



Creating Value Beyond Energy



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Korea National Oil Corporation 2019



## Korea National Oil Corporation, Leading the future of energy in Korea

Energy is the power to move the Korean economy. In particular, oil is vital to the everyday life of the people and corporate activities. As the only government-owned oil corporation in Korea, KNOC is making every effort to ensure energy security in Korea.



# Energy is moving the future

## “Creating Values Beyond Energy”

The year 2019 will be a year for  
Korea National Oil Corporation to make great strides.



Greetings! I am Su Yeong Yang, President & CEO of Korea National Oil Corporation.

Korea National Oil Corporation (KNOC) was established in 1979 to ensure a stable supply of petroleum for our economy, and is currently celebrating its 40th anniversary.

These days, electric vehicles are increasingly showing up on the roads and renewable energy is on the rise, however, oil is expected to remain as one of the primary energy sources in the near future. This is all the more true in the case of Korea, whose economy is highly dependent on petroleum; oil resources will remain the most important energy source and industrial commodity.

Upholding the duty of contributing to the Korean economy through a stable supply of petroleum is not the kind of undertaking that private sector companies can do, but KNOC must do. KNOC will make endless efforts on the frontlines to secure resources with the national mission of “establishing energy security.”

In 2019, KNOC plans to tap the first oil resources in the Haliba field in the UAE while actively exploring the Korean continental shelf and thereby securing future business growth.

In addition, all of us at KNOC are committed to fulfilling our corporate social responsibility through ethics management, social engagement, cooperation and shared growth, which public-sector companies like KNOC need to pursue. I hope you further support and encourage KNOC in the future.

Thank you.

President & CEO Su Yeong Yang

# Milestones

- **July 2019** Began Production in Haliba field in the UAE
- **September 2018** Began Production in Canada's Black Gold
- **October 2016** Began gas production in Donghae-2, Korea's East Sea
- **November 2014** Moved Head Office to Ulsan
- **June 2013** Announced the vision of NE Asia Oil Hub and completed storage facility in Yeosu
- **March 2012** Signed an agreement for the three exploration projects in the UAE
- **December 2011** Opened the first economical gas station
- **April 2011** Participated in the shale oil project in Eagle Ford, Texas, the US
- **April 2010** Began production in Su Tu Den oil field in Vietnam
- **April 2008** Launched Opinet (oil price information service)
- **December 2006** Began gas production in Block 11-2, Vietnam
- **July 2004** Began gas production in Donghae-1, Korea's East Sea
- **October 2003** Began Su Tu Den Southwest production, Vietnam
- **September 2000** Discovered large oil reserves in Vietnam 15-1
- **January 1999** Launched Petronet (petroleum information service)
- **December 1987** Discovered Korea's first natural gas on the continental shelf
- **March 1979** KNOC was established



# Long-Term Strategy to 2030

We will evolve into a global energy company to guarantee national oil supply by establishing a new strategy and responding to changes in the business environment.

## MISSION

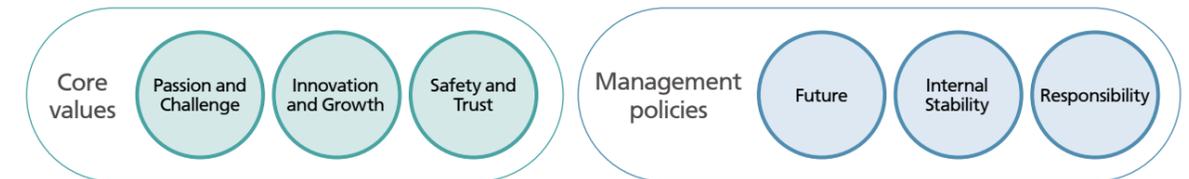
Contributing to the national economy by stabilizing national oil supply

