Heating/Cooling
- Renewable Energy
- ESCO Business

## Chemical & Industrial Plants

- Oil Storage & Supply Facilities
- Gas Supply Facilities

## Environment

- Waste-to-Energy Solution
- Waste Water & Sewage Treatment
- EIA
- Mine Hazard Prevention & Soil Remediation

## Transportation & Infrastructures

- Roads & Bridges
- Railways
  - -High Speed Railway
  - -Metro
- Airport
- Nuclear Power Plant Structures
- Water Resources & Water Supply

## Electric Power & IT

- Electric Power Transmission & Substation
- Energy Management Solutions & SMART-Grid

## Housing & Urban Planning

- Housing
- Urban Planning

## Combined Heat & Power Generation and District Heating/Cooling

Byucksan Engineering Group provides the consulting services of Combined Heat & Power (CHP) Plants and Combined Cycle Power (CCP) Plants used for district heating and cooling in residential/ industrial complex areas, called Community Energy Supply (CES) system. Based on numerous experiences in basic and detailed design services we could supply cogeneration system, piping networks for heat distribution, heat recovery system, other heat exchange units.

Byucksan Engineering Group has been engaged in numerous projects of cogeneration, triple generation and heat supply for district heating/cooling. Our rich experiences in such field enable to provide customer-tailored scope of services from project planning to feasibility study, basic & detailed designs, supervision to construction.

## Renewable Energy

As a future alternative Green Energy, Byucksan Engineering Group has paid keenly our attention on the renewable energy business on- and off-shore. We actively participate in the engineering and construction projects using renewable energy sources such as biomass, solar power, biogas, wind power and mini-hydropower.

## ESCO Business

We provide energy diagnosis & installation services for existing energy-consumptive facilities such as industrial plants, cogeneration plants, incineration facilities, which contribute to saving energy and reduction of greenhouse gas emission. We have expanded ESCO business from R&D based pilot projects to rehabilitation works everywhere.

"We build a new paradigm for continuous improvement in quality of life"

# Chemical & Industrial Plants

## Oil Storage & Supply Facilities

Byucksan Engineering Group provides engineering services for various oil storage and supply facilities in ground, underground and offshore areas. Our experiences cover every kind of facilities such as underground oil storage cavern, tank terminals, pipelines, and aircraft refueling system.

We have successfully executed numerous turnkey projects, which allow us to provide every spectrum of engineering services and construction work by cutting-edge technology for customer's satisfaction.

## Gas Supply Facilities

Byucksan Engineering Group has provided engineering consulting services for numerous domestic natural gas supply and storage projects. Our records are found at many national main pipelines, gathering/governor/valve/block stations, underground LPG storage tanks, and CNG stations.

Our cumulative experience and state-of-the-art technology contribute to a stable supply of natural gas in Korea. Based on the domestic experience we expand actively our business horizon by participating in overseas projects.

"We pursue a global competitive consultant."

# Environment

## Waste-to-Energy Solution

Byucksan Engineering Group provides a total waste treatment solution by applying systematic methods and knowhow to waste collection, MBT, reuse, recycling, incineration, and final disposal of landfill. Our special strength is found at the great deal of experiences in waste incineration facilities. We have designed, built and operated by ourselves the waste treatment facilities. We are ranked in one of the top Korean consultants in experience and technological knowhow.

We also provide the highly experienced solutions to treat various kinds of waste such as food waste, hazardous waste, industrial waste as well as municipal solid waste.

We actively propose our business portfolio of the waste-to-energy solution to domestic and overseas customers at competitive price and quality technology.

## Waste Water & Sewage Treatment

Byucksan Engineering Group has successfully performed engineering consulting services in the field of sewage treatment facilities. We are engaged in design and supervision services for methodological improvement of advanced treatment, waste water, livestock waste water, and sewage treatment plants, sewage pipe, prevention of non-point source pollution, and other treatment applications.

