

ISO 9001/9002/14001/ OHSAS 18001 CERTIFIED COMPANY

ENERGY TECHNOLOGY LEADER

KOGAS-Tech

KOREA GAS TECHNOLOGY CORPORATION

Track Records for Business



Korea Gas Technology
Corporation



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ENGINEERING FOR LNG STORAGE TANKS

PROJECT DESIGNATION	CLIENT	PERIOD	SERVICES PROVIDED	TYPE OF FACILITIES AND CAPACITY (Gross Capacity)
LNG Storage Tank #1,2,3,4,5,6,7&8 Al-zour, Kuwait	Kuwait National Petroleum Co.	2016 -2020	Basic & Detail Engineering	Eight 225,000 kl full containment LNG tanks (9% Ni type)
LNG Storage Tank #1 Colon, Panama	AES Panama (Gas Natural Atlantico)	2016 -2019	Basic & Detail Engineering	One 180,000 kl full containment LNG tank (9% Ni type)
LNG Storage Tank #5,6 Boryeong, Korea	Boryeong LNG Co. Identity Standards	2016 -2019	Basic & Detail Engineering	Two 200,000 kl full containment LNG tanks (9% Ni type)
LNG Storage Tank #1,2 Jeju Aewol, Korea	KOGAS	2015 -2018	Basic & Detail Engineering Construction Supervision	Two 45,000 kl full containment LNG tanks (Membrane type)
LNG Storage Tank #21,22 & 23 Incheon, Korea	KOGAS	2014 -2019	Basic & Detail Engineering Construction Supervision	Three 200,000 kl full containment LNG tanks (9% Ni type)
LNG Storage Tank #4 Jurong, Singapore	Singapore LNG Co. (SLNG)	2014 -2018	Detail Engineering	One 280,000 kl full containment LNG tank (9% Ni type)
LNG Storage Tank #1,2,3 & 4 Boryeong, Korea	GS Energy	2012 -2016	Basic & Detail Engineering Construction Supervision	Four 200,000 kl full containment LNG tanks (9% Ni type)
LNG Storage Tank #1 Hangzhou, China	Hangzhou Hangyang Cryogenic Vessel Co.	2012 -2015	Basic & Detail Engineering	One 11,700 kl full containment LNG tank (9% Ni type)
LNG Storage Tank #10,11 & 12 Samcheok, Korea	Korea Gas Corporation (KOGAS)	2011 -2017	Detail Engineering (Piping, Instrument, Electrical etc.) Construction Supervision	Three 270,000 kl full containment LNG tanks (9% Ni type)
LNG Storage Tank #1,2 & 3 Jurong, Singapore	SLNG	2010 -2014	Basic & Detail Engineering	Three 197,300 kl full containment LNG tanks (9% Ni type)
LNG Storage Tank #4 Kwangyang, Korea	POSCO	2010 -2013	Basic & Detail Engineering	One 165,000 kl full containment LNG tank (9% Ni type)
LNG Storage Tank #5,6,7,8 & 9 Samcheok, Korea	KOGAS	2009 -2016	Basic & Detail Engineering Construction Supervision	Five 200,000 kl full containment LNG tanks (9% Ni type)
LNG Storage Tank #1,2,3 & 4 Samcheok, Korea	KOGAS	2009 -2015	Basic & Detail Engineering Construction Supervision	Four 200,000 kl full containment LNG tanks (9% Ni type)
LNG Storage Tank #1 & 2 Map Ta Phut, Thailand	PTT LNG Co.	2008 -2011	Basic & Detail Engineering	Two 173,000 kl full containment LNG tanks (9% Ni type)
LNG Storage Tank #1 & 2 Manzanillo, Mexico	CFE	2008 -2012	Basic & Detail Engineering	Two 167,500 kl full containment LNG tanks (9% Ni type) PGA : SSE 0.6g(Mw8.4), OBE 0.5g(Mw8.2)
LNG Storage Tank #17 Tongyeong, Korea	KOGAS	2007 -2012	Basic & Detail Engineering Construction Supervision	One 140,000 kl full containment LNG tank (9% Ni type)
LNG Storage Tank #22 & 23 Pyeongtaek, Korea	KOGAS	2007 -2012	Basic & Detail Engineering Construction Supervision	Two 200,000 kl full containment LNG tanks (9% Ni type)
LNG Storage Tank #15 & 16 Tongyeong, Korea	KOGAS	2006 -2011	Basic & Detail Engineering Construction Supervision	Two 200,000 kl full containment LNG tanks (9% Ni type)



LNG Storage Tank #18,19,20 & 21 Pyeongtaek, Korea	KOGAS	2006 -2011	Basic & Detail Engineering Construction Supervision	Four 200,000 <i>kl</i> full containment LNG tanks (9% Ni type)
LNG Storage Tank #15,16 & 17 Pyeongtaek, Korea	KOGAS	2005 -2010	Basic & Detail Engineering Construction Supervision	Three 200,000 <i>kl</i> full containment LNG tanks (9% Ni type)
LNG Storage Tank #13 & 14 Tongyeong, Korea	KOGAS	2005 -2010	Basic & Detail Engineering Construction Supervision	Two 200,000 <i>kl</i> full containment LNG tanks (9% Ni type)
LNG Storage Tank #11 & 12 Tongyeong, Korea	KOGAS	2005 -2009	Basic & Detail Engineering Construction Supervision	Two 140,000 <i>kl</i> full containment LNG tanks (9% Ni type)
LNG Storage Tank Large Scale Tank Korea	KOGAS	2004 -2005	Basic & Detail Engineering	200,000 <i>kl</i> KOGAS standard LNG tank (9% Ni type + Membrane type)
LNG Storage Tank #11,12,13 & 14 Pyeongtaek, Korea	KOGAS	2002 -2008	Basic & Detail Engineering Construction Supervision	Four 140,000 <i>kl</i> full containment LNG tanks (9% Ni type)
LNG Storage Tank #8,9 & 10 Tongyeong, Korea	KOGAS	2002 -2006	Basic & Detail Engineering Construction Supervision	Three 140,000 <i>kl</i> full containment LNG tanks (9% Ni type)
LNG Storage Tank #1 & 2 Kwangyang, Korea	POSCO	2002 -2005	Basic & Detail Engineering (Civil, Elec. & Instrument) Construction Supervision	Two 100,000 <i>kl</i> full containment LNG tanks (9% Ni type)
LNG Storage Tank #6 & 7 Tongyeong, Korea	KOGAS	2001 -2005	Basic & Detail Engineering Construction Supervision	Two 140,000 <i>kl</i> full containment LNG tanks (9% Ni type)
LNG Storage Tank Pilot Tank Incheon, Korea	KOGAS	1997 -2001	Basic & Detail Engineering Construction Supervision	One 1,310 <i>kl</i> pilot LNG tank (Membrane type)
LNG Storage Tank Standard Tank Korea	KOGAS	1997 -2001	Basic & Detail Engineering	158,100 <i>kl</i> KOGAS standard LNG tank (9% Ni type + Membrane type)

ENGINEERING FOR LNG TERMINALS

PROJECT DESIGNATION	CLIENT	PERIOD	SERVICES PROVIDED	TYPE OF FACILITIES AND CAPACITY (Gross Capacity)
LNG Terminal Process Diagnosis&Separation Plant 1,2 and Trains Pyeongtaek, Korea	KOGAS	2016 -2019	Detail Engineering	Send-out 4,306 ton/hr Process & Utilities for 2,960,000 <i>m</i> ³ total storage capacity
LNG Terminal Process & Utility Separation Incheon, Korea	KOGAS	2015 -2018	Detail Engineering	Send-out 4,830 ton/hr Process & Utilities for 2,880,000 <i>m</i> ³ total storage capacity
LNG Terminal Process Diagnosis&Separation Plant 1,2 and Trains Pyeongtaek, Korea	KOGAS	2015 - 2016	Conceptual & Basic Engineering	Send-out 4,306 ton/hr Process & Utilities for 2,960,000 <i>m</i> ³ total storage capacity
LNG Terminal Process Diagnosis&Separation Plant 1,2,3 and Trains Incheon, Korea	KOGAS	2014 - 2015	Conceptual & Basic Engineering	Send-out 4,830 ton/hr Process & Utilities for 2,880,000 <i>m</i> ³ total storage capacity
LNG Terminal Process & Utility Boryeong, Korea	GS Energy	2013 -2016	PMC (Project Management Consulting)	Send-out 490 ton/hr Process & Utilities for four 200,000 <i>kl</i> LNG storage tanks
LNG Terminal Process & Utility Samcheok, Korea	KOGAS	2009 -2016	Basic & Detail Engineering	Send-out 2,340 ton/hr Process & Utilities for nine 200,000 <i>kl</i> LNG storage tanks
LNG Terminal 2 nd Factory Pyeongtaek, Korea	KOGAS	2003 -2015	Basic & Detail Engineering Construction Supervision	Send-out 1,620 ton/hr Process & Utilities for four 158,100 <i>kl</i> and seven 200,000 <i>kl</i> LNG storage tanks