## VISION

Creating value beyond energy

## SLOGAN

Today's Challenge, Tomorrow's Innovation, Everyone's KNOC



Strategic Directions	Strategic Tasks
Securing the financial soundness of key businesses	<ul style="list-style-type: none"> <li>• Improve productivity and economic feasibility of major businesses</li> <li>• Improve the management efficiency of overseas subsidiaries</li> <li>• Prepare the foundation for future investments with systemic debt management</li> </ul>
Pursuing innovative future growth	<ul style="list-style-type: none"> <li>• Develop new business in association with existing businesses</li> <li>• Generate the momentum for a new energy business</li> <li>• Bring innovation to organizational culture and establish smart business processes</li> </ul>
Realizing people-oriented social values	<ul style="list-style-type: none"> <li>• Promote people's trust and benefits</li> <li>• Create good jobs</li> <li>• Maximize the value of coexistence by reinforcing shared growth</li> </ul>
Enhancing the security of oil supply and national safety	<ul style="list-style-type: none"> <li>• Increase potential oil supply</li> <li>• Create a safety environment and respond to disasters preemptively</li> <li>• Operate an information security system always on</li> </ul>

“We are moving toward the future and building it in our own vision”

KNOC has been actively conducting E&P business around the world. Our advanced technology is helping realize a hopeful future.

## Key Businesses

\* As of late June 2019

Exploration, development and production business (E&P)



31 projects in 17 countries

Overseas and domestic E&P business

Stockpiling business



Capacity of stockpiling facilities  
**146** million barrels  
Stockpiled oil  
**96** million barrels

Nine stockpiling facilities nationwide

Economical gas station business



**1,189** economical gas stations in Korea (10.1% of all gas stations in Korea)

Operating economical gas stations

Petroleum information service



Petronet users  
**826** thousand / year  
Opinet users  
**120** million / year

Operating the petroleum information network

## Oil E&P Business

### Overseas Projects

KNOC has sought for E&P projects around the world to secure oil resources. Relying on its success in Vietnamese projects that discovered large crude oil reserves in 2000. KNOC has been setting the foundation for long-term growth by securing strongholds in North America, Europe and Central Asia. In 2012, KNOC embarked on a project that explores three mining lots in the UAE, and we began commercial production of oil from the Haliba oil field in July 2019. This is the first-ever case where a company has directly introduced the results into South Korea after successfully carrying out exploration, development, and production in the UAE. Going forward, KNOC will continue to actively engage in developing overseas oil fields for Korea National Oil Corporation South Korea's energy independence. KNOC will actively carry out overseas oil field development projects for its national energy self-reliance.



### Korean Continental Shelf Project

Since its foundation, KNOC has continuously explored the Korean continental shelf. In 1998, it discovered a high-quality gas reservoir off the coast of Ulsan and developed it into the Donghae-1 gas producing field, realizing the long-cherished dream of becoming an petroleum-producing country. KNOC obtained new exploration blocks of 8 and North 6-1 in the East Sea in 2019 and will explore the areas for the next ten years. It will continue to set the groundwork for the growth of its domestic petroleum development business, supporting the policy of shared growth of related domestic industries and job creation.



### Unconventional Resources Project

Since 2011, KNOC has participated in the Eagle Ford shale gas project in the US. In September 2018, KNOC began to produce oil sand crude in the Black Gold project in Canada and sell it in the local market. It has significance because it is Korea's first unconventional business of its kind, allowed for the securing of technological capability and expansion of KNOC's business portfolio. KNOC will make consistent efforts to develop unconventional resources, such as shale gas, which is highlighted as a 'future energy.'