## Environmental Impact Assessment

We firstly concentrate on accurate environmental assessment based on scientific investigation and analysis, and suggest environmentally friendly alternatives for sustainable development. We aim to provide customers with positive mitigation measures against the environmental impacts caused by the development. Our business area in environmental assessment covers a series of studies including a preliminary environmental review, a full EIA, and a post-EIA monitoring.

## Mine Hazard Prevention & Soil Remediation

Byucksan Engineering Group holds the leading position in mine & soil remediation field by executing various scope of works such as ground stabilization, contaminated-soil improvement/remediation and prevention of mineral residue run-off. Our professional attention is paid to restoring damaged natural environment and removing side-effects caused by mining activities.

"We build a new paradigm for sustainable growth in quality of life"

# Transportation & Infrastructures

## Roads & Bridges

Numerous qualified highway engineers with rich experiences in design and supervision provide high-quality deliverables in highways, national and local roads with different lengths and feature. Our consulting services include new construction, expansion and rehabilitation works for the existing roads and related structures.

As one of representative transportation infrastructure areas, we have designed and supervised the construction projects of long-span bridges such as cable-stayed bridge and suspension bridge in domestic and foreign countries.

## Railways

High-speed Railway We performed some representative consultancy services for high-speed railway construction: a design service for Taiwan High-speed Railway Construction Works and a supervision service for Seoul-Busan High-speed Railway Construction. Based on numerous engineering experiences in the scope of feasibility study, basic & detailed designs and supervision in conventional and high-speed railways, Byucksan Engineering Group is ready to expand our engineering technology and knowhow in railway field to overseas markets.

Metro Metro has a key role in public transportation in many metropolitan cities of Korea. The well-networked metro system in Korea is based on a technological advance particularly in subway construction. Byucksan Engineering Group has participated in many construction projects of metro system as one of major engineering consultants. From the previous experiences and currently on-going projects we have acquired and accumulated high-quality design and professional supervision knowhow in many ground & underground structures such as tunnels, railway bridges and roadbed works.

## Airport

We perform design and supervision services for various airport facilities including aircraft refueling facility, oil pipeline networking, airport utilities, power incoming & distribution facility, and E&M and communication system for control tower. Such services have been successfully provided for Incheon International Airport and other domestic airports.

## Nuclear Power Plant Structures

Byucksan Engineering Group has successfully conducted geotechnical investigation including design and supervision services for nuclear power plant sites and the related structures. Our professional performance in this field was officially certified and reputed by acquiring the Quality System Certificate assuring quality seismic design for the nuclear safety. Many eligible specialists supply their best services ranging from drilling, geophysical survey, in-situ & lab tests, design and supervision.

## Water Resources and Water Supply

We perform design and supervision services for hydro-power and reservoir dam construction works. Our recent engineering experiences encompass eco-friendly river rehabilitation, small hydropower plant, and water & irrigation works.

# Electric Power & IT

## Electric Power Transmission & Substation

Byucksan Engineering Group has continuously kept a leading position in engineering services of electric Power transmission, distribution and substation fields by carrying out a large number of projects with the scope of works such as feasibility study, detailed design, supervision, and project management consulting as well.

Based on its accumulative expertise and state-of-the-art technologies largely of 765kV / 345kV / 154kV transmission in domestic market, we strongly pursues to undertake overseas electric power supply projects. Currently we are actively performing the overseas projects in African, Asian and Latin American countries.

## Energy Management Solutions & SMART-Grid

Byucksan Engineering Group undertakes the energy management and saving projects by applying our own Smart Grid interworked energy management solution, brand name of "ENERGLE." ENERGLE is our first commercialized product to which an international building automation standard, oBIX(open Building Information Exchanger), was firstly applied in Korea. We also applied openADR (open Automatic Demand Response), a standard technology currently used for real-time demand response in Korea and U.S., and interlinked openADR to the 'real-time electricity demand resources operation system' of Korea Power Exchange for the first time in Korea.