LNG Terminal Process & Utility Tongyeong, Korea	KOGAS	1999 -2015	Basic & Detail Engineering Construction Supervision	Send-out 2,150 ton/hr Process & Utilities for thirteen 158,100 kℓ and four 200,000 kℓ LNG storage tanks
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ENGINEERING FOR LOW TEMPERATURE STORAGE TANKS

PROJECT DESIGNATION	CLIENT	PERIOD	SERVICES PROVIDED	TYPE OF FACILITIES AND CAPACITY (Gross Capacity)
Ethylene Storage Tank KPIC ONE Project LP	KDM Tech	2016 -2016	Basic & Detail Engineering	One 5,000 kℓ Ethylene tank
LPG Storage Tank Daesan, Korea	E1 Co.	2014 -2015	Preliminary Engineering	One 74,000 kℓ Propane tank
LPG Storage Tank #1 Boryeong, Korea	GS E&C	2014 -2016	Basic & Detail Engineering	One 77,000 kℓ Single containment Propane tank
Ethylene / Propylene Storage Tank #1 & 2 Jubail, Saudi	RAS TANURA	2012 -2014	Basic & Detail Engineering	One 30,000 kℓ full containment Ethylene tank (9% Ni type) One 12,000 kℓ full containment Propylene tank - double wall steel type (Low Temp Steel)
LPG Storage Tank #1,2,3,4,5,6,7,8,9 & 10 Mina Al-Ahmadi, Kuwait	Kuwait National Petroleum Co.	2011 -2014	Basic & Detail Engineering Procurement	Five 73,500 kℓ full containment Propane tanks - double Wall Steel type (Low Temp Steel) Five 73,500 kℓ full containment Butane tanks - double wall steel type (Low Temp Steel)
Ammonia Storage Tank Ambatoby, Madagascar	Dynatec Madagascar S.A	2008 -2009	Basic & Detail Engineering	One 33,000 kℓ Ammonia tank

ENGINEERING FOR NATURAL GAS PIPELINES & DISTRIBUTION STATIONS

PROJECT DESIGNATION	CLIENT	PERIOD	SERVICES PROVIDED	TYPE OF FACILITIES AND CAPACITY
Fuel Gas Supply System Anyang, Korea	GS Power	2016 -2018	Detail Engineering, Procurement, Construction	LNG Pipeline, Utility Pipeline Gas Compressor Package 2 Unit Heat Exchanger 2 Unit Gas Regulator System 2 Unit etc.,
PIPELINE We rye, Korea	SK E&S	2015 -2016	Basic & Detail Engineering	Distribution stations (G/S - 1)
PIPELINE We rye, Korea	SK E&S	2015 -2016	Basic & Detail Engineering	20" pipe x 13.2 km (B/V - 2)
DISTRIBUTION STATION Jang Mun Korea	SK E&C	2014 -2016	Basic & Detail Engineering	Connection Pipeline (20" x 2.6 km) (G/S-1, B/V-1)
DISTRIBUTION STATION Dang jin #4 Korea	GS E&C	2014 -2017	Basic & Detail Engineering	1 Distribution station Connection Pipeline : 0.25 km
DISTRIBUTION STATION Osan Segyo Korea	KOGAS	2013 -2015	Basic & Detail Engineering Construction Supervision	1 Distribution station Connection Pipeline : 2.2 km



DISTRIBUTION STATION HanamMisa & SinPyeongTaek Korea	KOGAS	2012 -2014	Basic & Detail Engineering Construction Supervision	2 Distribution stations Connection Pipeline : 6.2 km
PIPELINE Kang won, Korea	KOGAS	2012 -2015	Basic & Detail Engineering Construction Supervision	20" pipe x 74.3 km 8 Distribution stations
DISTRIBUTION STATION Chilseo Korea	KOGAS	2008 -2010	Basic & Detail Engineering Construction Supervision	1 Distribution station Connection Pipeline : 0.1 km
BOOSTER STATION Sakhalin II Phase 2 Russia	SEIC Russia	2006 -2008	Basic & Detail Engineering For Compressor / Turbines	Compressor Design flow rate : NG 1,930 MMSCFD Pressure : 75 barg(Suction), 97 barg(Design)
DISTRIBUTION STATION Oedong & Hongcheon Korea	KOGAS	2007 -2008	Basic & Detail Engineering Construction Supervision	2 Distribution stations Connection Pipeline : 0.2 km
DISTRIBUTION STATION Naju & Bia Korea	KOGAS	2005 -2008	Basic & Detail Engineering Construction Supervision	1 new Governor Station 1 Valve Station (relocation) Pipeline Reinforcement : 1.6km
DISTRIBUTION STATION Sanggye & Kunja Korea	KOGAS	1999 -2001	Basic & Detail Engineering Construction Supervision	Construction of compact type facilities & Office buildings
DISTRIBUTION STATION Keryong G/S Korea	Samsung Eng. Solar Turbine	1999 -2000	Basic Engineering Package Installation Detail Engineering	Compressor Design flow rate : NG 500ton/hr Pressure : 45kg/cm ² (Suction), 60kg/cm ² (Design)
DISTRIBUTION STATION Flowmeter Calibration Facility, Korea	KOGAS	1998 -1999	Basic & Detail Engineering, Procurement, Construction Supervision	Orifice, Turbine & Ultrasonic Meters Design pressure : 0.9~2.5 MPa Design flow rate : 6,500 m ³ /hr
PIPELINE Metropolitan Area Korea	KOGAS	1997 -2005	Basic & Detail Engineering Construction Supervision	30" pipe x 99 km 18 Distribution stations
PIPELINE New Airport-Ildo- Kyungseo, Korea	KOGAS	1997 -2003	Basic & Detail Engineering Construction Supervision	30" pipe x 27 km 2 Distribution stations
PIPELINE Hanhwa & Busan Power Plant , Korea	KOGAS	1997 -2002	Basic & Detail Engineering Construction Supervision	2 Distribution stations Connection Pipeline : 8 km
PIPELINE Ilsan - Euijeongbu Korea	KOGAS	1996 -2002	Basic & Detail Engineering Construction Supervision	30" pipe x 47 km 5 Distribution stations
DISTRIBUTION STATION Ildo, Ilsan & Bundang Korea	KOGAS	1994 -2002	Basic & Detail Engineering Construction Supervision	Extension of gas supply capacity Tie-in of new gas pipelines

ENGINEERING FOR CNG / LCNG REFUELING STATIONS

PROJECT DESIGNATION	CLIENT	PERIOD	SERVICES PROVIDED	TYPE OF FACILITIES AND CAPACITY
CNG Refueling Station	KOGAS R&D	2013 -2014	Detail Engineering	HCNG Refueling facilities (H2 Compressor, Refueling System, CNG Storage Tank)
CNG Refueling Station Incheon Korea	Incheon City Gas/ Incheon Landfill Corp.	2003 -2004	Basic & Detail Engineering, Procurement, Construction & Supervision	Compressor Capacity Incheon 1: 800 Nm ³ /h x 2 set Incheon 2: 800 Nm ³ /h x 2 set
CNG/LCNG Refueling Station Daejeon Station Korea	KOGAS	2003 -2004	Basic & Detail Engineering, Procurement, Construction & Supervision	Compressor Capacity : 3,800 Nm ³ /hr LNG Storage Tank : 55.77 m ³ x 1 set LCNG Vaporizer : 2,700 Nm ³ x 2 set