# Overseas Oil Development Project

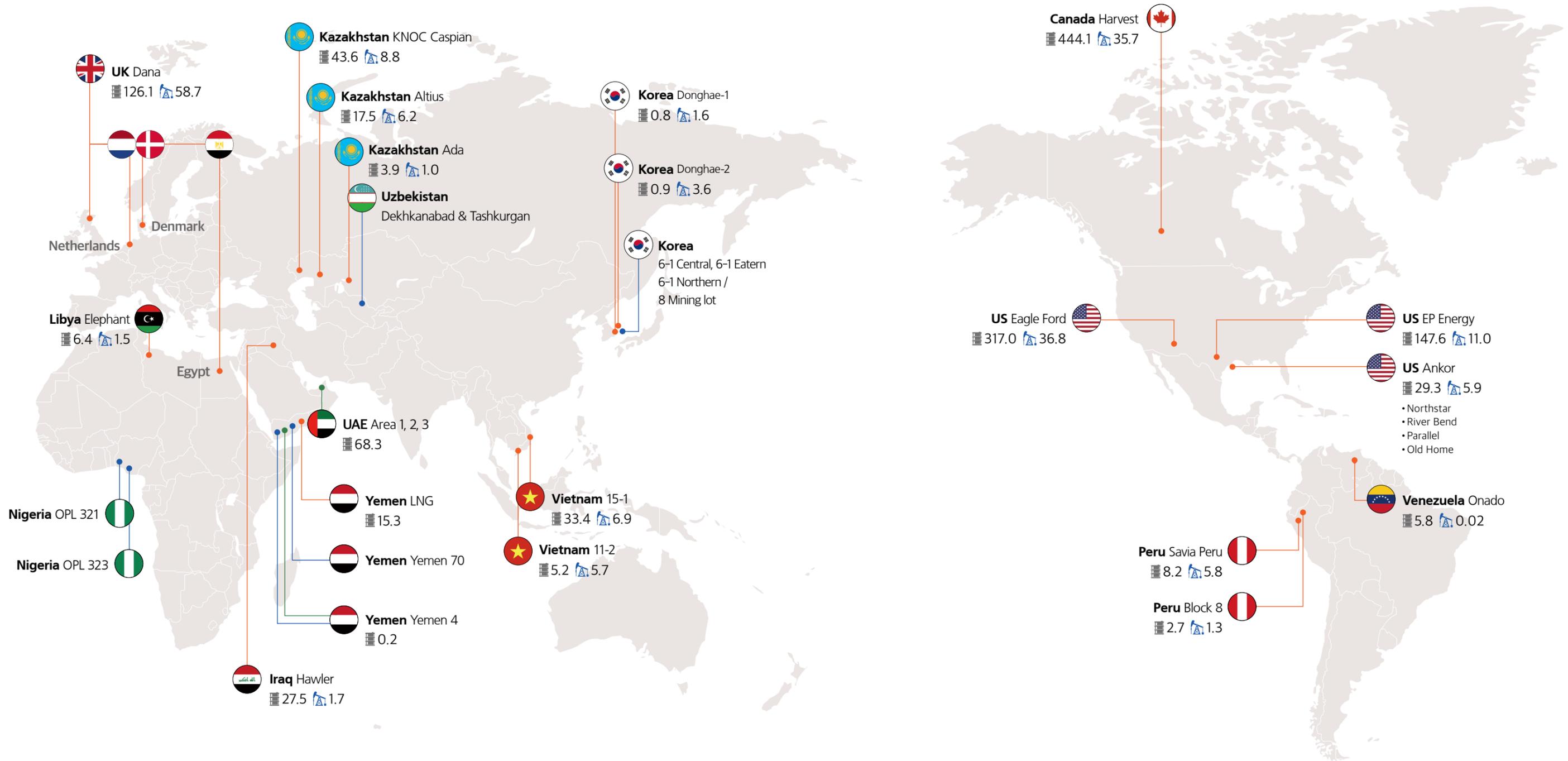
KNOC currently has 31 E&P projects in 17 countries for stable supply of oil and gas.

