



# Chapter IV. DOWNSTREAM INDUSTRY

The downstream oil and natural gas industries are integral for the growth of global economy, as well as domestic economies like the Philippines. Both industries are key components of the energy system. In 2018, oil and natural gas accounted for about 35.0 percent and 24.0 percent of the global primary energy consumption, respectively<sup>34</sup>. Global forecast shows that oil grows on 0.4 percent per year, while natural gas increases at a much faster rate of 1.6 percent per year, overtaking coal as the second biggest energy source by 2040. Despite a slower growth rate, oil remains an important fuel with 27.6 percent share to global primary energy consumption in 2040<sup>35</sup>. Natural gas maintains its share at around 25.0 percent.

In the local setting, oil and gas industries made significant contributions to economic development, energy security, safety and health, and environmental protection through the institutionalization of standards and practices. Together, these industries are important drivers for economic growth and prosperity of the country.

## OIL INDUSTRY

The enactment of Republic Act (R.A.) 8479, otherwise known as the Downstream Oil Industry Deregulation Act of 1998 provides the framework and guiding principles of a truly competitive market under a regime of fair prices, adequate supply of environmentally clean and high-quality petroleum products.

As stipulated in the said Act, the Department of Energy (DOE) monitors the quality of petroleum products and compliance with the Philippine National Standards (PNS) including refining and manufacturing processes of local petroleum products to ensure that clean and safe technologies are applied. The PNS is in accordance with R.A. 8749, or the Philippine Clean Air Act, which is a comprehensive air quality management policy and program aims to achieve and maintain healthy air for all Filipinos.

---

<sup>34</sup> BP Statistical Review of World Energy, 2019. <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2019-full-report.pdf>

<sup>35</sup> IEA, World Energy Outlook 2018. Under the New Policy Scenario where energy policies also play a critical role, notably those relating to energy efficiency, renewable resources, measures to curb air pollution and the phasing-out of fossil fuel subsidies. [https://webstore.iea.org/download/direct/2375?fileName=World\\_Energy\\_Outlook\\_2018.pdf](https://webstore.iea.org/download/direct/2375?fileName=World_Energy_Outlook_2018.pdf)

The DOE likewise keeps track of the daily international crude oil prices and examines the movement of domestic oil prices to prevent market abuses in a deregulated environment. Inventory level of crude oil and petroleum products are recorded to determine conformity to the minimum inventory requirement (MIR) and the level of domestic supply. Current MIR for refiners is in-country stocks equivalent to 30 days, while an equivalent of 15 days stock is required for the bulk marketers and seven (7) days for the LPG players.

To achieve the DOE's goal of improved policy and ensure high quality and right quantity of petroleum products in the market, the Department crafted a roadmap to have a clear vision from 2018 to 2040. The short-term goals of the roadmap are reviewed and assessed to see if strategies and indicators were able to meet targets and adjust accordingly to catch-up and reach future aspirations.

### Existing Downstream Oil Facilities

Downstream oil infrastructure has been increasing at a steady rate with a total of 325 industry participants<sup>36</sup> in 2018, up by almost 14.0 percent from 286 participant in 2017, with accumulated investment of PhP 180.8 billion (since 1998). These players are engaged in various downstream oil business, such as fuel bulk and retail marketing, LPG refilling and marketing, petroleum transport, terminalling and bunkering.

In 2018, the country's total storage capacity stood at 5,397 million liters (ML) (Table 19). It comprised of 171 facilities, which cover two (2) refineries, 54 import terminals, and 115 depots/distribution networks.<sup>37</sup> The refineries contributed 43.0 percent of the total storage capacity, equivalent to 2,322 ML. On the other hand, the depots provided 12.9 percent at 695 ML, while import terminals constituted 44.1 percent of total with 2,380 ML. The Pilipinas Shell Petroleum Corporation owns a refinery facility in San Pascual, Batangas, and Petron Corporation's refinery is located in Limay, Bataan.

**Table 19. EXISTING DOWNSTREAM OIL FACILITIES, 2018**

Oil Facilities	No.	Capacity (ML)
<b>Depots</b>	<b>115</b>	<b>695</b>
Major	35	265
Others	80	430
<b>Import Terminals</b>	<b>54</b>	<b>2,380</b>
Major	16	544
Others	38	1,836
<b>Refinery</b>	<b>2</b>	<b>2,322</b>
Petron	1	1,516
Shell	1	806
<b>Grand Total</b>	<b>171</b>	<b>5,397</b>

### Retail Marketing Business

For retailing activity, there were reports on newly constructed retail outlets and at the same time closure and re-branding in the year 2018 to modernize the facilities and services as part of compliance to the newly issued Department Circular (DC) 2017-11-0011 "Revised Retail Rules." The industry reported an increase of 1.0 percent of retail outlets operating nationwide, bringing in a total of 8,630 retail outlets<sup>38</sup> nationwide as of end 2018. Among the country's three (3) main island grids, Luzon secured the greatest number of retail outlets operated by the oil players (Table 20).

**Table 20. NUMBER OF RETAIL OUTLETS, 2018**

Regions	Number
NCR	1,144
Luzon	5,215*
Visayas	1,740
Mindanao	1,675
<b>Total</b>	<b>8,630</b>

\*Luzon Includes the number of retail outlets in NCR

<sup>36</sup> In 2019, industry participants went up to 355 players with total accumulated PhP 183.8 billion.

<sup>37</sup> In 2019, total depots and import terminals grew to 127 and 58, respectively.

<sup>38</sup> As of Dec 2019, a total of 9,381 retail outlets nationwide.

## A. ASSESSMENT

### 1. Fuel Quality and Facility, And Process Standards Development

The passage of the Philippine Clean Air Act of 1999 (or RA 8749) sets strict fuel specifications to reduce emissions that affect air quality. In line with the objectives of the law and the vision of a low carbon future, the DOE continuously formulates standards on petroleum fuels and related products along with oil facilities to ensure a more stringent quality of fuels and other related products in the country.

