



CNG VIETNAM



Delivering
clean energy
to your doorstep

www.cng-vietnam.com

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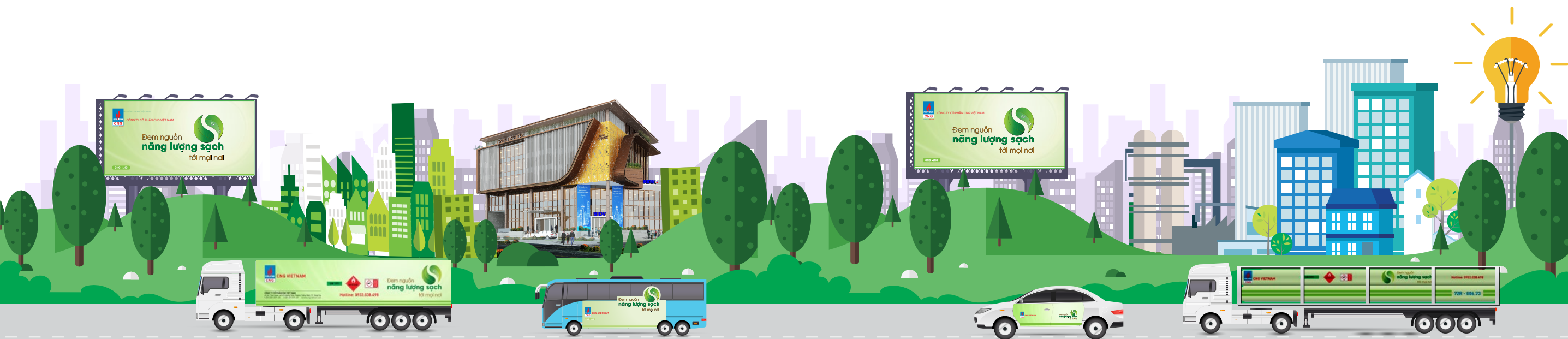
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MESSAGE FROM THE CHAIRWOMAN OF THE BOARD



Dear Valued Customers / Partners,

Founded in 2007, CNG Vietnam Joint Stock Company (CNG Vietnam) is the pioneer in, manufacturing, transporting and distributing Compressed Natural Gas (CNG) to provide for factories, industrial parks that use heat energy in the production, processing and to use as alternative fuel in the transportation industry. In the coming time, CNG Vietnam continues to develop towards providing clean fuel package solutions of CNG, LNG and LPG to customers across the country.

Throughout its history, CNG Vietnam has been always striving to bring added values to the customers, contribute to the development of the country and community based on 5 distinct competitive advantages, specifically:

1. Competitive advantage from CNG, LNG products: The fuel with high efficiency, helping to increase the service life of machines and equipment; environmentally friendly; economic efficiency, more cost-saving than traditional fuels; and safer in production operation.
2. Highly-recognized prestige and brand name, always receiving customer's trust.

3. Infrastructure and technology: The compressing capacity reaches more than 220 million Sm³/year in the South and 110 million Sm³/year in the North, ensuring stable gas supply for customers, PRU system widely installed at industrial parks. The Company has also mastered CNG technology and is stepping up research towards pioneering LNG technology.

4. Human Resources and Corporate Culture: Senior management leaders have qualifications and vision of business management, employees are dynamic, creative and proactive in their work; Established corporate culture, collective strength and solidarity towards the common goal of the whole Company.

5. Relationship with stakeholders: The Company always receives support from PetroVietnam Gas Joint Stock Corporation (PV Gas) and its member units, as well as oil and gas companies and other agencies.

As a result, CNG Vietnam has always received the trust from our Customers/Partners, consumption volume and business scale have been constantly expanding over the past years.

As an advanced technology solution **"DELIVERING CLEAN ENERGY TO YOUR DOORSTEP"** to help businesses reduce fuel costs, protect the environment, CNG Vietnam always welcomes opportunities for cooperation with Customers/Partners in the coming time.

Best regards,

NGUYEN THI HONG HAI
Chairwoman of the Board of Directors

“

THROUGHOUT ITS HISTORY, CNG VIETNAM HAS BEEN ALWAYS STRIVING TO BRING ADDED VALUES TO THE CUSTOMERS, CONTRIBUTE TO THE DEVELOPMENT OF THE COUNTRY AND COMMUNITY BASED ON 5 DISTINCT COMPETITIVE ADVANTAGES.