CNG Refueling Station Mother Station Korea	KOGAS	2001 -2003	Basic & Detail Engineering, Procurement, Construction & Supervision	Compressor Capacity Incheon : 1,000 Nm ³ /h x 1 set Pyeongtaek etc. : 2,000 Nm ³ /h x 2 set
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FEASIBILITY STUDY

PROJECT DESIGNATION	CLIENT	PERIOD	SERVICES PROVIDED	TYPE OF FACILITIES AND CAPACITY
Feasibility Study Busan	BLNG Co.	2015 -2016	Feasibility Study LNG Bunkering	LNG Storage Tank 200,000 kℓ x 2 Process & Utility Facilities
Feasibility Study #2, An Yang Distribution Station	GS Power	2015 -2016	Feasibility Study Optimized LNG Supply Plan	Anyang CHP Plant #2 Distribution Station LNG Supply System (Heat Capacity : 556Gcal/hr Power Capacity : 935MW)
Feasibility Study Ethane Terminal Thailand	PTT PLC	2014 -2015	Feasibility Study Ethane Tank & Utilities	Ethane Storage tank : 91,000 kℓ x 2 Process & Utility Facilities
Feasibility Study Domestic HP Distribution Station	KOGAS	2014 -2015	Feasibility Study Optimized HP LNG Supply Plan for Power Plant	National Distribution Stations Combined Power Plant
Feasibility Study LNG Terminal Modification Thailand	PTT PLC	2014 -2014	Feasibility Study LNG Terminal (Phase 1) Modification to accommodate Ethane	LNG Storage tank : 160,000 kℓ x 2 Process & Utility Facilities
Pre-Feasibility Study Irkutsk PNG Project Russia	KOGAS	1996- 2002	Preliminary & Main Feasibility Study	Route : Russia - China - Korea Supply : 34 bcm/year x 30 year Pipe : (1) 39" x 536 km, (2) 44" x 567 km
Feasibility Study Sakha Gas (PNG) Project Russia	Korea Petroleum Corp. (KPC)	1994 -1995	Preliminary Feasibility Study	Route : Russia - N. Korea - Korea Supply : 14.2 bcm/year Pipe : 48" x 5,643 km

ENGINEERING FOR NEW ENERGY

PROJECT DESIGNATION	CLIENT	PERIOD	SERVICES PROVIDED	TYPE OF FACILITIES AND CAPACITY
K-DME(Di-Methyle Ether) Commercial Plant Saudi Arabia	KOGAS	2010 -2011	Basic Engineering	Productivity : 300,000 ton DME / year Source Gas : Natural Gas + CO ₂ (10%) Purity : 99.9%
DME(Di-Methyle Ether) Demo Plant Incheon, Korea	KOGAS	2003 -2008	Conceptual / Basic & Detail Engineering Construction Supervision	Productivity : 10 ton DME / day Source Gas : Natural Gas + CO ₂ (10%) Purity : 99.9%
GTL(Gas to Liquid) Pilot plant Incheon, Korea	KOGAS	2010 -2011	Detail Engineering	Plant size : 1 BPD pilot plant Source Gas : Natural Gas + CO ₂ Production : Wax / Oil
CBM(Coal Bed Methane) Demo plant Indonesia	KOGAS	2010 -2011	Preliminary Engineering	Plant size : 600 Nm ³ /hr CBM Demo plant Source Gas : Coal Bed Methane Gas Production : CBM
Hydrogen Filling Station Incheon, Korea	KOGAS	2006 -2006	Basic& Detail Engineering Procurement, Construction & Supervision	Filling Capacity : 30 Nm ³ /h (720 Nm ³ /day) Charging Pressure : 46 MPa Dispenser : 140 Liter/min x 1set



ENGINEERING FOR CHEMICAL PLANTS

PROJECT DESIGNATION	CLIENT	PERIOD	SERVICES PROVIDED	TYPE OF FACILITIES AND CAPACITY
SEC Fuel Oil Jetty #2 Saudi Arabia	Saudi Electricity Co.	2012 -2014	Fuel Oil Unloading Jetty Detail engineering	Plant size : Four of Fuel Oil Unloading Arm, 300m of Oil Pipe etc.
Small LNG / Power plant Package	Hanyang Co.	2012 -2013	LNG Terminal Conceptual / Cost Estimative Engineering	Plant size : 40MW Small LNG / Power plant LNG storage tank : one 10,000 kl
Ammonia Terminal Ambatoby, Madagascar	Dynatec Mad- agascar S.A	2008 -2009	Construction & Pre- commission Supervision	Process, Utilities, Pipelines etc.

TECHNICAL CONSULTING & TRAINING

PROJECT DESIGNATION	CLIENT	PERIOD	SERVICES PROVIDED	TYPE OF FACILITIES AND CAPACITY
Technical Consulting Process & Utility during Construction Incheon, Korea	KwangMyung Electric	2016.5 -2016.8	Technical Consulting	Switchgear at #3,5 Substation
Technical Consulting Process & Utility during Construction Boryeong, Korea	Boryeong LNG Co. Identity Standards Woori Bank	2015 -2016	Technical Consulting Cost Review for Construction Management	Process & Utility Facilities (Send out : 490ton/hr)
Technical Consulting Process & Utility Phase 2 Review for PF Boryeong, Korea	Boryeong LNG Co. Identity Standards Woori Bank	2015 -2016	Technical Consulting Phase 2 Review for Project Financing (No.4 Tank)	LNG Storage Tank 200,000 kl x 1 Process & Utility Facilities
Training Process & Utility Operating Education Boryeong, Korea	SK E&C GS E&C	2015 -2016	Training Commissioning Education Himeji TML Education in Japan	Process & Utility Facilities
Technical Consulting Process & Utility Phase 1 Review for PF Boryeong, Korea	MACQUARIE	2013 -2014	Technical Consulting Technical Propriety Review for Project Financing	Process & Utility Facilities (Send out : 490ton/hr)
PIPELINE Consultancy for Pipeline Construction, Vietnam	GPPMB, Vietnam	2003 -2009	Consultancy for pipeline Construction	Route : Phu My – Hochimin City Pipe : 22" x 50 km, 12" x 11 km



CONSTRUCTION FOR CNG & LCNG STATIONS

PROJECT DESIGNATION	CLIENT	PERIOD	SERVICES PROVIDED	TYPE OF FACILITIES AND CAPACITY
CNG Bus Fuel Injection Facilities Expansion Work	Jeil Transportation	2012.2 -2012.9	Construction	Compressor : 1,350 N m ³ × 1
Jangyang-ri CNG Station Expansion & Commissioning Work	Charmvit Wonju Citygas	2010.6 -2010.7	Construction	Compressor : 860 N m ³ × 1
Donghae LCNG Complex Station Construction Work	KOGAS	2009.3 -2009.11	Construction	LNG Tank : 25 ton Vaporizer : 2,250 N m ³ /hr × 2
Inchen International Airport LNG Station Construction Work	KOGAS	2009 -2012	Construction	LNG Tank : 20 ton LNG Dispenser × 3
Mirae Transportation Sibjeong-dong CNG Station Construction Work	Kangin Industry	2008 -2009	Construction	LNG Tank : 20 ton × 2 LNG Dispenser × 3
Gwangyang LCNG Station Construction Work	KOGAS	2008 -2009	Construction	LNG Tank : 25 ton × 2 Vaporizer : 2,250 N m ³ /hr × 2
Gaya ibs Buwon-dong CNG Station Construction Work	Gaya Energy	2008 -2009	Construction	Compressor : 1,192 N m ³ × 3
Enpyeong New Town CNG Station Construction Work	Jeil Transportation	2008 -2009	Construction	Compressor : 1,390 N m ³ × 2
Munsan CNG Station Construction Work	Sinsung Transportation	2008 -2009	Construction	Compressor : 1,390 N m ³ × 2
Charmvit Wonju Citygas Jangyang-ri CNG Station Construction Work	Charmvit Wonju Citygas	2007 -2008	Construction	Compressor : 860 N m ³ × 1
Metropolitan Reclamation CNG Station Expansion Work	SUDOKWON Landfill Site Management Corp.	2007 -2008	Construction	Compressor : 1,490 N m ³ × 1
Sewon Transportation Cheongcheon-dong CNG Station Expansion Work	Sewon Energy	2007 -2008	Construction	Compressor : 860 N m ³ × 1
Singil Transportation Sang-dong CNG Station Construction Work	Singil Transportation	2006.5 -2006.12	Construction	Compressor : 860 N m ³ × 2 Compressor : 1,490 N m ³ × 1
Sinchon Transportation Seolmun-dong CNG Station Construction Work	Sinchon Transportation	2006.3 -2006.9	Construction	Compressor : 1,134 N m ³ × 2
Sewon Transportation Cheongcheon-dong CNG Station Construction Work	Sewon Energy	2006 -2007	Construction	Compressor : 860 N m ³ × 3