The DOE crafted the following downstream oil market, fuel quality and infrastructure standards within the short-term planning horizon:

#### Fuel Quality Standards

- a. **PNS/DOE Quality Standard (QS) 008:2018: E-Gasoline Specification (E10<sup>39</sup>)**. This standard is a revision/update of PNS/DOE QS 008:2012. In this edition, the Euro 2 fuel grades (500 ppm maximum sulfur content) was removed and thus effectively provided only the Euro4-PH gasoline fuel grades (50 ppm maximum sulfur content) to align with the emission requirement of the Department of Environment and Natural Resources (DENR) under Department Administrative Orders (DAOs) 2015-04 and 2016-23. The standard specifies the requirements for bioethanol-blended gasoline (e-gasoline) used as fuel in spark-ignition internal combustion engines, excluding aviation gasoline.
- b. **PNS/DOE QS 014:2018: Residual Marine Fuels Specification**. The standard indicates the requirements for fuels for use in marine diesel engines and boilers, prior to conventional onboard treatment (settling, centrifuging, filtration) before use. The specifications for fuels can also be applied for fuels used in stationary diesel engines of the same or similar type of those used for marine purposes. In this standard, the statutory requirement for the sulfur content is set at 3.0 percent, mass, maximum based on PNS for Fuel Oils (PNS/DOE QS 006).
- c. **PNS/DOE QS 006:2018: Industrial Fuel Oils Specification**. The standard requires industrial fuel oils used wholly or as blending component of different grades for various types of fuel oil-burning equipment. It is a revision/update of PNS/DOE QS006:2005 with minor revision made particularly the deletion of the word “bunker” and referred only as industrial fuel oil, as well as updating of test methods.
- d. **PNS/DOE QS 004:2017: Coco-Methyl-Ester (CME) Blended Automotive Diesel Oil<sup>40</sup> Specifications**. The standard specifies the requirement for CME-blended diesel oil suitable for various types of automotive diesel engines. In this edition, the Euro2 fuel grades (500 ppm maximum sulfur content) was removed and thus effectively provided only the Euro IV-PH automotive diesel oil grade (50 ppm maximum sulfur content) to align with the emission requirement of DENR under DAO 2015-04 and 2016-23.
- e. **PNS/DOE QS 013:2017: CME Blended Industrial Diesel Oil Specifications**. The standard indicates the requirement for CME-blended diesel oil suitable for various types of industrial diesel engines. In this edition, a new PNS number was created to separate the requirements of industrial diesel oil (IDO) from automotive diesel oil (ADO), which carried the original designation of PNS/DOEQS004.

<sup>39</sup> 10.0 percent bioethanol blended gasoline

<sup>40</sup> Biodiesel blend

- f. **PNS for Kerosene (DPNS/DOE QS 009:2019<sup>41</sup>)**. The standard is a revision/update of PNS /DOE QS 009:2007 with minor revision made only in the property of color and updating of test methods. The standard updates the fuel quality specification in terms of current requirement of the industry, its users and manufacturers. It is also harmonized with international/regional environmental standards.
- g. **PNS for Emulsified Fuel (ongoing)**. Review/update of emulsified fuel based on current requirements of the industry its users and manufacturers. This standard is line with the DOE's policy and program of updating the fuel quality specification in terms of current requirement of the industry, its users and manufacturer and also by endeavoring to harmonize international/regional environmental standards for fuels.

### Facilities Standards

- a. **PNS/DOE Facility Standard (FS) 10:2017: Code of Safety Practices for Liquid Petroleum Product (LPP) in Retail Outlet (new) promulgated by the Department of**

**Trade and Industry-Bureau of Product Standards (DTI-BPS)**. The Code of Safety practices is intended for managers/operators of LPP Retail Outlet focusing on safety and good practice procedures with reference to relevant health and safety standards.

- b. **DPNS/FS 2:2018: LPG Refilling Plant (promulgated by DTI-BPS)**. The standard is a review of PNS/DOE 2:2006, which was circulated to all concerned sectors from 13 April-13 June 2018 for comments.<sup>42</sup> This edition incorporates a new chapter adopting energy resiliency in the planning and programming of the energy sector to mitigate potential impacts of disaster.
- c. **Handbook on Code of Safety Practices in LPG Refilling Plant**. This standard covers the requirements for the installation of an LPG refilling plant, including the associated bulk storage tank facility and other related equipment and facilities.
- d. **Code of Safety Practices in LPP Depot<sup>43</sup>**. This Code constitutes good industry practices for oil terminals/ depots and is designed to prevent accidents at LPP terminal/ depot facilities and ensure product quality.

## 2. Supervision and Monitoring

The DOE conducted various inspections and sampling of LPP in several depots/terminals and retail outlets nationwide. These activities are part of the DOE's measures to ensure compliance of industry players with existing national standards and to protect the consumers in their purchase of petroleum products. In 2018, the DOE carried out the following activities:

- Inspected/verified 49 players/storage facilities and retail outlets giving fuel discounts to public utility vehicles (PUVs);
- Issued inspection reports (IRs) to 2,165 gasoline stations and LPG establishments;<sup>44</sup>
- Examined 1,515 denaturing activities;
- Conducted 113 depot product sampling/ testing;<sup>45</sup> and
- Performed six (6) inspection and monitoring activities on compliance of Health, Safety, Security and Environment (HSSE) program by operators.

<sup>41</sup> The PNS was promulgated in 23 Dec. 2019. The DOE is still drafting implementing guidelines.

<sup>42</sup> Adopted on 3 April 2019 with ongoing corrigendum.

<sup>43</sup> Published on 19 Sept 2019

<sup>44</sup> The DOE inspected 3,925 out of 16,662 gasoline stations and LPG establishments in 2019.

<sup>45</sup> In 2019, the DOE conducted product sampling/testing for 88 depots nationwide out of 127, equivalent to 69.0 percent area coverage.

### 3. Communication Initiative of The Downstream Oil Industry

The DOE aims to create awareness through Information, Education & Communication (IEC) campaign to raise awareness and disseminate information regarding the benefits of various DOE programs and to guide stakeholders on how to avail them. These IECs embodies the process of learning that empowers people to make decisions, modify behaviors and change social conditions.

In 2018, the OIMB conducted 18 IEC activities covering various sub-sectors of the downstream oil industry. Of the total, 18 focused on the oil sector - 12 of which under the safety of LPG projects while the other six were on the overview of the downstream oil industry, oil pricing, and investments.



Nationwide IEC Campaign on Downstream Oil Industry, LPG and LPP

### 4. Legislative Agenda and Policy Advocacy Campaign

The DOE reviewed and amended several existing rules and regulations, crafted a department order to study the option for a strategic petroleum reserve, and improved process systems, among others. In 2018, the DOE drafted and/or promulgated the following issuances/policies:



Meeting with oil companies on DOE-OIMB's reportorial requirements in August 2019

- a. **DC 2019-06-0009**<sup>46</sup> implementing the modified PNS specifications for liquefied petroleum gases (PNS/DOE QS 005:2016 and PNS/DOE QS 012:2016).
- b. **DC 2019-05-0008**<sup>47</sup> for “fuel cost unbundling” or the itemization of fuel price components. It requires oil firms to submit reports on disaggregated price components, including details on profit margin. Energy Secretary Alfonso G. Cusi signed the Circular on 28 May 2019 and deemed effective on 19 June following its compliance to publication requirements. However, the DOE manifested that it would

need to re-publish the Circular because of the “Annex A” portion was not included in the June 14 original publication date of the policy. Annex A refers to Section 8 of the said Circular that requires the oil companies to submit detailed computation of pump prices and LPG within two months after the effectivity of the fuel unbundling mandate.