INTRODUCTION OF CNG VIETNAM

Transaction name	: CÔNG TY CỔ PHẦN CNG VIỆT NAM
English name	: CNG VIETNAM JOINT STOCK COMPANY
Abbreviation	: CNG VIETNAM
Stock symbol	: CNG
Stock exchange	: HOSE

Logo



Slogan



Business Registration Certificate

No. 492032000040, first registration on 28/05/2007 and 12th registration change on 23/05/2018 issued by the Industrial Park Management Agency of Ba Ria - Vung Tau Province.

Headquarters

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Northern Branch

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NORTHERN REGION

- ★ Vinh Phue
- ★ Ha Noi
- ★ Hung Yen
- ★ Thai Binh
- ★ Ninh Binh

- ★ Thai Nguyen
- ★ Bac Ninh
- ★ Hai Phong
- ★ Nam Dinh

SOUTHERN REGION

- ★ Binh Thuan
- ★ Binh Phuoc
- ★ Binh Duong
- ★ Ho Chi Minh City
- ★ Long An
- ★ Dong Nai
- ★ Ba Ria - Vung Tau

PARACEL ISLANDS

SPRATLY ISLANDS





VISION

To build and develop CNG Vietnam Joint Stock Company for sustainable growth, to become a leading clean fuel supplier of CNG, LNG... in Vietnam.



MISSION

To create safe and effective solutions from clean fuel sources, to bring sustainable values to customers, shareholders, employees and society.



CORE VALUES



Quality



Safety



Co-operation



Efficiency



Social
responsibility





DEVELOPMENT MILESTONES

CNG Vietnam Joint Stock Company (CNG Vietnam) was established on 28/5/2007 under Investment Certificate No. 492032000040 issued by the Industrial Park Management Agency of Ba Ria - Vung Tau Province.

2007

First CNG plant was built in Phu My 1 Industrial Park, Tan Thanh District, Ba Ria – Vung Tau Province with an initial capacity of 30 million Sm³ per year, officially put into operation on 03/09/2008.

2008

CAPACITY
30
Million Sm³

CAPACITY
70
Million Sm³

2009

Expanded the market, raised the capacity of Phu My CNG Plant to 70 million Sm³.

2010

Applied the Safety-Quality-Environment Management System certified by BSI.

2011

Listed shares on Ho Chi Minh City Stock Exchange (HOSE), marking a new stage of development. Also expanded market coverage, enhanced brand reputation.

2014

The Company was honored to be awarded the 3rd Level Labor Medal and Certificate of Merit from the Prime Minister.

2015

Total gas consumption volume increased sharply to 94.3 million Sm³. Expanded into the Northern region. Central gas station in My Phuoc 3 Industrial Park officially operated to supply CNG to customers in this area. This was part of CNG Vietnam’s business expansion plan as well as deployment of the central supply station model.

2017

TOTAL CNG
CONSUMPTION VOLUME
141.3
Million Sm³

TOTAL CNG
CONSUMPTION VOLUME
94.3
Million Sm³

2019

The Company continued to make progress when signing gas supply contract with many new customers, gas consumption volume amounted to 192.16 million Sm³, reached 123% of the business plan and up 117% over the previous year.

2020

The Company invested to purchase compression stations in Tien Hai, Thai Binh with a compression capacity of 100 million Sm³/year. Total gas consumption volume reached 226.5 million Sm³, accounting for nearly 70% of the national market share.