Donghae Transportation Deahwa-dong CNG Station Construction Work	Donghae Transportation	2005-2006	Construction	Compressor : 1,134N m ³ × 2
Pohang LCNG Complex Station Construction Work	KOGAS	2005-2006	Construction	Compressor : 1,500N m ³ × 2
Sina Citygas Chojang-dong CNG Station Construction Work	Sina Citygas	2005.4-2005.11	Construction	Compressor : 1,030N m ³ × 2
Kajwa CNG Station Capacity Expansion Work	Incheon Citygas	2005.3-2005.10	Construction	Compressor : 1,380N m ³ × 1
Charmvit Wonju Citygas Kwanseol-dong CNG Station Construction Work	Charmvit Wonju Citygas	2004-2005	Construction	Compressor : 816N m ³ × 1
Metropolitan Reclamation CNG Station Construction Work	SUDOKWON Landfill Site Management Corp.	2003-2004	Construction	Compressor : 860N m ³ × 2
Kajwa CNG Station New Construction Work	Incheon Citygas	2003.3-2003.7	Construction	Compressor : 939N m ³ × 2



OPEN INSPECTION & REPAIR WORK FOR LNG STORAGE TANKS

PROJECT DESIGNATION	CLIENT	PERIOD	SERVICES PROVIDED	TYPE OF FACILITIES AND CAPACITY
Incheon LNG Terminal Incheon, Korea	KOGAS	2016 -2017.	<ul style="list-style-type: none"> - N2 Purge - Insulation Maintenance - He & NH3 Test - FG Injection - Cool Down - Performance Test - Safety Diagnosis 	100,000 kℓ LNG Storage Tank x 1 (9% Ni type)
Incheon LNG Terminal Incheon, Korea	KOGAS	2015 -2016	<ul style="list-style-type: none"> - N2 Purge - Insulation Maintenance - He & NH3 Test - FG Injection - Cool Down - Performance Test - Safety Diagnosis 	100,000 kℓ LNG Storage Tank x 1 (9% Ni type)
Pyeongtaek LNG Terminal Pyeongtaek, Korea	KOGAS	2014 -2016	<ul style="list-style-type: none"> - N2 Purge - Insulation Maintenance - He & NH3 Test - FG Injection - Cool Down - Performance Test - Safety Diagnosis 	100,000 kℓ LNG Storage Tank x 3 (Membrane type)
Pyeongtaek LNG Terminal Pyeongtaek, Korea	KOGAS	2013 -2014	<ul style="list-style-type: none"> - N2 Purge - Insulation Maintenance - He & NH3 Test - FG Injection - Cool Down - Performance Test 	100,000 kℓ LNG Storage Tank x 2 (Membrane type)
Pyeongtaek LNG Terminal Pyeongtaek, Korea	KOGAS	2011 2012	<ul style="list-style-type: none"> - N2 Purge - Insulation Maintenance - He & NH3 Test - FG Injection - Cool Down - Performance Test 	100,000 kℓ LNG Storage Tank x 2 (Membrane type)
Pyeongtaek LNG Terminal Pyeongtaek, Korea	KOGAS	2009 - 2011	<ul style="list-style-type: none"> - N2 Purge - Insulation Maintenance - He & NH3 Test - FG Injection - Cool Down - Performance Test 	100,000 kℓ LNG Storage Tank x 1 (Membrane type)



MAINTENANCE & TRAINING FOR LNG TERMINALS

PROJECT DESIGNATION	CLIENT	PERIOD	SERVICES PROVIDED	TYPE OF FACILITIES AND CAPACITY
Complete Overhaul & Maintenance Work for unloading arms Incheon, Korea	KOGAS	2015.3 -2015.10	Complete Overhaul & Maintenance	- Unloading Arm : 5EA
Samcheok LNG Terminal Samcheok, Korea	KOGAS	2014 -Present	Maintenance	- LNG Tank x 3 EA (Total 600,000 kℓ) - Unloading Facility : 5 EA - Low Pressure Pump : 9 EA - High Pressure Pump : 10 EA - Vaporizer : 5 EA - Capacity : 780 ton/hour - Other Terminal Facilities
Mexico Manzanillo LNG Terminal Manzanillo City, Colima State, Mexico	CFE (Comisión Federal de Electricidad)	2011 -Present	Maintenance & Training	- LNG Tank x 2 EA (Total 300,000 kℓ) - Unloading Facility : 1 EA - Low Pressure Pump : 4 EA - High Pressure Pump : 4 EA - Vaporizer : 5 EA - Capacity : 159 ton/hour - Other Terminal Facilities
POSCO Gwangyang LNG Terminal Gwangyang, Korea	POSCO	2005 -2011	Maintenance	- LNG Tank x 3 EA (Total 365,000 kℓ) - Unloading Facility : 1 EA - Low Pressure Pump : 6 EA - High Pressure Pump : 4 EA - Vaporizer : 3 EA - Capacity : 280 ton/hour - Other Terminal Facilities
Tongyeong LNG Terminal Tongyeong, Korea	KOGAS	2002 -Present	Maintenance	- LNG Tank x 17 EA (Total 2,620,000 kℓ) - Unloading Facility : 2 EA - Low Pressure Pump : 41 EA - High Pressure Pump : 22 EA - Vaporizer : 14 EA - Capacity : 2,130 ton/hour - Other Terminal Facilities
Incheon LNG Terminal Incheon, Korea	KOGAS	1996 -Present	Maintenance	- LNG Tank x 20 EA (Total 3,280,000 kℓ) - Unloading Facility : 2 EA - Low Pressure Pump : 53 EA - High Pressure Pump : 40 EA - Vaporizer : 38 EA - Capacity : 4,470 ton/hour - Other Terminal Facilities
Pyeongtaek LNG Terminal Pyeongtaek, Korea	KOGAS	1993 -Present	Maintenance	- LNG Tank x 23 EA (Total 3,360,000 kℓ) - Unloading Facility : 2 EA - Low Pressure Pump : 59 EA - High Pressure Pump : 40 EA - Vaporizer : 31 EA - Capacity : 4,036 ton/hour - Other Terminal Facilities