- c. **DC 2019-02-0005**<sup>48</sup> on proper retention of duplicate liquid petroleum fuel samples in depots and retail outlets revising Memorandum Circular (MC) No. 2001-02-001.

<sup>46</sup> DC promulgated on 06 June 2019

<sup>47</sup> DC promulgated on 28 May 2019

<sup>48</sup> DC promulgated on 13 Feb 2019

- d. **DC 2018-03-0004** prohibiting the sale and distribution of small-sized 2.7-kg capacity and below LPG cylinders without the required “For Outdoor Use Only” marking in addition to the usual mandatory markings for LPG cylinders and for other purposes.
- e. **Joint Administrative Order (JAO) No. 1 series of 2018** for the distribution and transportation of LPG cylinders. The DOE, Department of Interior and Local Government (DILG), Department of Transportation (DOTr), and Metro Manila Development Authority (MMDA) through the JAO directed all LPG participants to observe the minimum safety standards.
- f. Drafted an Omnibus Circular on notice and reportorial requirements compliance. The Omnibus Circular was subjected to public consultation during the second quarter of 2019.
- g. Drafted a Department Order (DO) directing the Philippine National Oil Company (PNOC) to conduct a study for the establishment of a Strategic Petroleum Reserve (SPR) Stockpiling.<sup>49</sup>

Further, there are legislative agenda still pending in Congress for approval, as follows:

#### **Senate Bill No. 853**

The Bill amends RA 8479 to ensure transparency in the pricing of petroleum products by oil industry players and to determine computations or assumptions used in price adjustments to avoid unwarranted profiteering. The Bill shall also declare it unlawful for oil companies to engage in unwarranted oil price increases, or unreasonable amount of price increase or decrease as may be determined by the DOE, coupled with the imposition of heavier penalties against erring oil companies and officials.

To safeguard the consumers, the Bill strengthens the Task Force created under Section 14 (of the said Bill), which is mandated to investigate and file complaints against unreasonable rise in the prices of petroleum products. The Task Force shall be composed of representatives from the DOE, DTI, Department of Justice (DOJ), Commission on Audit (COA), and from consumer and public transport groups. The COA, with its auditing and accounting expertise, will fortify the capability of the Task Force in scrutinizing financial documents and reports of oil companies. The Task Force shall be authorized to post the prevailing retail prices of petroleum products in the DOE website (twice a month)

and in at least two (2) newspapers of general circulation.

#### **Senate Bill No. 413 or the LPG Industry Safety Bill**

The Bill aims to monitor and supervise the business operations of the LPG industry in order to ensure safety of the consuming public and protect the general welfare. It intends to establish a more efficient and effective monitoring and supervisory framework for refining, importation, refilling, transportation, distribution, marketing and sale of LPG.

Some of the Bill’s provisions are the formulation of appropriate programs and standards for the importation, manufacture, sale, distribution, exchange, swapping, repair, requalification and rehabilitation of LPG cylinders and other ancillary equipment, such as hoses and valves. The DTI as the lead agency will undertake coordinated efforts to monitor and supervise compliance of industry participants to the national product quality and safety, environmental and occupational safety, and consumer welfare standards.

The Bill proposes the creation of the LPG Industry Monitoring and Inspection Committee, which shall formulate the specific guidelines for mandatory compliance with

<sup>49</sup> Drafted the Department Order issued on 2Q 2019.

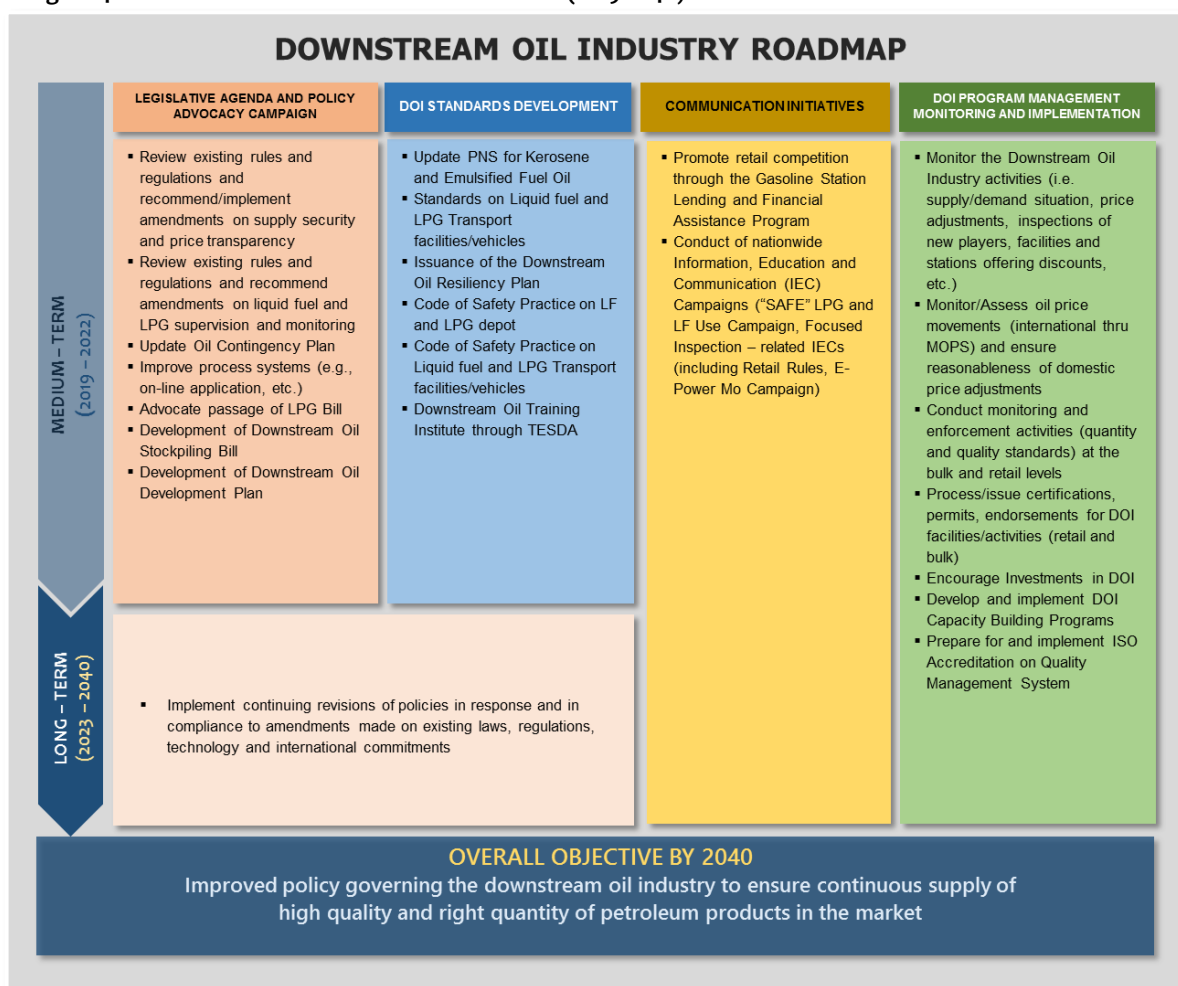
established quality standards and enforce sanctions for violations.