TOTAL CNG
CONSUMPTION VOLUME
226.5
Million Sm³

TOTAL CNG
CONSUMPTION VOLUME
192.16
Million Sm³

TYPICAL AWARDS



CERTIFICATE OF MERIT FROM THE PRIME MINISTER IN 2011

CERTIFICATE OF MERIT FROM THE MINISTRY OF INDUSTRY
AND TRADE IN 2010, 2013, 2015, 2016, 2018



CERTIFICATE OF MERIT FROM VIETNAM NATIONAL OIL
AND GAS GROUP FROM 2010 TO 2019

3rd LEVEL LABOR MEDAL IN 2013
AND CERTIFICATE OF MERIT FROM THE PRIME MINISTER IN 2014



MOST EFFECTIVE VIETNAM'S COMPANIES IN 2012

FASTEST GROWTH ENTERPRISES OF VIETNAM IN 2013

BEST ANNUAL REPORT
IN 2011, 2012, 2015, 2016



BEST ANNUAL REPORT
IN 2013



BEST ANNUAL REPORT
IN 2014



SUSTAINABLE DEVELOPMENT ENTERPRISES
IN 2016, 2017, 2018



BEST ANNUAL REPORT FOR MID CAP COMPANIES
IN 2018, 2019

KEY CUSTOMERS

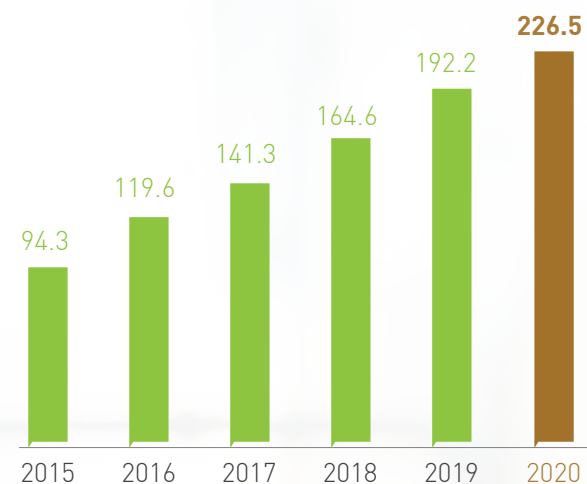


Mr. PHAM QUOC THANG
Deputy General Director,
Ton Dong A Corporation

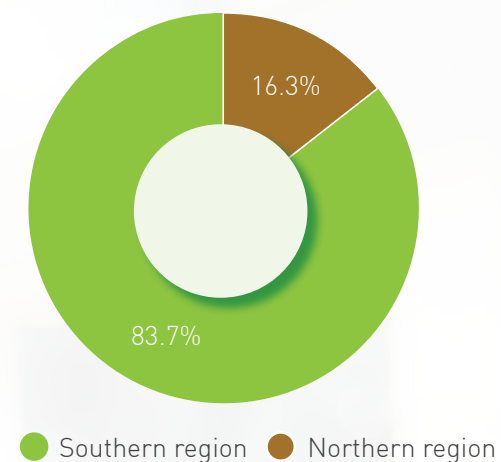
TON DONG A CORPORATION PARTNERED WITH CNG VIETNAM BECAUSE ENVIRONMENTAL ISSUES ARE PLACED AS OUR TOP PRIORITY. AT THE SAME TIME, CONVERTING FROM LPG TO CNG HELPS OUR COMPANY INCREASE THERMAL EFFICIENCY IN THE PRODUCTION BY 20-30%. WE HOPE TON DONG A AND CNG VIETNAM WILL BECOME SUSTAINABLE STRATEGIC PARTNERS IN THE NEAR FUTURE.



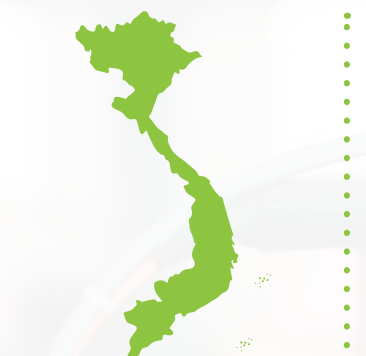
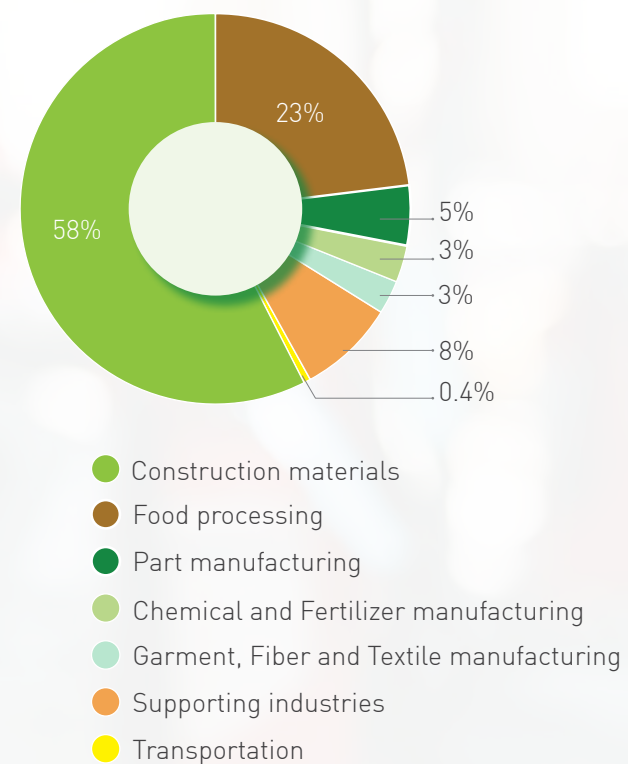
CNG CONSUMPTION VOLUME
(Million Sm³)



