

**NATURAL GAS SITUATIONER REPORT**  
**FIRST SEMESTER 2014**

**OVERVIEW**

A 6 percent dip in the aggregate production of natural gas is recorded during the first semester of 2014 comparative to the 2013 production level of 69,174 mmscf. Total production reached to 64,681 mmscf wherein bulk of the production volume comes from the Malampaya gas field. Libertad gas field shared in 27 mmscf to the country's aggregate production during the first semester of 2014. The downtrend in production could be attributed to the gas export compressor trips at the Malampaya facilities that were experienced during the months of May and June coupled with the low offtake by the existing natural gas end-users. The three natural gas fired power plants and the refinery had implemented their respective maintenance shutdown activities within the first semester of 2014. Also, during the same period, the Libertad gas field has registered a 37 percent decline on its share to the total natural gas production due to the offline operation of the 1 MW DESCO power plant starting May this year. use

Aggregate demand for natural gas by the power generation, industry and transport sectors within the first half of 2014 reached to 61,959 mmscf, reflecting a 7 percent plunge in the total consumption level. The power sector accounting the biggest chunks of the total demand with 97 percent share while the remaining 3 percent is contributed by the total usage of the refinery in the industry sector. The contribution of the transport sector during the period to the overall demand is nil. A comparative summary of gas supply and demand for the first semester of 2014 and 2013 is shown in Table 1.

*Table 1. Natural Gas Supply and Demand  
(in mmscf)*

	Quantity		Inc./ (Dec.)	% Change	Percent Share	
	2014	2013			2014	2013
<b>Supply :</b>	64,681	69,174	(4,493)	(6)	100%	100%
Malampaya	64,654	69,131	( 4,477)	(6)	100%	100%
Libertad	27	43	( 16)	(37)	0%	0%
<b>Demand :</b>	61,959	66,918	(4,959)	(7)	100%	100%
Power	60,271	65,444	(5,173)	(8)	97%	98%
Industrial	1,684	1,453	231	16	3%	2%
Transport	4	21	(17)	(81)	0%	0%

*\*June data for Supply and Power Plants were based on estimates.*

Consequently, for the first semester of 2014 natural gas posted a 33 percent share in Luzon generation mix, reflecting an 8 percent reduction against last year's 36 percent contribution alongside other energy sources such as coal, oil, hydro, geothermal and renewable energy sources like wind, solar & biomass.

A volume difference between production and consumption amounting to 2,722 mmscf of natural gas is also noted in the first half of 2014. The variance can be attributed to flaring, gas heating,

and own-use power generation at the Malampaya platform and line pack gas in the existing pipeline system.

## **PRODUCTION**

The cumulative natural gas production from the country's two natural gas fields during the first half of 2014 stood at 64,681 mmscf. As noted, there is a 6 percent drop in the total natural gas production resulting to the 6 percent reduction in the yield from the Malampaya gas field wherein most of the natural gas supply is being produced. The factors that contributed to the fall in the production level, the gas export compressor at the Malampaya upstream facility had experienced trips in May and June causing on the execution of the 5-day restrictions on natural gas production in June of this year. Also, the low offtake by the existing natural gas end-users such as the Sta. Rita, San Lorenzo and Ilijan power plants including the PSPC refinery and CNG refueling station had contributed to the downtrend in the production at the Malampaya gas field. The average daily production from the Malampaya gas field during the considered period is at 357 mmscf against the 450 mmscf of the same period last year.

Moreover, production at the Libertad gas field reflected a 37 percent decline during the period against the 2013 actual production level of 43 mmscf. The 1 month and 24 days non-operation of the Libertad gas field has brought about to the dip in the production level as the 1 MW onsite natural gas power plant was down since May this year. This was due to the replacement of the engine's turbo intercooler and overhauled the turbo charger in which the parts have been installed in June 2014. However, the operation of the 1 MW power plant is dependent on the final result of the wellhead evaluation and the retrofitting of the appropriate gas filters at the gas well.

## **CONSUMPTION**

For the first half of 2014, overall natural gas demand reflected a 7 percent decline. Total gas consumption by the existing end-users is at 61,959 mmscf registering a change of 4,959 mmscf against the actual year ago level of 66,918 mmscf. The considerable drop in the total usage of natural gas could be the upshot to the cut in the consumption level by the power generating and transport sectors. The following provides the detailed discussion.

### ***Power Sector***

Gas consumption for power sector in the first semester of 2014 is 8% lower or 5,173 mmscf against the same period of last year. The underlying cause for the decline in natural gas utilization from the Malampaya gas field was due to the implementation of the scheduled preventive maintenance activities as well as the unscheduled outages at the respective gas fired power plants. Ilijan power plant implemented in March the 13/14-day scheduled preventive maintenance activities at its GT 1-1 and GT 1-2, respectively. The Sta. Rita power plant on the other hand, has executed its maintenance program in April (5 days in Unit 10) and June (2 days in Unit 20). The San Lorenzo power plant's Unit 50 and 60 experienced 2-day maintenance activities in a separate occasion in June this year.

Apart from the scheduled maintenance activities, San Lorenzo and Sta. Rita power plants also carried out their respective unplanned outages, San Lorenzo's Unit 50 and 60 simultaneously undergo 4/7-day outages. The major unplanned outage was observed in the Unit 40 of the Sta. Rita power plant that started in February this year. The said Unit has damaged internal components of the main transformer, requiring 124 days for the repair.