## B. PLANS AND PROGRAMS

### Medium-Term

The DOE will continuously amend and/or revise policies governing the downstream oil sector to keep abreast with the international trends, meet the industry challenges, and encourage private sector participation. This is to ensure secure and stable supply of high quality and right quantity petroleum products in the market. Further, the government’s existing rules and regulation must evolve specifically those involving taxation, incentives, and licensing to reassure investors of a robust Philippine Downstream Oil Industry (Figure 46).

Figure 46. DOWNSTREAM OIL INDUSTRY ROADMAP (2019-2040)



## 1. DOI Standards Development

Targets for the medium-term provides specific items to be crafted for future promulgation. The PNS for kerosene and emulsified fuel will help reduce emissions for better air quality. Meanwhile, facility standards will focus on liquid fuel/LPG transport facilities and vehicles. The fuel quality and facilities standards support the formulation of the standard provisions of the Liquid Fuel Industry Rules, as well as planned revision on the LPG industry Rules. Also, the draft *Downstream Oil Contingency Plan* is in the development stage to ensure adequate and continuous fuel supply in times of supply interruptions due to natural disasters. Lastly, the Code of Safety Practices is also being developed for LPG refilling plant and petroleum products in depots. All these future developments to enhance structural integrity, improve safety, enable cost reductions and reduce the environmental impact of the downstream oil industry operations in the country.



DOE conduct testing on samples obtained using DOE portable instruments

## 2. Communication Initiatives

The Gasoline Station Lending and Financial Assistance Program's (GSLFAP) continuous promotion encourages retail competition since this would entice investors to construct their own gas stations. The GSLFAP is designed to encourage new industry participants from the private sector, transport cooperatives, and transport groups. For the medium-term, IECs will focus on safety of LPG and liquefied fuels use, revised retail rules, and the E-Power Mo! Campaign. This is the DOE's way of raising awareness and empowering end-users to equip them with information regarding the downstream oil industry and other energy sectors as well.

## 3. Legislative Agenda and Policy Advocacy Campaign

Seeking to promote and enhance public service, the DOE in its revised medium-term roadmap is focusing on improving its process systems (e.g. online application, etc.) to enable stakeholders to transact with government with just a click of a button. The said automation of critical business processes can digitally transform the DOE's operations, services, internal communications, and engagement with the public. The digital transformation will significantly reduce processing time and messy paperwork, while greatly improving the convenience for stakeholders.

On the other hand, the DOE is looking into the possibility of establishing a Strategic Oil Stockpiling Program (SOSP). The Philippines, which imports more than 90.0 percent of its oil requirements, has been reeling from the incessant spikes in the oil prices in the world market.

### Long-Term

The implementation of revisions and amendments in the medium-term is critical to realize its impact in the long-term. To put forward the sector's targets on legislative agenda and standards development, the DOE will continue to implement amendments of policies in response and



compliance to amendments made on existing laws, regulations, technology and international commitments. With unwavering commitment to protect the interest of the country, the DOE continuously safeguards the welfare of the consumers nationwide to ensure that petroleum products are of high quality and of the right quantity.

Anchored on the DOE’s mandate to “formulate and implement policies, plans, programs and regulations and monitors developments in the downstream oil industry,” most activities identified in the roadmap for the long-term include the continuing promotion of the GSLFAP and various IEC campaigns regarding the safe transport of LPGs, handling of liquid fuels, and other related matters in the industry. Moreover, the program management and monitoring include the oil price movements in the local and international setting, conduct of enforcement activities, and the process and issuance of permits and endorsement of activities, among others.

### C. INVESTMENT AND EMPLOYMENT OPPORTUNITIES

A total of Php 8,374.1 million was invested by the new players in various activities in the downstream oil industry in 2019 (Table 21)<sup>50</sup>. The additional investments provided employment for an estimated number of 753 people in various activities.

Facility	2019 Total Actual Cost of Investment (Million PhP)	2020 Total Actual Cost of Investment (Million PhP)	2019 Estimated Number of Jobs Generated	2020 Estimated Number of Jobs Generated
Import Terminal	6,593.7	767.7	320	83
Depot	1,224.7	766.0	152	98
Transport facilities*	555.7	139.3	281	43
<b>Total</b>	<b>8,374.1</b>	<b>1,673.0</b>	<b>753</b>	<b>224</b>

Note: Investments are based on the submitted Company Profile for fully complied downstream oil players. Estimated jobs generated based on the number of distribution/hauling facilities submitted. Investment figures include potential players with notice prior to engage applications.

\* For players engaged in the distribution and hauling activity.

Of the total, PhP 6,593.7 million investments came from the construction/expansion projects of import terminals in Regions 3 and 4A. The expansion projects employed an estimated of 320 people. Meanwhile, the investments for the construction of new depots in Pampanga and General Santos City in Mindanao with total storage capacity of 26.73 million liters totaled at Php 1,224.7 million. The new depots construction provided jobs for 152 persons. On the other hand, the transport facilities engaged in the distribution and hauling poured Php 555.7 million investment with job generation of 281 persons.

For the 1st half of 2020, new downstream oil industry players invested a total of Php 1,673 million, which generated an estimated number of 224 job employment. Of the total investments, Php 767.7 million investments came from the continuation of construction of new import terminal in Sariaya, Quezon for the storage of various petroleum products. The project provided employment for an estimated total of 83 persons. On the other hand, investments for the construction of new depots in Camarines Sur and Davao Del Norte totaled at Php 766 million and employed an estimated number of 98 persons. In addition, investments for the transport facilities engaged in distribution and hauling activities totaled at PhP 139.3 million and provided jobs for an estimated number of 43 persons.

<sup>50</sup> Oil facility investments data from 2019 and 1<sup>st</sup> semester of 2020

## 1. Retail Marketing Business

The business environment in retail marketing has seen steady growth with the continuous entry of investors in the liquid fuel and LPG industries. A total of 84 new players were accounted bringing the total LPP industry players to 9,381 in 2019. Meanwhile, with 5 new entrants in the LPG industry in South Luzon, there were already 297 Refilling Plants. The new entrants poured in a combined investment of over PhP 250 million (Table 22)<sup>51</sup>.

Table 22. LPP RETAIL AND LPG REFILLING INVESTMENT, 2019

Activity	Number of New Players	Cost of Investment (In Million Php)	Number of Jobs Generated
LPP Retail Marketing	84 *	P 231.3	410
LPG Refilling	5 **	P 19.6	50
<b>Total</b>	<b>89</b>	<b>P 250.8</b>	<b>460</b>

\* Based on Standards Compliance Certificate (SCC) and Certificate of Compliance (COC) applications. Includes 47 independent gas stations

\*\* Independent LPG Refilling Plants

Notably, with the construction of new facilities, 460 individuals were gainfully employed. This was seen to have contributed to the economic and social development in the areas where the facilities operate.