CNG CONSUMPTION VOLUME
BY REGION (2015 - 2020)



CNG CONSUMPTION VOLUME
BY INDUSTRY (2015 - 2020)



70%
OF THE NATIONAL
MARKET SHARE
IN 2020

CNG/LNG - A GREEN AND ECONOMICAL ENERGY SOLUTION

CNG AND ITS COMPOSITION


CNG (Compressed Natural Gas) is a natural gas with the main composition of CH₄ - Methane (88%), colorless, odorless, non-toxic, extracted from natural gas fields or associated gas in the oil exploitation process, going through the treatment to remove impurities and heavy components, and then transported by pipeline to the compressor plant. At the compressor plant, the natural gas is compressed to a pressure of 200 - 250 barg to increase storage capacity, reduce transportation costs.

At the consumption place, CNG is reduced to the required pressure (usually below 3 barg) by the PRU (Pressure Reducing Unit).




- Methane (CH₄) > 88%
- Ethane (C₂H₆) > 4.5%
- Propane (C₃H₈) ~ 2%
- Other substances < 5%







MAXIMUM PRESSURE
250 barg




CALORIFIC VALUE
10,080 kcal/Sm³



DENSITY
0.78 kg/Sm³
(lighter than air 1.23 kg/Sm³)



ODORLESS




NON-TOXIC

LNG - LIQUEFIED NATURAL GAS


LNG (Liquefied Natural Gas) is a natural gas with the main composition of CH₄ - Methane (94.3%), colorless, odorless, non-toxic, cooled at -162 degrees Celsius to convert to liquid, so that the storage capacity is much higher than CNG (2.4 times higher).




- Methane (CH₄) ~94.3%
- Ethane (C₂H₆) ~4.2%
- Propane (C₃H₈) ~1%
- Other substances ~ 0.5%




CALORIFIC VALUE
55 MJ/kg




DENSITY
436 kg/Sm³




TEMPERATURE
-162°C



PRESSURE
05 barg



ODORLESS



NON-TOXIC

CALORIFIC VALUE CONVERSION

CALORIFIC VALUE				
Fuel	Unit	KCal	BTU	mmBTU
LPG	Kg	11,823	46,917	0.046917
DO	Kg	10,835	42,997	0.042997
FO	Kg	9,800	38,890	0.038890
CNG	Sm ³	10,080	40,001	0.040001
LNG	Kg	13,114	52,042	0.05204

FUEL CONVERSION					
Base fuel	Unit	CNG (Sm ³)	LPG (Kg)	DO (Kg)	FO (Kg)
CNG	Sm ³	1	0.85259	0.93032	1.02857
LPG	Kg	1.1729	1	1.09117	1.2064
DO	Kg	1.0749	0.91645	1	1.10561
FO	Kg	0.97223	0.82891	0.90448	1
LNG	Kg	1.30099	1.10919	1.21034	1.33816