Byucksan Engineering Group is seeking at more practical applications in smart-grid business area by developing highly competitive technologies. Such applications are found at the projects: a charging solution for electric vehicles in the smart grid demonstration complex in Jeju Island and a 'Smart Water /Energy Grid Solution' for advanced treatment in sewage treatment plants.

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"We create an ideal place of living
freely interactive and diversely communicative."

# Housing & Urban Planning

## Housing

Our architectural and construction specialists pursue to create a new housing culture represented by the harmony between technology, nature and humanism.

We provide now various kinds of construction works of commercial and residential buildings such as mixed-use residential buildings, shopping malls, office buildings and apartments. Our works are offered with a named-responsibility and satisfaction for customers. They are found with our own brand names of 'Byucksan E-Solenshill', 'Byucksan E-Village', and' Byucksan E-Metapolis'.

## Urban Planning

The purpose of urban planning is to improve public welfare and people's quality of life by forecasting future changes via quantitative and qualitative analyses on the past and the present data of the city. We have made comprehensive urban plans for spatial structure and development direction of the city in two/three dimensions. Byucksan Engineering Group undertakes basic planning, detailed design and supervision services for district unit planning, transport/residence environment improvement planning, rehabilitation planning, land development planning for housing lots and many other industrial complex projects.

"We build a new housing culture with balance between nature and humanism."

# Overseas Business Activities

## Byucksan Engineering Group and Our Family

Ethical management
Different approach with advanced engineering technology
Social responsibility beyond customer satisfaction
All made possible at Byucksan Engineering Group

- Byucksan Engineering Co., Ltd.
- Pocheon Green Center Co., Ltd.
- Sacheon Green Co., Ltd.
- Byucksan Power Co., Ltd.
- New Water Co., Ltd.
- Eco I-Tech Co., Ltd.
- Nonsan Green Environmental Co., Ltd
- Arayoun Environmental Co., Ltd.

- Byucksan Arabia Co., Ltd.
- Byucksan America Corp.
- Byucksan India Pvt., Ltd.
- Byucksan Engineering Ecuador S.A.
- Byucksan Indonesia

# Previous & On-going Project Experiences in Foreign Countries

## Asia

- Vietnam, Consulting Service for the Project of Solid Waste Treatment & Management in Ninh Binh Province (2006-Present)
- Taiwan, Taiwan High Speed Railway Project (2000-2006)
- Indonesia, Owner's Engineering Consultancy Service Contract for 200MW ISM(Integrated Steel Mill) Power Plants Construction (2011-Pres ent)
- Pakistan, Consultancy Service for GEPCO Substations for Rural Distribution Construction Project (2009–Present)
- Singapore, Design and Construction of the Underground Caverns, Associated Under-Ground/ Above-Ground Facilities and Jetty of Phase 1 Jurong Rock Cavern at Banyan Basin, Jurong Island (2010-2011)
- Philippine, Building Construction for Wood Pellet Processing & Continuing Plantation Estate Development (2011-Present)
- Myanmar, The supply of Audio and Video System for Building(B,C,J,D) of Project(A) (2011)
- Myanmar, The supply of MPDP Display System for Building(B) (2011)
- Myanmar, SHWE Field Development Project (Site Construction Works for electrical and Instrumentation (2011-Present)
- China, Consulting services for exterior waterproofing quality in Chinese railways: Nanshin Line(Gamchung & Shingang Sections), Seobo Line, Jinjin Line, Hachi Line, and Danyoung Line.