OVERSEAS PRE-COM & COMMISSIONING, O&M, TRAINING FOR GAS TERMINALS

PROJECT DESIGNATION	CLIENT	PERIOD	SERVICES PROVIDED	TYPE OF FACILITIES AND CAPACITY
Singapore Jurong LNG Terminal Singapore	SLNG	2016.10 -2017.3	Pre-commissioning	280,000 <i>kℓ</i> LNG Tank x 1, 4.5MMTPA LNG Terminal
Thailand Chonburi LPG Terminal Thailand	PTT	2016.7 -2016.11	Pre-commissioning, Commissioning	Propane Storage tank : 25,000 <i>kℓ</i> x 1 Butane Storage tank : 25,000 <i>kℓ</i> x 1 Process & Utility Facilities, LPG Terminal
China Guangxi LNG Terminal Guangxi, China	SINOPEC Guangxi LNG	2016.1 -2016.6	Pre-commissioning, Commissioning	160,000 <i>kℓ</i> LNG Tank x 4, 3MMTPA LNG Terminal
HOUT Onshore Gas Facility SaudiArabia	Al Khafji Joint Operation	2015 -2016	Pre-commissioning Support, Site Training	Gas Dehydration Package, LP&HP Recovered Gas Comp, Instrument Air Package
China Qingdao LNG Terminal Qingdao, China	SINOPEC Qingdao LNG	2014 -2015	Pre-commissioning, Commissioning	160,000 <i>kℓ</i> LNG Tank x 3, Terminal Facilities
Singapore Jurong LNG Terminal CMS Implementation Singapore	SLNG	2012 -2013	CMS Implementation, Commissioning, Instrument Technical Service	180,000 <i>kℓ</i> LNG Tank x 3, Jetty & Terminal Facilities
China Zhejiang LNG Terminal Zhejiang, China	CNOOC	2012 -2012	Commissioning	160,000 <i>kℓ</i> LNG Tank x 3, Jetty & Terminal Facilities
Mexico Manzanillo LNG Terminal Manzanillo, Mexico	MGT (Manzanillo Gastech)	2011 -Present	Maintenance, Training	150,000 <i>kℓ</i> LNG Tank x 2, Jetty & Terminal Facilities
China Dalian LNG Terminal Dalian, China	PetroChina LNG Dalian	2011 -2012	Pre-commissioning, Commissioning, Operation	160,000 <i>kℓ</i> LNG Tank x 3, Jetty & Terminal Facilities
China Jiangsu LNG Terminal Jiangsu, China	PetroChina LNG Jiangsu	2010 -2011	Pre-commissioning, Commissioning, Operation	160,000 <i>kℓ</i> LNG Tank x 2, Jetty & Terminal Facilities
Thailand Jetty Development and LNG Terminal Thailand	PTT	2010 -2011	Pre-commissioning, Commissioning, CMS Implementation, Operation	160,000 <i>kℓ</i> LNG Tank x 2, Jetty & Terminal Facilities

OVERSEAS PRE-COM & COMMISSIONING, O&M, TRAINING FOR OIL & GAS PLANTS

PROJECT DESIGNATION	CLIENT	PERIOD	SERVICES PROVIDED	TYPE OF FACILITIES AND CAPACITY
Iraq West Qurna 2nd Phase Iraq	LUKOIL	2013 -2014	Pre-commissioning, Commissioning, Operation, Training	CPF(Oil&Gas Process Facilities,Train x 9, Well x 67), Water-Intake, Tank Farm(60,000 barrel x 3), Pipeline etc
Nigeria Gbaran-Ubie Integrated Oil & Gas Nigeria	SPDC (Shell)	2008 -2011	FAT, Pre-commissioning, Commissioning, Operation, Training	Slug Catcher, Oil Separator, AG Compressor, Dehydration Package, Booster Compressor, Metering System, Gas & Oil Processing Facilities etc. including Remote Stations(Well)
Qatar Petroleum LPG Plant Qatar	QP Qatar	2003 -2005	Pre-commissioning, Commissioning, Operation	100,000 <i>kℓ</i> LPG Tank x 3
Nigeria Cawthorne Channel AG Gathering (CCAGG) Nigeria	SPDC (Shell)	2002 -2006	Pre-commissioning, Commissioning, CMS Implementation, Operation	Gas Flow Station x 5, Compression System, Send-out Facilities



HOT TAPPING & PLUGGING

PROJECT DESIGNATION	CLIENT	PERIOD	SERVICES PROVIDED	TYPE OF FACILITIES AND CAPACITY
Hot Tapping & Plugging Work for Piping Shifting through Muan~Mokpo(Cheonggyegyo) Section	KOGAS	2015.8-2015.12	Hot Tapping & Plugging Work	30"x600# 2Hole
Maengjin Station Hot Tapping & Plugging Work for Tie-in	KOGAS	2015.9-2015.12	Hot Tapping & Plugging Work	20"x600# 2Hole
Hot Tapping & Plugging Work for Piping Shifting through Muan~Mokpo(Cheonggyegyo) Section	KOGAS	2015.11-2016.1	Hot Tapping & Plugging Work	30"x600# 2Hole
Chungcheong Energy Services Co., Ltd. Hot Tapping & Plugging Work	Chungcheong Energy Services Co., Ltd.	2015.4-2015.4	Hot Tapping & Plugging Work	20"x150# 2Hole
Hot Tapping Equipment(26", 600#) Rental Services	Daehan Oil Pipeline Corporation	2015.5-2015.5	Equipment Rental	26"x600# (Housing 2, Adapter 1, Sandwich 2) Equipment Rental
2015 Heating Pipeline Non Outage Work in Bucheon Region	GS Power Co., Ltd.	2015.6-2016.6	Hot Tapping & Plugging Work	On going
2015 Hot Tapping & Plugging Work for District Heating Pipelines(1Zone)	KDHC Corp.	2015.8-2016.8	Hot Tapping & Plugging Work	On going
Additional Installation Work of Shut-off Valve in Heating Source	Goyang Branch of KDHC Corp.	2014.6-2014.9	Hot Tapping & Plugging Work	800Ax150# 4Hole, 700A 2Hole/900A 2Hole Butt Installation
2014 Heating Pipeline Non Outage Work in Bucheon Region	GS Power Co., Ltd.	2014.6-2015.6	Hot Tapping & Plugging Work	700Ax150# plus 43Hole
2014 Hot Tapping & Plugging Work for District Heating Pipelines(1Zone)	KDHC Corp.	2014.8-2015.8	Hot Tapping & Plugging Work	850Ax150# plus 82Hole
Hampyeong Station Hot Tapping & Plugging Work for Tie-in	KOGAS	2014.8-2014.12	Hot Tapping & Plugging Work	30"x600# 2Hole
Hot Tapping & Plugging Work for Piping Shifting through East Gimcheon~Gammun Section	KOGAS	2014.8-2014.12	Hot Tapping & Plugging Work	30"x600# 2Hole
Hot Tapping & Plugging Work for Piping Shifting through Cheongnyang~Onsan(Cheongbaekgyo) Section	KOGAS	2014.9-2014.12	Hot Tapping & Plugging Work	30"x600# 2Hole
Hampyeong Governor Station Hot Tapping & Plugging Work for Ball Valve Replacement	KOGAS	2014.11-2015.3	Hot Tapping & Plugging Work	30"x600# 2Hole
Hot Tapping & Plugging Work for Piping Shifting through Jangseong~Gochang(Jooam2gyo) Section (Plus 1 Hole)	KOGAS	2014.11-2015.4	Hot Tapping & Plugging Work	20"x600# 4Hole
Hot Tapping Work at POSCO COG Line(1600A)	J CON Co., Ltd.	2013.3-2013.5	Hot Tapping & Plugging Work	1600Ax150# 1Hole Tapping
Masan Main Piping Hot Tapping & Plugging Work	KOGAS	2013.3-2013.5	Hot Tapping & Plugging Work	30"x26"x600# 2Hole Tapping, 30"x600# 2Hole
Hot Tapping & Plugging Work for Gas Pipe Shifting through Naju~Muan(Sohakgyo) Section	KOGAS	2013.7-2013.10	Hot Tapping & Plugging Work	30"x600# 2Hole