- Production : 22
- Development : 2
- Exploration : 7
- Reserves (million barrels)
- ▲ Daily Production (thousand barrels/day)

Daily production  
192.2 thousand barrels/day

Reserves  
1,303.4 billion barrels

\*KNOC's shares (As of late June 2019)



# Oil Stockpiling

## Strategic Petroleum Stockpiling for Korea's Energy Security

KNOC has 96 million barrels of oil in the nine domestic stockpiling facilities, which have a total capacity of 146 million barrels of oil. The stockpiled oil is equivalent to 89 days of net imports according to the International Energy Agency (IEA) standard. Since its foundation in 1979, KNOC has been contributing to stabilizing domestic oil supply and prices by timely releasing its stockpiled oil in supply instability events such as the Gulf War in 1991, Hurricane Katrina in 2005 and the Libyan Civil War in 2011. Also, KNOC is playing a vital role in improving Korea's emergency response preparedness through efficient management of its stockpiling bases.

### Petroleum Trading

KNOC has been trading crude oil, petroleum products and LPG using price variability in the international oil market. In addition, KNOC has sought to increase its stockpiling volume as the trading revenues funds for the increase.

### International Joint Stockpiling

KNOC provides free space of its stockpiling facility to oil-producing countries and increases the stockpiling oil volume, which results in increasing stockpiling volume as well as revenue.

### Leasing Stockpiling Assets

KNOC contributes to stabilizing domestic oil supply by timely providing oil reserves and stockpiling facilities to private sector companies such as oil refineries, in case of supply disruption.



### Stockpile sites

Storage capacity Reserves (Unit : mboe) (\*As of late June 2019)

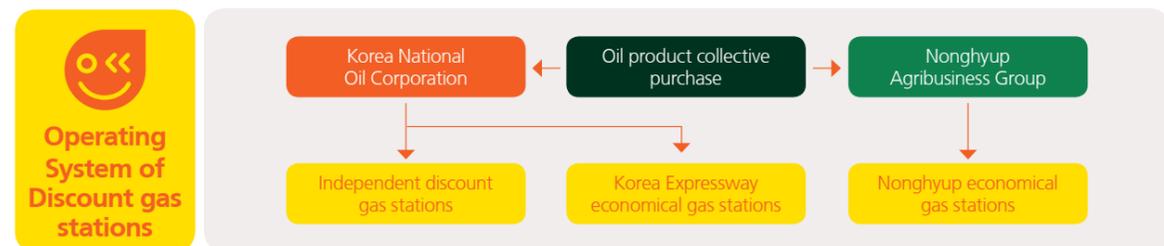
Site	Storage capacity (mboe)	Reserves (mboe)
Yongjin(product)	2.5	1.9
Guri (product)	3.0	2.9
Pyeongtaek(product)	1.8	0.7
Pyeongtaek(LPG)	4.4	3.8
Seosan(crude oil)	11.0	3.1
Seosan(product)	3.6	1.5
Gokseong(product)	2.1	1.9
Donghae (product)	1.1	0.9
Ulsan (crude oil)	6.5	6.4
Geoje (crude oil)	47.5	40.7
Yeosu (crude oil)	52.2	32.2

# Corporate Social Value

## Economical Gas Stations

To ensure that all can consume energy without worry, KNOC will become "a reliable company for the happiness of everyone."

Korea National Oil Corporation currently supplies quality petroleum products to economical gas stations at low prices. As it lowers the prices of oil products purchased from oil refineries and reduces operating costs through the collective purchasing with other institutions, KNOC supplies products to economical gas stations at reasonable prices and is at the head of domestic oil price stabilization. KNOC's supply price to economic gas stations has become a reference price for the business of petroleum products. Through its economical gas station business, KNOC makes the Korea oil market more transparent and helps improve the overall oil distribution structure.