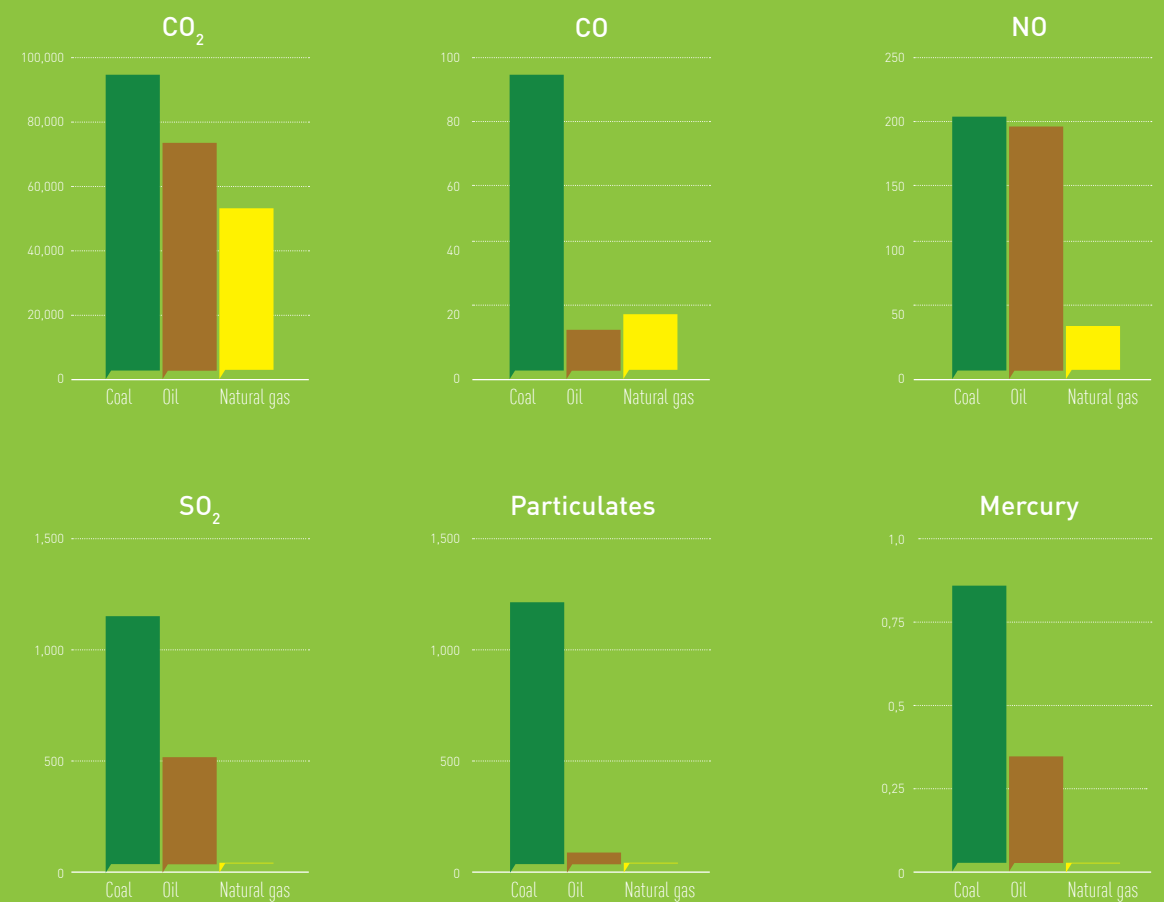
Note:

- » BTU (British Therm Unit): British calorific value unit
- » Sm³ (Standard cubic meter): 1 m³ CNG at standard conditions (temperature 15oC, pressure 1at)
- » mmBTU: One million BTU
- » 1kcal = 3.968321 BTU

CNG/LNG - A GREEN AND ECONOMICAL ENERGY SOLUTION (continued)

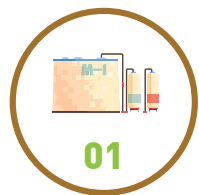


COMPARISON OF EMISSION AMONG FUELS
(Kg emission/Million BTU)



Source: U.S. Energy Information Administration

CNG PRODUCTION AND DISTRIBUTION PROCESS



GAS INLET

Natural gas is taken from the gas supply system of Vietnam Gas Corporation (PVGas) or the gas pipeline system of PVGas D, goes to the compressor station (Phu My compression station - Southeastern region; Tien Hai, Thai Binh compression station - Northern region) with the pressure of 22 barg. Gas flow is controlled by the inlet metering system.



COMPRESSOR

Gas is led into CNG compressor station and compressed from the pressure of 14-22 barg to 200-250 barg and refill the specialized tanks.

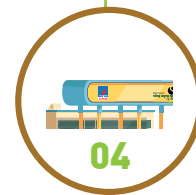
The compressors and control systems are designed in compliance with international standards and Vietnam's standards and regulations ensuring the safe conditions of operation and tested annually.

The compressor station in Phu My (Ba Ria - Vung Tau) has a capacity of 220 million Sm³/year and the compressor station in Tien Hai (Thai Binh) has a capacity of 110 million Sm³/year.



FURNACE CONNECTION AT CUSTOMER'S SITE

From the PRU's outlet, the gas is piped to the customer's furnace system.