In the first quarter of 2020, an additional two (2) LPP and LPG facilities were constructed giving employment to 15 individuals. The same facilities have total investment costs of over 50 Million.<sup>52</sup>

## 2. Infrastructure Support

The downstream oil sector relies heavily on the transport industry's support in moving large volumes of petroleum products across the country. There are four (4) primary methods for transporting petroleum products – pipeline, train, oil tankers and trucks. To support the sector, the need for more oil distribution infrastructure is important in moving petroleum products from the refineries, ports and depots to retail outlets and markets all over the country. The construction of expressways, bridges, local ports and depots will help accelerate the delivery of petroleum products in the retail market. The distance and variety of transportation modes used can increase the risk of contamination for the refiners that must maintain strict product specifications. Transport cost also affects petroleum product prices to rise. Thus, adequate distribution infrastructures must be put in place to enable industry players to comply with environmental regulations and reduce cost. This will result in cleaner and more stringent product characteristics and reduce petroleum products price that will benefit consumers and environment.

## 3. The Oil Industry and the TRAIN Law

On 19 December 2017, President Rodrigo Duterte signed RA 10963 or the “Tax Reform for Acceleration and Inclusion (TRAIN Law).” The Act amends and repeals certain provisions of the previously amended RA No. 8424 (the National Internal Revenue Code of 1997). Included in the Law is the increase in excise taxes of petroleum products, thus, with the active involvement of the DOE in its implementation.

<sup>51</sup> LPP Retail and LPG refilling investments data for 2019

<sup>52</sup> LPP Retail and LPG refilling investments data 1Q of 2020

## A. The Tax Table

The Law took effect on 01 January 2018, and the excise tax was implemented in three tranches, from 2018 to 2020, as illustrated in [Table 23](#). By 2020, the full amount of the tax is thus affected in all products.

Table 23. IMPACT OF EXCISE TAX ON PETROLEUM PRODUCTS

Product	Pre-TRAIN Law			1ST TRANCHE - JAN 2018					
	Excise Tax	12% VAT	Total	Excise Tax	12% VAT	Total	2018 Total		
							Excise Tax	With 12% VAT	
Peso/liter									
Gasoline	4.35	0.52	4.87	2.65	0.32	2.97	7.00	7.84	
Avturbo	3.67	0.44	4.11	0.33	0.04	0.37	4.00	4.48	
Kerosene	0.00	0.00	0.00	3.00	0.36	3.36	3.00	3.36	
Diesel	0.00	0.00	0.00	2.50	0.30	2.80	2.50	2.80	
Fuel oil	0.00	0.00	0.00	2.50	0.30	2.80	2.50	2.80	
LPG (motive fuel)	0.00	0.00	0.00	2.50	0.30	2.80	2.50	2.80	
LPG, P/kg	0.00	0.00	0.00	1.00	0.12	1.12	1.00	1.12	

Product	2ND TRANCHE - JAN 2019			3RD TRANCHE - JAN 2020						
	Excise Tax	12% VAT	Total	2019 Total		Excise Tax	12% VAT	Total	2020 Total	
				Excise Tax	With 12% VAT				Excise Tax	With 12% VAT
Peso/liter										
Gasoline	2.00	0.24	2.24	9.00	10.08	1.00	0.12	1.12	10.00	11.20
Avturbo	0.00	0.00	0.00	4.00	4.48	0.00	0.00	0.00	4.00	4.48
Kerosene	1.00	0.12	1.12	4.00	4.48	1.00	0.12	1.12	5.00	5.60
Diesel	2.00	0.24	2.24	4.50	5.04	1.50	0.18	1.68	6.00	6.72
Fuel oil	2.00	0.24	2.24	4.50	5.04	1.50	0.18	1.68	6.00	6.72
LPG (motive fuel)	2.00	0.24	2.24	4.50	5.04	1.50	0.18	1.68	6.00	6.72
LPG, P/kg	1.00	0.12	1.12	2.00	2.24	1.00	0.12	1.12	3.00	3.36

## B. Methodology Implemented to Protect the Consumers

**Advisory to the oil industry.** While the implementation of the excise tax was on 01 January of each year, the application of such would depend on the levels of inventory (and the corresponding daily withdrawals in their depots) of the oil refiners and bulk importers as of 31 December of the preceding year, which were taxed with the old excise rates. Accordingly, the DOE issued advisories to the oil players before the yearly implementation to ensure and advise their dealers that pump prices should only reflect stocks that have the new excise tax imposed. Old stocks should be sold on the old excise rate or at zero rate for diesel, kerosene, fuel oil and LPG.

**DOE Directive on TRAIN implementation.** The DOE, in each year of implementation, issued to oil companies in early January, the Directive calling for the following:

- Submission of a duly notarized inventory report as of 31 December of the preceding year. Implementation of the excise tax under TRAIN shall not be applied unless the 31 December stocks of finished products are fully exhausted.
- For effective monitoring, the inventory shall be on per depot and per product basis.
- Submission of the daily summary of withdrawal starting 01 January of the following year until the depletion of the declared inventory as of 31 December, supported by the Withdrawal Certificates.

- Retailers to post in a conspicuous area, for transparency, notice of new excise tax implementation under the TRAIN in a signage measuring 1 meter by 1 meter in size.

**Verification of the submitted reports.** The verification focused on the levels of inventory per depot vis-à-vis the withdrawals to properly gauge the depletion date, for proper application of the new tax scheme in the retail sector.

**Actual monitoring of the retail outlets.** Especially during the first tranche of implementation, the DOE responded to initial reports of early implementation by some LPP retail outlets pending receipt of the documents instructed for submission in the Directive. Thus, a number of these outlets were issued with Show-Cause Order (SCO) directing them to explain in writing, within five (5) days from its receipt, why they have already imposed the excise tax, to include supporting documents to substantiate the imposition of the correct excise tax. Validation of documents submitted ensued, though not for the whole industry given the immense number of retail outlets nationwide, and those validated were found to be compliant in their implementation of the new tax scheme.

**C. Savings for Consumers: Estimate of excise tax prevented from being improperly imposed.**

The efforts by the DOE helped the customers in saving billions of pesos, thereby ensuring that the imposition of the new excise tax rates on petroleum products under the TRAIN Law in the industry is fairly and responsibly implemented by all the participants.

The DOE estimates that its actions saved consumers around P7.96 billion for liquid petroleum fuels, and P591.65 million from LPG after the three tranches of implementation. Likewise, the private sector and the government are one in giving the consumers at least a sense of assurance that their interest is safeguarded.