## Central and South America

- Bolivia, Consulting Service for the Construction of the Pailas Bridge (2004-2008)
- Bolivia, Feasibility Study for Banegas Bridge Project (2008-2009)
- Nicaragua, Supervision Services of National Program for Sustainable Electrification and Renewable Energy(2012~)

## Africa and Middle East

- Mozambique, Rural Electrification in Gaza Province Project (2011-Present)
- Tanzania, Consultant Service for New 132KV Kilimanjaro-Arausa Transmission Line and Rehabilitation of Kiyungi Substation Project(2011-Present)
- Tanzania, Consultancy Services for Upgrading Four(4) 200kV Substation Under Iringa-Shinyanga Backbone Transmission Investment Project(2012-Present)
- Oman, Design, Manufacture, Installation and Commissioning of One Lot of Environmental Facility to Oman Dry-dock Company (2009-2011)

# Social Contribution

# In the heart of Byucksan Engineering Group Humans and Enterprise keep in tune, Culture and Art sing in harmony.

Social contribution for a happier world, cultural activities for enrichment of life!

Byucksan Engineering Group sponsors a wide variety of social and cultural activities to create a community in harmony and seek a value of life in art.

# We practice the joy of sharing with love.

**The "Byucksan Engineering • Byucksan Power Community Service Corps" was established in January 2010 to live up to the corporate philosophy of "Ethical Management, Differential Approach, and Social Responsibility" and at the same time exercise social contribution in a greater format.**
**The Community Service Corps has the mission to help actively the neighbors in need and the underprivileged, to enhance a mature sense of humanism and introspection for the volunteers, and to contribute ultimately to the social responsibility of the corporate.**

## Social welfare facilities

The Community Service Corps carries out various volunteering activities to assist parentless children, children of low-income households, underprivileged children in cultural benefits and the disabled under social discrimination by their psychological and physical impairments.
**Supporting Activities** | supply of daily necessities | support of repair works

## Old people's home and the Aged living alone

The Community Service Corps periodically visits to care for the aged suffering from stroke, Alzheimer's and those living alone.
**Support Activities** | house repair work | supply of daily necessities | talking with them | improving residential environment

## Low-income Households

There are still many low-income households who sustain their living in shabby houses behind the city's glittering façade. Our Community Service Corps tries to plant a small seed of hope on such households by giving a warm-hearted hand.
**Support Activities** | house repair work | supply of daily necessities | improving residential environment

## Disaster Restoration

Our Service Corps makes donations to the victims of unexpected typhoons, floods, heavy snow and other natural disasters and helps to restore damages and rehabilitate the environment by mobilizing heavy equipments.
**Support Activities** | house repair work | supply of daily necessities | fund-raising campaign | damage restoration activities

## Internship for North Korean Defectors

The Service Corps spares its efforts to support North Korean defectors in college years to lead happy lives in Korea with emotional stability. Byucksan Engineering Group gives them a job opportunity by opening an internship program every year.
**Support Activities** | personal mentoring | job counseling | Byucksan internship program

" We enjoy and share
love and joy together! "

# We cherish the value of a happy life

**We believe that Culture & Art enhances human dignity, affects on minds and enriches human life with its creativity and beauty. It also greatly contributes to a development of industry with creative motivation. Culture & Art is no longer the preserve of the artists themselves, but one of the essential elements of everyday life. It will increase quality of life, enrich lifestyle and also make happiness index higher.Byucksan Engineering Group exercises a corporation mecenat by sponsoring cultural & art, which will contribute to better artistic pieces and works enjoyable by more people.**

*"We enjoy and share love and future dream together."*

## Support and Sponsor of Culture & Art Organization and Musicians

Byucksan Engineering Group supports various classical music organizations and musicians to contribute to development of Korean classical music society. We aim to expand classical music base of Korea by supporting various leading group of classical music organizations such as 'Korea Festival Ensemble', 'Sejong Soloists' and 'Korea Symphony Orchestra'.

In addition, we are doing our best to find new talented Korean artist. In 2006, we supported publishing new album for 'Ahn Trio' who is a classical piano trio which got comments by TIME magazine as 'Whiz Kids', and also fully sponsored first solo album for Elizabeth Joy Roe who is graduate from Juilliard School and recipient of the prestigious William Petschek Piano Debut Recital Award.