PRU AT CUSTOMER'S SITE

The tank trucks take CNG to the customer's sites (PRU), then gas is taken from tank trucks with pressure of 200-250 barg (on trailer) going through PRU system, pressure is reduced by 2 stages (stage 1: pressure reduced to 60 barg, stage 2: pressure reduced to 2-7 barg) to supply customers upon request.

PRU system is designed and installed in compliance with international standards and Vietnam's standards and regulations, ensuring absolute safety.

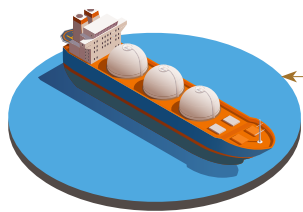


TRANSPORTATION

After being compressed and filled into the specialized tanks (composite, steel) with the tank's volume is 18-40m³/tank, CNG is transported to customer's sites. The tanks and trailers are complied with the strict regulations of dangerous and flammable goods transport.



LNG DISTRIBUTION PROCESS



01

LNG SOURCE

LNG (Liquefied Natural Gas) is imported from countries with large reserves in the world by specialized LNG carriers.



02

LNG ACCEPTION AND STORAGE

LNG carriers are received and pumped into the storage through the jetty installed with a specialized receiving system.



03

TRANSPORTATION

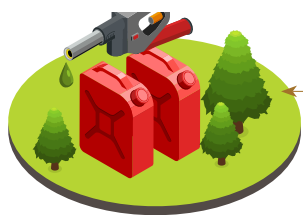
A diversified liquid tank system with capacity of 15,000 Sm³, 20,000 Sm³, 25,000 Sm³ and 30,000 Sm³ with working pressure of 8 barg, is the means of transporting LNG to the customer's factory.



04

RE-GAS AT THE CUSTOMER'S FACTORY

Depending on the demand, customers can install a re-gas system including LNG tank and re-gas equipment with working pressure of about 8 barg to bring LNG to natural gas supplied to customer's factory.



05

FURNACE CONNECTION AT CUSTOMER'S SITE

From the re-gas system with an output pressure of approximately 8 barg, the gas is depressurized as required and piped into the gas combustion chambers.



CNG/LNG STATION INSTALLATION PROCESS



CUSTOMERS NEED TO DO

- | | |
|--|--|
| <h3>1 Construct CNG/LNG station site within the factory area</h3> <ul style="list-style-type: none"> » Determine the location of CNG/LNG station area as designed » Build the foundation suitable for CNG/LNG tank truck » Construct wall/fence/roof for CNG/LNG station area » Make grounding/lightning protection system | <h3>2 Connection from the station to combustion system</h3> <ul style="list-style-type: none"> » Construct the gas pipeline from the station to production area » Replace the burner to suit CNG/LNG <h3>3 Other procedures</h3> <ul style="list-style-type: none"> » Apply for a fire prevention license » Coordinate to operate the system with the gas supplier |
|--|--|