## NATURAL GAS INDUSTRY

In 1991, Shell Philippine Exploration B.V. (SPEX) drilled the Malampaya gas field which became, to date, the largest gas discovery in the country with proven reserves of 2.7 to 3.2 trillion cubic feet (Tcf). The Malampaya Deep Water Gas-to-Power project is one of the largest and most significant industrial endeavors in Philippine history. The project is spearheaded by the DOE, developed and operated by SPEX on behalf of joint venture partners – Chevron Malampaya LLC and the Philippine National Oil Company-Exploration Corporation (PNOC-EC)<sup>53</sup>.

As the principal agency for the development of the country's natural gas industry, the DOE envisions a roadmap towards its acceleration and growth. The roadmap serves as the guidepost in the realization of the essential mechanisms to accelerate the development of the country's natural gas industry. Said roadmap has an overall objective to “establish a world-class, investment driven and efficient natural gas industry that makes natural gas a bridge fuel by all end-use sectors.”

This roadmap intends to reinforce the downstream natural gas industry development program, formulate and implement the required policies, and achieve a globally competitive manpower through constant development of skills for the regulators and industry players.

Transforming the industry from an emerging developmental stage to a matured industry with cutting-edge technologies does not only provide a cleaner source of energy but creating more jobs for the country. Our neighboring countries like Japan, China, and India are importers of LNG using it as a crucial fuel source. The Philippines should capitalize on this global trade and benefit from the LNG market. The DOE envisions the country as a liquefied natural gas (LNG) hub, which can distribute LNG not only across the country, but for export to other countries as well.

### A. ASSESSMENT

#### 1. Implementation of the Natural Gas Quality Standard

On February 2019, Secretary Cusi signed DC 2019-02-0004<sup>54</sup>, which promulgates rules to regulate the importation, trading, supply and distribution of natural gas in the country with the intention of making it an LNG trading and trans-shipment hub in the Asia-Pacific Region. Under the rules, the DOE will require all businesses engaged in natural gas to submit the proper reportorial requirements in compliance with the Philippine Downstream Natural Gas Regulation (PDNGR). The submissions will include the use of standard measurements for natural gas, namely cubic meters (m<sup>3</sup>) for natural gas under standard temperature and pressure (STP); joules (J) for natural gas energy; megajoules per cubic meter (MJ/m<sup>3</sup>) for superior calorific value and

wobbe index; percent mole for the chemical composition of natural gas such as methane, oxygen, total inerts; and, milligrams per cubic meters for total sulfur and hydrogen sulfide.

#### 2. Joint Administrative Order (JAO) for the creation of the Philippine Inter-agency Health, Safety, Security and Environment (HSSE) Inspection Monitoring Team

In order to maintain HSSE best practices, policies and regulations in the operation of the natural gas facility, all operators shall comply with the Philippine and internationally accepted safety standards and best practices in areas of design and construction, management system, operation system, maintenance system, personnel development and training on Community Health and Safety Preparedness and Emergency Response. The

<sup>53</sup> Overview of Malampaya retrieved from <https://malampaya.com/about/>

<sup>54</sup> DC promulgated on 01 Feb 2019

HSSE standards encourages best practices and ensure compliance with international HSSE standards and best practices under a system of safe operation, high-quality service and consumer protection.

### 3. *Philippine Downstream Natural Gas Industry*

The DOE conducted a total of 18 pre-application conferences in 2018. In addition, the DOE granted the following permits and endorsement to various players in the industry:

#### **Issuances of Permits to the following:**

- Energy World Corporation (EWC) - Permit to Construct<sup>55</sup>
- Tanglawan Philippine LNG Inc. - Notice to Proceed (NTP)<sup>56</sup>

#### **Issuances of Acknowledgement and Endorsement to the following:**

- Acknowledgement to supply and transport natural gas by SPEX to Pilipinas Shell Refinery (PSPC)
- Acknowledgement to supply and transport natural gas by PNOG to PSPC
- Seven SEC Endorsements

### 4. *Communication Initiative of the Natural Gas Industry*

In 2018, the DOE conducted 10 IECs focused on natural gas. Eight (8) of the IECs were on market profiling of natural gas in various Economic Zones. These Economic Zones (i.e.

Subic Special Economic and Freeport Zone, Clark Special Economic and Freeport Zone) are self-sustaining, progressive and designed as independent communities with minimum government interference and favorable entitlements. On the other hand, the other two IECs conducted were for the Senate, as well as for the DOE's Centralized Review and Evaluation Committee (C-REC) Secretariat for familiarization and appreciation to existing natural gas facilities and natural gas users.

### 5. *Legislative Agenda and Policy Advocacy Campaign*

The Senate Bill No. 765 or the Downstream Natural Gas Development Bill, once passed into law, shall provide a framework for the development of a Philippine Downstream Natural Gas Industry (PDNGI). The PDNGI's transition from an emerging to a mature industry status with competitive natural gas market will define the responsibilities of various government agencies and private entities in furtherance of this national goal.

The DOE, in addition to its existing powers and functions, shall have the overall responsibility of supervising and monitoring the development of the downstream natural gas industry. This responsibility includes regulation of the construction and operation of natural gas pipelines and other related facilities for the transmission, distribution and supply of natural gas.