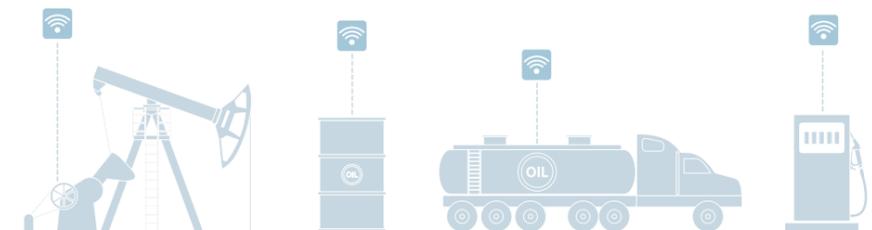
## Petroleum Information Service

### Petronet, Comprehensive Petroleum Information Service

KNOC is operating the only petroleum information service in Korea, Petronet, which provides the latest news and in-depth analysis of the petroleum industry. Petronet, by providing oil information such as oil prices, oil supply and demand, and global upstream trends to diverse stakeholders such as government agencies, research institutes, private sector enterprises and consumers, contributes to the government's energy policy formation, academic research, industry development and improvement of consumer benefits.



[www.petronet.co.kr](http://www.petronet.co.kr)



### Opinet, Oil Price Service

KNOC is contributing to enhancing benefits for the public by operating Opinet, a real-time domestic oil price information service. Opinet provides the retail price information of more than 12,000 gas stations and over 2,000 LPG stations in Korea via multiple channels such as the Opinet website, smartphones and GPS navigation devices. It also provides useful information services, such as locating the cheapest gas station, gas stations engaged in illegal business activities and quality-certified stations. Opinet has become a living information service which, on average, 327,000 people use every day.

[www.opinet.co.kr](http://www.opinet.co.kr)

### CSR

KNOC is aiming to become a 'warm-hearted public energy corporation' which takes the lead in the culture of sharing, specifically, supporting energy welfare in connection with KNOC's business, coexistence and cooperation with local community businesses, promoting academic research in the petroleum industry. In effort to make coexistence and development with local society, KNOC has been opening its swimming pool to the local community.



### Eco-friendly Energy

#### Offshore Wind Power Generation Project

KNOC is planning the 'floating offshore wind power generation project,' based upon its offshore plant operating experience to install generators on the Donghae gas field platform, which is scheduled to stop production in June 2021. It is expected to drastically reduce marine pollution generated in the process of decommissioning the production platform and contribute to invigorating the local economy and creating jobs.



#### Solar Power Generation Project

KNOC is implementing self-consumption solar systems in its oil Stockpile sites and carrying out the solar power generation project on unused land. Having started in the Stockpile site-Gokseong office in 2013, it will install self-consumption solar power systems in the nine Stockpile sites year after year until 2021, and contribute to supplying clean energy.



### Safety & Environment Management

KNOC implemented the HSEQ management system and the environmental management system certified by an international certification authority (ISO14001:2015). It is putting forth its utmost efforts to create a safer and more pleasant working environment and manage safety and environment with a focus on prevention.



#### The Highest PSM Grade (P)

minimizing safety accidents by reinforcing activities to prevent industrial accidents and thoroughly managing safety, and operating the PSM\* system to prevent major industrial accidents. In 2018, Gokseong, Guri and Pyeongtaek Stockpile sites consecutively received Grade P, the highest one, in the PSM evaluation conducted which the Ministry of Employment and Labor conducts every 4 years.

\*PSM (Process Safety Management): The Ministry of Employment and Labor evaluates the safety management status of business operations to prevent major industrial accidents and grades P (excellent), S (good), M+ (average) and M- (poor).

#### "ZERO" Disaster, Fatal and Marine Pollution Accident

To prevent safety accidents, the nine oil Stockpile site in the country have undertaken efforts such as monthly disaster response drills and safety inspections, and as a result, they have recorded "zero" large-scale disasters and fatal accidents in 2018. They also achieved "zero" marine pollution accidents with efforts such as increasing disaster prevention resources and conducting marine pollution prevention exercises.