SAFETY - QUALITY - ENVIRONMENT MANAGEMENT SYSTEM

STRUCTURE OF THE SAFETY - QUALITY - ENVIRONMENT MANAGEMENT SYSTEM

A. OBJECTIVES

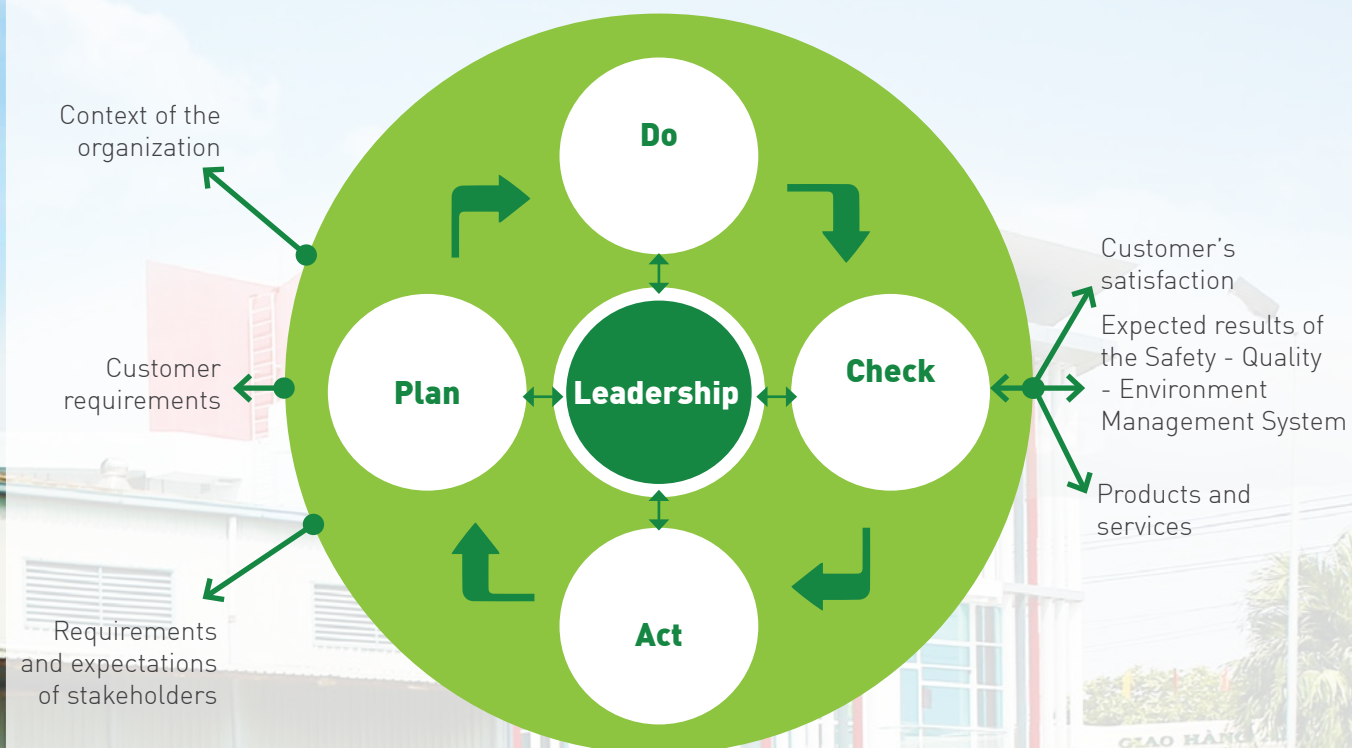


B. STRUCTURAL MODEL

ISO 45001:2018, ISO 9001:2015 and ISO 14001:2015 standards in CNG Vietnam's Safety - Quality - Environment Management System are built based on the PDCA (Plan-Do-Check-Act) general structural model.

PLAN - DO - CHECK - ACT MODEL

SAFETY - QUALITY - ENVIRONMENT MANAGEMENT SYSTEM



“

RECOGNIZING THE ROLE AND IMPORTANCE IN PROMOTING CORPORATE SOCIAL RESPONSIBILITY, CNG VIETNAM HAS BEEN ACTIVELY IMPLEMENTING MANY SOCIAL WELFARE PROGRAMS IN ADDITION TO PRODUCTION AND BUSINESS ACTIVITIES.

As part of the social welfare activities of CNG Vietnam, it is to mention the **“Strengthen to school”** program that has become a meaningful annual activity, bringing great encouragement for students before each new school year. The program not only gives scholarships and gifts to students with difficult circumstances, CNG Vietnam but also wishes to make a small contribution to enhance the spirit of “eager to learn” and cultivate knowledge for the young generation.

In addition, CNG Vietnam also actively participates in many other volunteer activities such as building houses of gratitude, supporting flood and storm victims, veterans, struggling women ..., contributing to the oil and gas industry fund, young generation funds, veteran funds...

Through social and welfare activities, CNG Vietnam wishes to increasingly spread love and fresh energy, contributing to nurturing a better living value for the community.

Since 2012, CNG Vietnam has been accompanying the program **“Heart for you”** of the Heart of Vietnam Foundation. Thereby, the Company has supported operation costs for hundreds of children with congenital heart disease, contributing to bring more opportunities for children with congenital heart disease, helping them to have a healthy life.

Continuing the spirit of “Mutual friendship”, “The good leaves protect the torn leaves”, CNG Vietnam’s Trade Union and Youth Union have joined the journey **“Spring Love”** across he country from Ca Mau, Kien Giang, An Giang, Gia Lai, Ha Tinh to Yen Bai. The journey of spreading love continues to bring the humanistic values of CNG Vietnam closer to the difficult lives and circumstances all over the country, to energize and nurture changes for a better life.





CNG VIETNAM JOINT STOCK COMPANY

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