<sup>55</sup> Issued on 21 Dec 2018

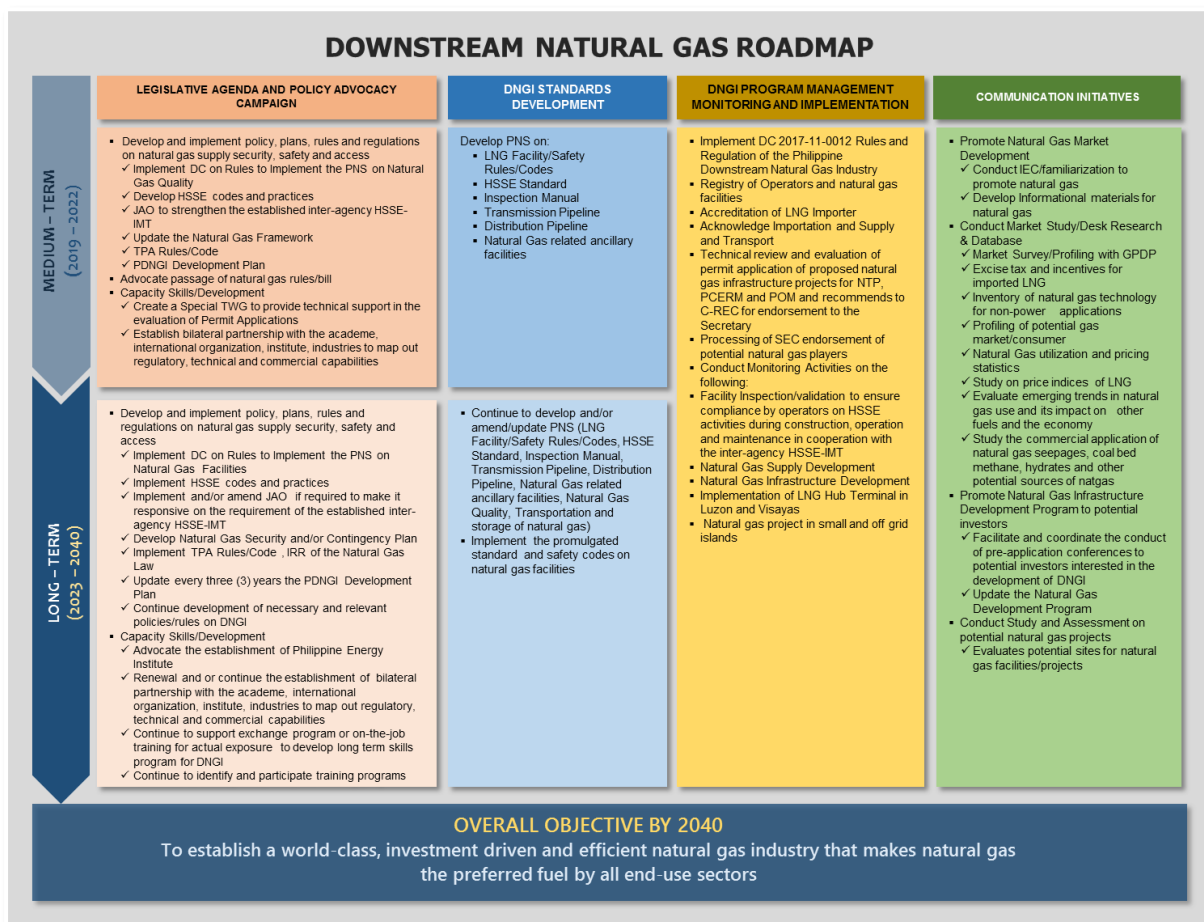
<sup>56</sup> NTP expired in June 2019

## B. PLANS AND PROGRAMS

### Medium-Term

In the medium-term (Figure 47), the roadmap is expected to advance the country's emerging natural gas industry which is unbundled with various players from retail to wholesale supply competition resulting in a reasonable price for natural gas. On the other hand, the roadmap aims to develop standards, codes of practices and its market. All the envisioned targets will require policy support and legislation to further the development of the industry.

Figure 47. DOWNSTREAM NATURAL GAS ROADMAP



### 1. Standards Development

With the promulgation of the PDNGR through DC No. 2017-11-0012, the DOE will formulate the following PNS or adopt relevant international or foreign standards to help the natural gas industry produce quality products and services and raise productivity:

- LNG Facility/Safety Rules/Codes;
- HSSE Standard;
- Inspection Manual;
- Transmission Pipeline;
- Distribution Pipeline; and,

**Natural Gas related ancillary facilities.** The PNS for natural gas protects the welfare of the consumers and facilitate trade in the global market. The natural gas industry's domestic development is crucial for transformation the Philippines as an LNG trading and trans-shipment hub in the Asia-Pacific Region.

### 2. Communication Initiatives

Increasing awareness to promote natural gas development is vital. The conduct of IEC campaign to familiarize stakeholders with the

natural gas industry is essential. Moreover, crafting informational materials will certainly help in market development of PDNGI. Likewise, the conduct of the study regarding natural gas assessment, potential sites, market and database will encourage potential investors' interest in the development of the industry. The scope of the said study should cover a wide array, such as market survey and profiling, excise tax and incentives, utilization and pricing, emerging trends and commercial application among others. Lastly, by facilitating the conduct of pre-application conferences, study and assessment of potential natural gas projects by the DOE would help the promotion of natural gas infrastructure development program to interested investors.



Site visit to First Gen Clean Energy City Plant

### 3. Sector Regulation

The PDNGR provides the stakeholders with a guide that outlines the issuance of permit on the construction, expansion, rehabilitation, modification, operation and maintenance of Downstream Natural Gas Facility. On the side of the DOE, the Department created a database regarding registry of operators and

their natural gas facilities, accreditation of LNG importer, technical review and evaluation of permit application of proposed natural gas infrastructure projects are among the identified activities in support of the said circular.

Simultaneously, natural gas infrastructure monitoring activities and supply development is equally important. Facility Inspection/validation to ensure compliance by operators on HSSE activities during construction, operation and maintenance in cooperation with the inter-agency HSSE-IMT. Likewise, The PNS requirements on natural gas production, sale, importation, and consumption must also be monitored to meet the standard's quality requirement. Also, DOE must also be kept abreast with emerging technologies of LNG storage and transport together with upstream activities of the sector to be able to come up with improvements on policy, safety, and standards among others.

### 4. Legislative Agenda and Policy Advocacy Campaign

Policy and legislative framework support are necessary to accelerate the development of the downstream natural gas industry in the country. The development and implementation of policy, plans, rules and regulations on natural gas supply security, safety and access is vital to the sector's growth. Such programs are targeted to be implemented in the medium-term are as follows: a) DC on Rules to Implement the PNS on Natural Gas Quality; b) HSSE codes and practices; c) JAO to strengthen the established inter-agency HSSE-IMT; and, d) TPA Rules/Code, and e) PDNGI Development Plan. In line with the upcoming frameworks of the sector, personnel capacity skills and development are essential in order to evaluate project applications. This includes all phases of the project from securing permits, construction, and maintenance as well as its commerciality, safety and security. In support of this, the DOE personnel's participation in relevant trainings related to the industry is a must. Likewise, the DOE must establish



bilateral partnerships with the academe and other relevant organizations, either local and/or international, is beneficial in order to map out regulatory, technical and commercial capabilities. Lastly, the creation of a special

Technical Working Group (TWG) to provide technical support in the evaluation of permit applications would also benefit the Department to determine the feasibility of potential natural gas projects.

### Long-Term

In the long term as shown in **Figure 46**, the natural gas industry will contribute to climate change mitigation measures. At the same time, it will also support the inclusive growth of the country's economy and welfare of the Filipino people. The long-term roadmap goals intend to amend and/or update policies and standards to keep up with the global trends and changes. Regulations will be critical for the industry to grow. These include investments, compliance to safety from inception to commercial operations, and validation and inspection.