2013 Heating Pipeline Non Outage Work in Bucheon Region	GS Power Co., Ltd.	2013.5-2014.4	Hot Tapping & Plugging Work	800Ax150# plus 68Hole
Heating Pipeline Non Outage Work by Hot Tapping & Plugging	Seungjae gongyeong Co., Ltd.	2013.7-2013.7	Hot Tapping & Plugging Work	700Ax150# 2Hole
Hot Tapping & Plugging Work through Cheonan~Asan Section	KOGAS	2013.8-2013.11	Hot Tapping & Plugging Work	20"x600# 2Hole
2013 Hot Tapping & Plugging Work for District Heating Pipelines(2Zone)	KDHC Corp.	2013.10-2014.8	Hot Tapping & Plugging Work	850Ax150# plus 75Hole
2013 Heating Pipeline Non Outage Work in Bucheon Region	GS Power Co., Ltd.	2012.1-2012.2	Hot Tapping & Plugging Work	400Ax150# 2Hole
Yeongsangang Hot Tapping & Plugging Work	Mokpo City Gas Co., Ltd.	2012.1-2012.3	Hot Tapping & Plugging Work	20"x150# 2Hole, 20"x600# 4Hole
GS Square Multi Storey Car Park Hot Tapping & Plugging Work	GS Power Co., Ltd.	2012.3-2012.4	Hot Tapping & Plugging Work	750Ax150# 4Hole
Hot Tapping & Plugging Work for Medium Pressure Pipeline across Munsan Yeongcheon River	GSE Co., Ltd.	2012.4-2012.4	Hot Tapping & Plugging Work	12"x150# 2Hole
2012 Heating Pipeline Non Outage Work in Bucheon Region	GS Power Co., Ltd.	2012.5-2013.3	Hot Tapping & Plugging Work	800Ax150# plus 38Hole
Hot Tapping Work For KNPC NLTF Project	GS E&C Co., Ltd.	2012.5-2012.11	Hot Tapping Work	10"x150# 1Hole Tapping, 12"x150# 1Hole Tapping
Muan Station Hot Tapping & Plugging Work for Tie-in	KOGAS	2012.5-2012.7	Hot Tapping & Plugging Work	30"x600# 2Hole
Onsan Station Hot Tapping & Plugging Work for Tie-in	KOGAS	2012.5-2012.8	Hot Tapping & Plugging Work	30"x600# 2Hole
Yeongam Governor Station Hot Tapping & Plugging Work for Tie-in	KOGAS	2012.9-2013.1	Hot Tapping & Plugging Work	20"x150# 1Hole, 20"x600# 3Hole
2012 Hot Tapping & Plugging Work for District Heating Pipelines(2Zone)	KDHC Corp.	2012.12-2013.9	Hot Tapping & Plugging Work	850Ax150# plus 56Hole
Jochiwon Station Hot Taping & Plugging Work	KOGAS	2011.5-2011.6	Hot Tapping & Plugging Work	20"x600# 1Hole
Jungchon Station Hot Tapping & Plugging Work	KOGAS	2011.6-2011.10	Hot Tapping & Plugging Work	24"x300# 1Hole, 20"x600# 1Hole
Jeongchon Detour Hot Tapping & Plugging Work for Medium Pressure Pipe Shifting	GSE Co., Ltd.	2011.3-2011.7	Hot Tapping & Plugging Work	20"x150# 4Hole
Non Outage Work for Main Water Pipeline in Bucheon Region	GS Power Co., Ltd.	2011.7-2011.11	Hot Tapping & Plugging Work	800Ax150# plus 28Hole
Daehwa City Gas Hot Tapping & Plugging Work for Medium Pressure Piping(500A-60m 2Hole)	Daehwa City Gas Co., Ltd.	2011.7-2011.8	Hot Tapping & Plugging Work	20"x150# 2Hole
Hot Tapping & Plugging Work with 200A Pipe in front of Yeonsu Jugong Apts.	Hanyang Co., Ltd.	2011.10-2011.10	Hot Tapping & Plugging Work	200Ax150# 4Hole
2011 Hot Tapping & Plugging Work for District Heating Pipelines(1Zone)	KDHC Corp.	2011.11-2012.11	Hot Tapping & Plugging Work	850Ax150# plus 63Hole
Jeonju Station Hot Tapping & Plugging Work	KOGAS	2010.8-2010.10	Hot Tapping & Plugging Work	24"x300# 1Hole

Hot Tapping & Plugging Work through Cheonan~Asan(Baebangtaekji) Section	KOGAS	2010.9-2010.11	Hot Tapping & Plugging Work	20"x150# 2Hole, 20"x600# 2Hole
Cheonan Station Hot Tapping & Plugging Work	KOGAS	2010.9-2010.10	Hot Tapping & Plugging Work	30"x600# 1Hole
Tancheon Hot Tapping & Plugging Work for Heating Pipeline	Pyeonggang E&C Co., Ltd.	2010.4-2010.5	Hot Tapping & Plugging Work	600Ax150# 2Hole Tapping, 800Ax150# 2Hole Tapping, 800Ax150# 2Hole
Hot Tapping & Plugging Work through Jochiwon~Cheongju(Gungpyeonggyo) Section	KOGAS	2010.4-2010.5	Hot Tapping & Plugging Work	20"x600# 2Hole
Gyeryong and Nonsan Station Hot Tapping & Plugging Work	KOGAS	2010.7-2010.9	Hot Tapping & Plugging Work	30"x600# 2Hole
Pungdong Hot Tapping & Plugging Work with 850A Pipe	Sinwang E&C Co., Ltd.	2010.9-2010.11	Hot Tapping & Plugging Work	850Ax150# 4Hole
Hot Tapping & Plugging Work for Medium Pressure bypass pipe in front of Tongyeong Production Plant	Geoea Tongyeong Branch of Gyeongnam Energy Co., Ltd.	2009.11-2009.12	Hot Tapping & Plugging Work	12"x300# 2Hole
Jangseong Maeul Hot Tapping & Plugging Work for 400A Heating pipe	Onenine E&C Co., Ltd.	2009.10-2009.11	Hot Tapping & Plugging Work	400Ax150# 4Hole
Hugok Maeul Hot Tapping & Plugging Work for 600A Heating Pipe	Onenine E&C Co., Ltd.	2009.10-2009.11	Hot Tapping & Plugging Work	600Ax150# 4Hole
Yonghyeon Taekji Hot Tapping & Plugging Work for Medium Pressure Pipe Shifting	Seogyong Industries Co., Ltd.	2009.11-2009.11	Hot Tapping & Plugging Work	8"x150# 2Hole
Hwamyung~Hakjang(Deokcheon R~Hwamyong IC) Hot Tapping & Plugging Work for Piping Shifting	KOGAS	2009.3-2009.12	Hot Tapping & Plugging Work	30"x600# 4Hole
Hwamyung~Hakjang(Guporo) Hot Tapping Work for Piping Shifting	KOGAS	2009.6-2009.10	Hot Tapping Work	30"x600# 2Hole Tapping
Jochiwon Station Hot Tapping & Plugging Work	KOGAS	2009.9-2009.10	Hot Tapping & Plugging Work	30"x600# 1Hole
Sinbang Intersection Hot Tapping & Plugging Work	KOGAS	2009.10-2009.11	Hot Tapping & Plugging Work	Hot Tapping & Plugging Work
Goyang Branch Hot Tapping & Plugging Work for 850A Valve Replacement	Woolim Plant Co., Ltd.	2009.9-2009.10	Hot Tapping & Plugging Work	850Ax150# 4Hole
Hot Tapping & Plugging Work for Medium Pipe Shifting beside Yeha Elementary School	GSE Co., Ltd.	2009.4-2009.5	Hot Tapping & Plugging Work	20"x150# 2Hole
Lotte Hot Tapping & Plugging Work for 700A Pipe	Hoil Plant Co., Ltd.	2009.6-2009.7	Hot Tapping & Plugging Work	700Ax150# 4Hole
Suseo Police Office Hot Tapping & Plugging Work for Heating Pipe	Gwangjin Co., Ltd.	2009.8-2009.9	Hot Tapping & Plugging Work	800Ax150# 4Hole
Lotte Department Store Hot Tapping & Plugging Work	Seungjaegongyeong Co., Ltd.	2009.3-2009.5	Hot Tapping & Plugging Work	600Ax150# 4Hole
Baekseok Hot Tapping & Plugging Work for 850A Heating Pipe	Onenine E&C Co., Ltd.	2009.3-2009.5	Hot Tapping & Plugging Work	850Ax150# 4Hole
Pungdeok Cheonbyun Hot Tapping & Plugging Work for Heating Pipe	Pyeonggang E&C Co., Ltd.	2009.2-2009.3	Hot Tapping & Plugging Work	700Ax150# 2Hole