## Various Mecenat Activities

We are sponsoring Museum of Modern Art organization which was founded in 1981 to promote the right understanding and recognition about modern arts. Our support aims to increase the exchange of fine arts between modern artists and the public, to assist educational programs, to donate works of art, and to do business of art enlightenment. We are supporting also various Culture & Art organizations such as Korea Business Council for the Arts and Seoul Arts Center to increase art loving population in Korea.

## Byucksan Literature Prize for Play

We are supporting 'Play Production' to provide better environment for play writers, actors and producers. We especially sponsor the premiere of an original play, which is relatively less supported. We hope our support would have little but meaningful encouragement for the theatrical world of Korea.

## Sharing Love & Culture Program

We pursue love in corporate activity by sharing the joy of art experience with the people in need. Our 'Sharing Love & Culture Program' aims to give a chance of Culture & Art experience to the severely disabled, the blind, and welfare recipients. We are providing tickets of art performances to physically and financially challenged people to share our wonderful Culture & Art experience with others.

## NEXT Classic

Byucksan Cultural Foundation and Korea Business Council for the Art are co-sponsoring "NEXT Classic" concert, which aims to give good classical music experience to middle school students. They will be grown up as the next generation who may love classical music.

# Our History

## Our previous steps are for changes and challenges aiming brighter future with customer satisfaction.

*"Come a long way* **here to future"**

### PRESENT — 2000

**Jan. 18th, 2012** opened Indonesia branch office
**Jun. 28th, 2011** established local corporation in Ecuador
**May 18th, 2011** founded Byucksan Culture Foundation
**Nov. 2nd, 2010** opened local corporation in India
**Nov. 30th, 2009** spinoff electric business, established Byucksan Power Corp., merged Voceweb
**Sep. 6th, 2006** registered as specialized mine reclamation business (three specialized areas)
**Jul. 18th, 2006** overseas construction business (electric construction business)
**Mar. 17th, 2006** registered as a renewable energy service company
**Feb. 7th, 2006** renewed ISO 14001 certificate
**Aug. 12th, 2005** registered as overseas construction business (civil engineering and construction / industrial environment and facilities construction)
**Oct. 18th, 2002** acquired membership of Construction Management Association of Korea
**Sep. 17th, 2002** opened local corporation in U.S. (Byucksan Engineering America)
**Jan. 28th, 2000** licensed as general construction, housing, and electric work contractor

### 1999 — 1990

**Oct. 11th, 1999** acquired Y2K certificate
**Apr. 1st, 1999** separated from Byucksan Group
**Dec. 31st, 1997** merged with Byucksan Information Corp.
**Aug. 2nd, 1996** acquired ISO 9001 certificate
**Jan. 27th, 1995** acquired license for overseas construction business (no. 103)
**Feb. 12th, 1991** renamed as Byucksan Engineering Co., Ltd.
**Jan. 11th, 1990** registered as designated environmental impact assessment service provider (work group Ⅰ, Ⅱ, Ⅲ)

### 1989 — 1979

**Mar. 4th, 1986** registered as industrial facilities service provider (industrial plants, general environment)
**Mar. 29th, 1085** relocated head office to 13-25, Youngdeung 3-dong, Seoul, Korea
**Jan. 5th, 1984** registered as engineering consultant in Asian Development Bank
**Jan. 21st, 1983** designated as environmental impact assessment service provider
**Dec. 12th, 1982** registered as general engineering service provider
**Jul. 2nd, 1979** established Jungwoo Engineering Co.,Ltd.

# Ethical Management, Different Approach with Advanced Engineering Technologies, and Social Responsibility beyond Customer Satisfaction All made possible at Byucksan Engineering Group

**Byucksan Engineering / Byucksan Power**

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