#### 1. Standards development

With the promulgation of standard and safety codes on natural gas in place, the code of standards and safety implementation will be the next step. After which, the PNS/DOE QS 011:2016 titled "Petroleum gas – Natural gas – Quality Specification" development and amendment aims to establish a successful natural gas industry. Moreover, the PNS will serve as guide in crafting and development of the following to ensure a robust natural gas sector:

- LNG Facility/Safety Rules/Codes
- HSSE Standard
- Inspection Manual
- Transmission Pipeline
- Distribution Pipeline
- Natural Gas related ancillary facilities
- Natural Gas Quality
- Transportation and storage of natural gas

#### 2. Sector Regulation

DOE will continue to monitor and regulate the industry. With the promulgation and implementation of DC 2017-11-0012 titled "Rules and Regulation of the Philippine Downstream Natural Gas Industry and/or the Natural Gas Law," applicants' submission of required documents of proposed natural gas infrastructures will undergo technical review and evaluation prior to awarding of permits and endorsements (i.e. SEC, NTP from the

DOE). Similarly, Facility inspection/validation is equally important to ensure compliance by operators on HSSE activities during construction, operation and maintenance. Likewise, natural gas supply development and monitoring activities (e.g. production, sales, and consumption) will also be pursued during the planning period to come up with necessary policies, planning, and programs to keep the industry self-sustainable for years to come.



Regular Inspection & Monitoring of Natural Gas Facilities in the Philippines

#### 3. Legislative Agenda and Policy Advocacy Campaign

Natural gas related policies formulation and amendments as well as legislative framework for the long-term period will be carried out to support the expansion of gas industry in the country. During this timeframe, the Implementing Rules and Regulations (IRR) of the Natural Gas Law will need to be in place and

various polices (i.e. Rules to Implement the PNS on Natural Gas Facilities, HSSE Codes and Practices, Natural Gas Security and/or Contingency Plan) will need to be harmonized in accordance with the law.

On the way forward, the DOE is committed to keep up with international/regional trend as policy thrusts in the industry is ever evolving. It is necessary that the underlying science, engineering, and economics are similarly given emphasis (i.e. natural gas value chain, bilateral partnerships, other relevant trainings related to natural gas etc.) to effectively assess the

implementation of future energy policies and programs for the sector. Lastly, the DOE's bureaus particularly the Oil Industry Management Bureau (OIMB), Energy Resource Development Bureau (ERDB), and Energy Policy and Planning Bureau (EPPB) will continue to address research and policy gaps in the local energy sector and push for reforms that will directly benefit our country. The results of research and policy development activities will be used to craft energy sector reforms for the benefit of the national economy and the welfare of all Filipinos.

## C. INVESTMENT AND EMPLOYMENT OPPORTUNITIES

### Potential Investments

One key initiative to develop the downstream natural gas industry is to encourage domestic and private sector participation and investment on the development of the required infrastructure, such as the LNG Import receiving facilities. With the long-term goal of tapping this clean energy, the government will provide an enabling environment to encourage greater private sector involvement in its development, through the issuance of the relevant policies to improve the regulatory framework that serves as transparent guidelines for the investors.

The DOE approved the permits authorizing the development and construction of LNG Regasification Terminal projects proposed by different proponents as shown in the [Table 24](#)<sup>57</sup>.

The LNG import facility development and construction requires huge capital investments from the private sector. From these projects, potential investment amounts to PhP 64,632 million. More investments are expected for other necessary natural gas infrastructure like satellite terminals, transmission and distribution pipelines and refuelling stations when demand for natural gas ramps up in the near future.

An LNG import facility in Batangas will provide value proposition since the existing anchor markets are available in the area, that is when Malampaya gas field runs dry. Meanwhile, the LNG facility in Quezon will be serving the potential markets in the area and nearby provinces.



Turn-over ceremony of the Philippine Downstream Natural Gas Industry: LNG Investors' Guide

<sup>57</sup> Data of approved LNG projects FY 2019

Visayas and Mindanao have also a potential to host LNG terminal facilities with prior intents received from potential investors (specifically in Mindano). Based on the study conducted by the Economic Research Institute for ASEAN and East Asia (ERIA) titled “Seeking Optimal Solutions on Delivering LNG to Medium and Large Islands in the Philippines” showed that Cebu, Tacloban, Tagbilaran, Zamboanga, Iligan, Bislig, Surigao and General Santos City are possible locations for bulk LNG receiving terminals. Both Cebu and Zamboanga are suggested as the primary LNG receiving terminals with the capacity to redistribute the LNG to other demand centers in southern districts using Floating Storage Regasification Unit (FSRU) solutions. Cebu delivers LNG to subordinate (secondary and tertiary) terminals in Tacloban and Tagbilaran in the Visayas, and Bislig and Surigao in Mindanao. On the other hand, Zamboanga transports LNG to Bislig and General Santos City.

**Table 24. POTENTIAL INVESTMENT IN THE DEVELOPMENT OF LNG TERMINAL**

	Project	Target Operation	Location	Capacity	Total Construction Cost (in Million PHP)
<b>FGEN LNG Corporation</b>	Floating Storage & Regasification Unit (FSRU) Terminal	2022	Barangays Sta. Clara, Sta. Rita Aplaya, and Bolbok in Batangas City	5.26 MTPA	13,284
<b>Accelerate Energy L.P.</b>	Floating Storage Regasification Unit (FSRU) Terminal	2022	About 9.5 km offshore in Bay of Batangas	1.5 MTPA	6,387
<b>Energy World Gas Operations Philippines Inc</b>	LNG Storage and Regasification Terminal	2022	Barangay Ibabang Polo, Pagbilao Grande Island, Quezon Province	3 MTPA	7,408
<b>Batangas Clean Energy, Inc</b>	LNG Storage and Regasification Terminal	2025	Barangay Pinamucan-Ibaba, Batangas City	3 MTPA	37,553

Note: MTPA stands for Million Ton Per Annum

### Estimated Jobs Generated

The proposed LNG regasification and terminal projects are estimated to provide jobs as shown in the [Table 25<sup>58</sup>](#). Under the PDNGR, the proponents shall give preference to qualified local talents for hiring of manpower required during construction and operation.

<b>Table 25. ESTIMATED JOB GENERATION FROM PROPOSED LNG PROJECTS</b>	
Proponent	Estimated Jobs
FGEN LNG Corporation	945 during construction and 80 during operation
Accelerate Energy L.P.	100 during construction and 60 during operation
Energy World Gas Operations Philippines Inc	500 during construction and 70 during operation
Batangas Clean Energy, Inc	3,000 during construction and 115 during operation

More jobs are required during the construction phase of the projects, a total of around 4,500 workers for the proposed facilities. During operation, a total of 325 technical personnel will be required to operate the LNG facilities.

<sup>58</sup> Data on estimated job generation from LNG projects FY2019

### *Infrastructure Support*

The transportation of natural gas from production to consumption needs an extensive and elaborate transportation system. Natural gas produced from the Malampaya gas field has to travel long distance to reach its point of use. The transportation system for natural gas consists of a complex network of pipelines designed to quickly and efficiently transport natural gas from its origin to its market. Transportation of natural gas also requires storage if the resource is not immediately required. Natural gas liquefaction is a way to move natural gas from producing wells to markets. The LNG facilities received natural gas by pipeline and liquefy the gas for transport on LNG ships or tankers. Likewise, LNG is transported in smaller containers that can be placed on ships and on trucks. The transportation system for natural gas could generate additional job opportunities in the country.

DRAFT