Ilsan WesternDom Hot Tapping & Plugging for Heating Pipe	Hoil Plant Co., Ltd.	2009.1-2009.2	Hot Tapping & Plugging Work	300Ax150# 1Hole, 750Ax150# 2Hole
Hot Tapping & Plugging Work for 800A Pipe(2Hole)	Seungjaegongyeong Co., Ltd.	2008.11-2008.12	Hot Tapping & Plugging Work	800Ax150# 2Hole
Gajwa 3Taekji Hot Tapping & Plugging Work for Medium Pressure Pipe Shifting	Seogyong Industries Co., Ltd.	2008.12-2008.12	Hot Tapping & Plugging Work	4"x150# 1Hole, 6"x150# 2Hole
KOGAS Hot Tapping & Plugging Work for Onyangjigwan	Jungbu City Gas	2008.10-2008.10	Hot Tapping & Plugging Work	20"x600# 2Hole
Ilsan Hot Tapping & Plugging Work for 600A, 550A Pipe	Hoil Plant Co., Ltd.	2008.10-2008.12	Hot Tapping & Plugging	550Ax150# 4Hole, 600Ax150# 4Hole
Bundang Hot Tapping & Plugging Work in Jeongjadong	Dajin E&C Co., Ltd.	2008.9-2008.10	Hot Tapping & Plugging Work	400Ax150# 2Hole, 850Ax150# 1Hole
Hot Tapping & Plugging Work through Sunchon~Yulchon(Daega Tunnel) Section	KOGAS	2008.2-2008.7	Hot Tapping & Plugging Work	30"x600# 2Hole
Naju~Muan(Eomda District) Section Hot Tapping & Plugging Work	KOGAS	2008.7-2008.10	Hot Tapping & Plugging Work	30"x600# 2Hole
Hot Tapping & Plugging Work through Changwon~Masan(Dongseup Detour Deoksangyo) Section	KOGAS	2008.6-2008.9	Hot Tapping & Plugging Work	30"x600# 2Hole
Jinyeong~Changwon(Gyeongjeonseon) Hot Tapping & Plugging Work	KOGAS	2008.7-2008.10	Hot Tapping & Plugging Work	30"x600# 2Hole
Jinyeong~Changwon(Sinhangbaehu Railroad) Hot Tapping & Plugging Work	KOGAS	2008.7-2008.10	Hot Tapping & Plugging Work	30"x600# 2Hole
Hot Tapping & Plugging Work through Sunchon~Yulchon(Daega Tunnel) Section	KOGAS	2008.2-2008.7	Hot Tapping & Plugging Work	30"x600# 2Hole
Hot Tapping & Plugging Work related to Baehu Railroad in Gimhae Busan New Port	Gimhae Branch of Gyeongnam Energy Co., Ltd.	2008.9-2008.10	Hot Tapping & Plugging Work	16"x150# 1Hole
Gajwa Hot Tapping & Plugging Work for Medium Pipe Shifting beside Gyeyang Pedestrian Overpass	GSE Co., Ltd.	2008.9-2008.9	Hot Tapping & Plugging Work	20"x150# 2Hole
Hot Tapping & Plugging Work for 600A Tie-in	Geonjong E&C Co., Ltd	2008.4-2008.5	Hot Tapping & Plugging Work	600Ax150# 4Hole
Gangnam Branch Hot Tapping & Plugging Work for Heating Pipe near Daechi Catholic Church	Seungjaegongyeong Co., Ltd.	2008.5-2008.6	Hot Tapping & Plugging Work	550Ax150# 4Hole
Gangnam Branch Hot Tapping & Plugging Work for 800A Heating Pipe	Seungjaegongyeong Co., Ltd.	2008.6-2008.7	Hot Tapping & Plugging Work	800Ax150# 2Hole
hangang Bridge Hot Tapping & Plugging Work for Heating Pipe	Hannan Engineering Co., Ltd.	2008.6-2008.7	Hot Tapping & Plugging Work	800Ax150# 2Hole
Giryung Hot Tapping & Plugging Work for 600A Heating Pipe	Giryung Plant Co., Ltd.	2008.6-2009.1	Hot Tapping & Plugging Work	600Ax150# 4Hole
Bundang Branch Hot Tapping & Plugging Work for 600A 5Hole	Dajin E&C Co., Ltd.	2008.6-2008.8	Hot Tapping & Plugging Work	600Ax150# 5Hole
Bundang Branch Hot Tapping & Plugging Work for Heating Pipe Maintenance	Dajin E&C Co., Ltd.	2008.7-2008.8	Hot Tapping & Plugging Work	450Ax150# 1Hole, 600Ax150# 2Hole



Pangyo Hot Tapping & Plugging Work for 600A Pipe Tie-in	Geonjong E&C Co., Ltd	2008.2-2008.3	Hot Tapping & Plugging Work	600Ax150# 4Hole
Hot Tapping & Plugging Work for Piping Shifting through Angang~Pohang Section	KOGAS	2007.6-2007.12	Hot Tapping & Plugging Work	30"x600# 2Hole
Hwamyeong Station Hot Tapping & Plugging Work for Tie-in	KOGAS	2007.8-2008.5	Hot Tapping & Plugging Work	30"x600# 2Hole
Gangnam Branch Hot Tapping & Plugging Work for 700A Pipe	Ilwon Industries	2007.1-2007.1	Hot Tapping & Plugging Work	700Ax150# 2Hole
Pohang Hyeongsan River Hot Tapping & Plugging Work for 16" High Pressure Pipe	Sungho Engineering Co., Ltd.	2007.2-2007.4	Hot Tapping & Plugging Work	16"x600# 4Hole
GS POWER Hot Tapping & Plugging Work for 700A Heating Pipe	Geonjong E&C Co., Ltd	2007.6-2007.6	Hot Tapping & Plugging Work	700Ax150# 2Hole
KDHC Bundang Branch Hot Tapping & Plugging Work for 850A Pipe	Woolim Plant Co., Ltd.	2007.6-2007.12	Hot Tapping & Plugging Work	850Ax300# 8Hole
Bundang Branch Hot Tapping & Plugging Work for 600A,550A,350A,200A Heating Pipe	Geonjong E&C Co., Ltd	2007.8-2007.10	Hot Tapping & Plugging Work	200Ax150# 4Hole, 350Ax150# 2Hole, 550Ax150# 1Hole, 600Ax150# 4Hole
Hot Tapping Work for Installation of GN2 P/L PSV	Prax Air Korea Corp.	2007.2-2007.2	Hot Tapping Work	6"x4" 1Hole Tapping
Hot Tapping & Plugging Work for Medium Pressure Pipe Shifting at Pyeonggeohayong and Pyeonggeohayong 1 Jugong	GSE Co., Ltd.	2007.5-2007.5	Hot Tapping & Plugging Work	8"x150# 4Hole
Hot Tapping & Plugging Work for 600A Heating Pipe	Jaewon E&C Co., Ltd.	2006.1-2009.2	Hot Tapping & Plugging Work	600Ax150# 2Hole
Hot Tapping & Plugging Work for 700A Heating Pipe(2Hole)	Gwangjin Co., Ltd.	2006.10-2006.11	Hot Tapping & Plugging Work	800Ax150# 2Hole
Hot Tapping & Plugging Work for 350A Heating Pipe(4Hole)	Hwacheon Plant Co., Ltd.	2006.10-2009.11	Hot Tapping & Plugging Work	350Ax150# 4Hole
Iksan Station 14" Hot Tapping & Plugging Work	KOGAS	2006.8-2006.8	Hot Tapping & Plugging Work	14"x600# 1Hole
Hot Tapping & Plugging Work for DCA Cooling Water Pipe	Giheung Plant of Prax Air Korea Corp.	2006.3-2006.3	Hot Tapping & Plugging Work	6"x3"x150# 2Hole
Hot Tapping & Plugging Work for BLNC After Cooler Pipe in Giheung Plant	Giheung Plant of Prax Air Korea Corp.	2006.8-2006.8	Hot Tapping & Plugging Work	3"x150# 1Hole
Hot Tapping & Plugging Work for 400A, 700A Heating Pipe	Gwangjin Co., Ltd.	2006.5-2006.9	Hot Tapping & Plugging Work	400Ax150# 2Hole, 700Ax150# 2Hole
Gangnam Branch Hot Tapping & Plugging Work for 600A, 100A Pipe	Ilwon Industries	2006.6-2006.8	Hot Tapping & Plugging Work	100Ax150# 2Hole, 600Ax150# 2Hole
Seoul Subway Hot Tapping & Plugging Work for Heating Pipe Shifting through 704 Gonggu Wall Mart Section	Geonjong E&C Co., Ltd	2006.8-2006.10	Hot Tapping & Plugging Work	650Ax150# 4Hole, 700Ax150# 2Hole
Gajwa Taekji Hot Tapping & Plugging Work for Medium Pressure Pipe Shifting	Sina City Gas Co., Ltd.	2004.10-2005.10	Hot Tapping & Plugging Work	6"x150# 1Hole, 20"x600# 2Hole
KDHC Bundang Branch Hot Tapping & Plugging Work for Heating Pipe	Jaewon E&C Co., Ltd.	2005.1-2005.3	Hot Tapping & Plugging Work	200Ax150# 1Hole