The unplanned outage of the onsite 1 MW gas fired power plant at the Libertad onshore gas field resulted to the temporary disruption of the plant's operation since May 2014 due to CEBECO line fault and failure of the generator to export load power more than 300 kw. The turbo charger and intercooler which are the critical components of the engine that failed were already replaced in June and the power plant is ready to operate. However, resumption on the plant's operation is dependent on the result and finalization of the ongoing well head evaluation and retrofitting of the appropriate gas filters.

### *Industrial Sector*

A 16 percent increase was recorded in the refinery's aggregate gas consumption for the period. Total usage was reported to be at 1,684 mmscf against the actual 1,453 mmscf in 2013. The upsurge in consumption is brought about by the high gas off-take despite the refinery had implemented its 26-day maintenance schedule from March to April this year. Also, the refinery did not report any usage of alternate fuel to its gas turbines and furnaces.

### *Transport Sector*

Natural gas consumption in the transport sector for the first semester of 2014 showed an 81 percent reduction in usage, translated to 4 mmscf against the actual volume of 21 mmscf in the same period of 2013. The drop in the consumption level was mainly due to the slowdown in the supply of CNG by the Mother Refueling Station in Tabangao, Batangas to the Daughter Station in Mamplasan, Laguna since February this year. The incident relates to the safety concern on the operation of the Modular Accumulated Transport System (MATS) that transport the CNG hauled by the ST4 trailer trucks, wherein the pressure valve of the MATS has a leak. This is coupled with the leakage on the pressure relief valve to some of the cylinders in the MATS. Thus, there is no operation to both the Mother and Daughter Refueling Stations during the period.

A total of 34 CNG buses are in actual operation out of the 61 existing CNG buses in the country. The remaining 27 units are awaiting franchises to operate. There are seven buses operators accredited by the Department of Energy for CNG bus operation under the Natural Gas Vehicle Program for Public Transport.

## ***SUPPLY & DEMAND OUTLOOK FOR THE SECOND SEMESTER 2014***

### **SUPPLY**

#### ***Domestic Production***

Total domestic natural gas production is estimated to reach 71,296 mmscf in second half of 2014, registering a 10 percent rise in production level as compared to the first semester of 2014 actual. The increase could be attributed to the normal operations of the three major users such as the Sta. Rita, San Lorenzo and Ilijan natural gas fired power plants. The refinery is also expected to have a normal operation on its facilities during the second semester of 2014.

The Malampaya gas field continues to play a critical role in ensuring supply security of natural gas. For the rest of 2014, the Malampaya platform uptime is expected to be at 99 percent with an estimated daily production at 387 mmscf. The design capacity of the platform is at 650 mmscf while the downstream facilities such as the 504 km pipeline and the onshore gas processing plant is at 500 mmscf.

Likewise, following the production stoppage at the Libertad gas field in the first half of 2014, operation at the field is anticipated to resume and will have a normal operation within the remaining period of the year. The projected daily production is at 0.24 mmscf per day.

## **DEMAND**

Aggregate demand for natural gas in the second half of 2014 is seen to increase by 13% or an equivalent upsurge in volume by 8,117 mmscf. The power generation sector continued to be the leading user of natural gas with 97 percent share from the total consumption followed by the industry user.

### ***Power Sector***

For the second semester of 2014, it is projected that the power sector will consume 68,287 mmscf of natural gas, against the actual volume consumed amounting to 60,271 mmscf during the same period in 2013. A 13 percent hike in utilization is recorded within the second half of 2014 despite the 3-day intermittent operation at the Ilijan power plant due to the implementation in July this year of the pigging activity at the 15 km Ilijan pipeline. Also, it is expected that the repair activity at the Sta. Rita Unit 40 has already completed and will resume normal operation including the San Lorenzo and Ilijan power plants for the rest of the 2014.

### ***Industrial Sector***

Natural gas demand is seen to increase by 4 percent in the industrial sector, reflecting a 73 mmscf growth in volume during the second semester of 2014. Projected demand in this sector is at 1,757 mmscf. There is no significant downtime activity to be undertaken in the refinery within the second half of 2014. Table 2 provides the supply and demand projections for the second semester of 2014.

**Table 2. Projected Natural Gas Supply and Demand  
( in mmscf)**

	<b>1st Sem 2014</b>	<b>2ndSem 2014 Projected</b>	<b>Inc / (Dec)</b>	<b>% Change</b>
<b>Supply</b>				
<b>Production</b>	<b>64,681</b>	<b>71,296</b>	<b>6,615</b>	<b>10</b>
<b>Demand</b>	<b>61,959</b>	<b>70,076</b>	<b>8,117</b>	<b>13</b>
Power	60,271	68,287	8,016	13
Industry	1,684	1,757	73	4
Transport	4	32	28	7

### ***Transport Sector***

Demand for natural gas by the transport sector in the second half of 2014 is projected to be at 32 mmscf. This is with the assumption that repair works on the valve of the MATs as well as with the cylinders have been completed resulting to the normal operation of the ancillary facility which played a critical role in the transport of CNG from the CNG mother refueling station in Batangas to the Daughter refueling station in Laguna. There are 34 units of CNG buses that will be in operation within the 2<sup>nd</sup> semester of 2014.