Hwachidong Hot Tapping & Plugging Work for Medium Pressure City Gas Pipe	Jinwoong Co., Ltd.	2005.3-2005.3	Hot Tapping & Plugging Work	4"x150# 1Hole
Daechuk Hot Tapping & Plugging Work for Medium Pressure Pipe Shifting	Sina City Gas Co., Ltd.	2005.4-2005.6	Hot Tapping & Plugging Work	20"x600# 2Hole
Hot Tapping & Plugging Work for LNG Pipe of Pohang Steel Mill through Namcheon Section	Seongho Engineering Co., Ltd.	2005.4-2005.5	Hot Tapping & Plugging Work	16"x600# 2Hole
Jeongchon JCT Hot Tapping & Plugging Work for Medium Pressure Pipe Shifting	Sina City Gas Co., Ltd.	2005.5-2005.6	Hot Tapping & Plugging Work	20"x600# 2Hole
Hot Tapping & Plugging Work through Jochiwon-Cheongju(Gungpyeonggyo) Section	KOGAS	2005.5-2005.9	Hot Tapping & Plugging Work	20"x600# 2Hole
ILI Facilities Improvement Work	KOGAS	2005.5-2005.11	Hot Tapping & Plugging Work	20"x600# 3Hole
Jochiwon-Cheongju(Hakcheon Hill) Section Hot Tapping & Plugging Work	KOGAS	2005.6-2005.11	Hot Tapping & Plugging Work	20"x600# 2Hole
Hot Tapping Work for Improvement of ILI facilities	KOGAS	2005.7-2005.11	Hot Tapping & Plugging Work	20"x600# 2Hole
Hot Tapping & Plugging Work for 600A,500A Pipe	Seongil E&C Co., Ltd.	2005.10-2006.5	Hot Tapping & Plugging Work	500Ax150# 2Hole, 600Ax150# 2Hole
(Pohang) Hot Tapping & Plugging Work for LNG Pipe Shifting related to Hyeongsangang Business	Seongho Engineering Co., Ltd.	2005.11-2006.1	Hot Tapping & Plugging Work	16"x600# 4Hole
Hot Tapping Work for Installation of N500 Chiller Spare(5Hole)	Prax Air Korea Corp.	2005.12-2005.12	Hot Tapping & Plugging Work	4" 4Hole, 3" 1Hole
Hot Tapping & Plugging Work through Jochiwon-Cheongju(Wolgokgyo) Section	KOGAS	2004.11-2005.4	Hot Tapping & Plugging Work	20"x600# 2Hole



RESEARCH & DEVELOPMENT

PROJECT	PERIOD	RESEARCH OBJECTIVE
Development of BOM calculation software for LNG storage tank	2016	<ul style="list-style-type: none"> Building of the basis database for standardized BOM calculation of LNG storage tank and the development of BOM calculation software
2016 Boil-off-gas compressor diagnosis	2016	<ul style="list-style-type: none"> Evaluation of remnant life and integrity by diagnosing lifespan Boil-off-gas compressor
Development of integrated biogas-powered high temperature fuel cell system	2015-2018	<ul style="list-style-type: none"> Performance evaluation of integrated biogas-powered 5 kW high temperature fuel cell system to prepare engineering database for 100 kW scale-up plant process design
Development of small scale natural gas liquefaction technology	2015-2016	<ul style="list-style-type: none"> Development of a small scale LNG liquefaction technology and basic engineering package
Development of performance evaluation and analysis technology for large rotating machinery in LNG terminal	2015-2016	<ul style="list-style-type: none"> Development of performance evaluation and rotating machinery analysis program about fault evaluation of large rotating machinery in LNG terminal
Process design of CO ₂ transportation by subsea pipeline	2015	<ul style="list-style-type: none"> Process design of CO₂ transportation by subsea pipeline
Process design of CO ₂ temporary storage facility	2015	<ul style="list-style-type: none"> Process design of CO₂ temporary storage facility
Process design of CO ₂ injection system	2015	<ul style="list-style-type: none"> Process design of CO₂ injection system
Development of chip removal equipment using by differential pressure for Hot Tapping work	2015	<ul style="list-style-type: none"> Development of chip removal equipment using by differential pressure between piping inside and outside for swift and effective chip removal
Development of measuring equipment for static electricity in body for enhancing on-site safety.	2015	<ul style="list-style-type: none"> Development of measuring and analyzing equipment for static electricity in body
Development of technology for floating offshore LNG bunkering system	2014-2018	<ul style="list-style-type: none"> Development of topside design for floating LNG bunkering terminal and BOG re-liquefaction pilot plant
Development of the membrane based nitrogen supply modules for gas exchange and pneumatic pressure test	2014-2016	<ul style="list-style-type: none"> Basic and detail design of Air separation system based on membrane Development of membrane based 500Nm³/hr mobile N₂ generation system
Development of remnant life prediction system for high-pressure LNG facility safety	2014-2017	<ul style="list-style-type: none"> Development of remnant life prediction system for high-pressure LNG facility safety and reliability
Analyzing property of LNG facility lifespan and developing evaluation standard for remnant life of LNG facility	2014-2016	<ul style="list-style-type: none"> Building evaluation standard for remnant life of LNG facility and data base
Process design of CO ₂ pipeline transportation	2014	<ul style="list-style-type: none"> Process design of CO₂ pipeline transportation
Development of the technology for biogas upgrading and the recovery & using of carbon dioxide	2013-2019	<ul style="list-style-type: none"> Development of biogas upgrading technology and high efficient CO₂ liquefaction recovery system
Development of pipeline-infrastructure design and evaluation technology in permafrost area	2013-2018	<ul style="list-style-type: none"> Development of pipeline-infrastructure optimization design evaluation, long distance pipeline plan and optimization technology in permafrost area



Development and demonstration of LNG supply system for natural gas and diesel dual fuel CHP system	2013 -2017	<ul style="list-style-type: none"> • Design and manufacture of optimum LNG fuel supply system in island • The development of optimum maintenance technology for LNG supply facility in island
6 inch natural gas pressure regulator localization and field study of technical assistance	2013 -2016	<ul style="list-style-type: none"> • 6 inch natural gas pressure regulator localization and field study
Development of biogas CO₂ recovery and liquefaction system	2013	<ul style="list-style-type: none"> • Development of CO₂ recovery system by using low temperature liquefaction from biogas
The development of technology for ultra large crude oil storage tank	2013	<ul style="list-style-type: none"> • Design development of external floating roof type LNG storage tank
Development of biogas CO₂ recovery and liquefaction system	2013	<ul style="list-style-type: none"> • Development of CO₂ recovery system by using low temperature liquefaction from biogas
Development on engineering technology for gas separation process from various associated exhaust gases	2012 -2015	<ul style="list-style-type: none"> • Validation of membrane based gas separation technology from Tail gas, Flaring gas, etc. by using bench-scale pilot plant to prepare engineering database for a commercialized scale plant process design
Development on LNG bunkering engineering technology for natural gas power generation in Islands	2012 -2015	<ul style="list-style-type: none"> • LNG supply system design and Gas power-generation engineering in domestic islands • The demonstration of LNG supply and kW-Class Gas power-generation in domestic islands • LNG supply engineering for MW-Class power generation in domestic islands
Development of CNG sampling equipment and oil carry-over analysis	2012 -2014	<ul style="list-style-type: none"> • Quantitative analysis of oil content in CNG • The establishment of response plans for natural gas enhanced quality standards of transport
The design development of dome roof type LNG storage tank	2012 -2013	<ul style="list-style-type: none"> • Basic design development of 9% Ni dome roof type LNG Tank
Development of NGH pilot plant for the middle/small natural gas-field exploitation and the energy source securement	2010 -2012	<ul style="list-style-type: none"> • NGH pilot plant chain completion & optimization operation • NGH pilot plant efficiency improvement design • NGH demo plant basic design • NGH plant basic research & economic evaluation for a commercialization
Development of ultra-large scale LNG tank design technology	2009 -2015	<ul style="list-style-type: none"> • The consulting for LNG Tank design of machine, piping, construction • Reviewing LNG tank design materials

