



**OFFSHORE**

ENERGY. COMMITTED.

ANNUAL REPORT 2020

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locations where the Company operates. The system records safety, environmental, security incidents, loss of containments, equipment failure and damage only incidents.

SBM Offshore reports on all incidents classified as fatalities, injuries and high consequence injuries - work-related injuries that results in a fatality or in an injury from which the worker is not expected to recover from within six months. Safety incidents are reported based on the incident classifications as defined by the IOGP Report 2019s – September 2020. Health incidents are reported based on the occupational illnesses classification given in IOGP Report Number 393 – 2007. The main-type of work-related injury categories are related to slips, trips and falls –walking at same level & stairs – (18%) as well as manual handling related injuries (40%).

All incidents with an actual or a potential consequence for the Health, Safety and Security of personnel and/or impact on the environment arising out of Company's activities are investigated. Investigations, based on the type, criticality and severity of the event, are performed by specifically identified personnel using methods among which TapRoot® and 5 Why. The Company also reports incident data from contractor's construction facilities if the incident is related to an SBM Offshore project.

The Company uses records of exposure hours and SRS data to calculate Health and Safety performance indicators set by SBM Offshore. The data are tracked daily, consolidated monthly, and disclosed on an annual basis. Results are recorded and reported in accordance with the GRI Standards and IOGP guidelines. The results are compared to previous years, as well as benchmarked against the IOGP averages.

### 4.9.2 ENVIRONMENTAL REPORTING

#### OFFSHORE

In accordance with the IOGP and IPIECA guidelines, SBM Offshore reports on offshore units using the following reporting boundaries :

- Units in the Company's fleet producing and/or storing hydrocarbons under Lease and Operate contracts
- Units in which the Company exercises full operational management control. This view is complemented with an equity share view for the same scope on total offshore scope 1 emissions. Through this approach SBM Offshore accounts for offshore emissions according to its share of equity in the assets under operational control. The share reported is determined as the equity share held by SBM Offshore in the JV that itself owns the vessel

SBM Offshore considers 'operational management control' as: having full authority to introduce and implement operating policies at the operation, in line with the IPIECA definition.

The environmental and process safety performance of the Company is reported by region or management area: Brazil, Angola, North America & Equatorial Guinea. Based on the criteria stated above, SBM Offshore reports on the environmental and process safety performance for the following 13 units :

- Brazil – *FPSO Espirito Santo, FPSO Capixaba, FPSO Cidade de Paraty, FPSO Cidade de Anchieta, FPSO Cidade de Ilhabela, FPSO Cidade de Marica, FPSO Cidade de Saquarema*
- Guyana – *Liza Destiny* (FPSO)
- Angola – *FPSO Mondo, FPSO Saxi Batuque* and *N'Goma FPSO*
- North America & Equatorial Guinea – *FPSO Aseng*
- Asia – *FPSO Kikeh*

The environmental offshore performance reporting methodology was chosen according to the performance indicators relative to GRI Standards and IOGP guidelines. This includes:

- Greenhouse Gases, referred to as GHG which are N<sub>2</sub>O (Nitrous Oxide), CH<sub>4</sub> (Methane) and CO<sub>2</sub> (Carbon Dioxide)
- GHG emissions per hydrocarbon production from flaring and energy generation
- Non Greenhouse Gases which are CO (Carbon Monoxide), NO<sub>x</sub> (Nitrogen Oxides), SO<sub>2</sub> (Sulphur Dioxide) and VOCs (Volatile Organic Compounds)
- Gas flared per hydrocarbon production, including gas flared on SBM Offshore account
- Energy consumption per hydrocarbon production
- Oil in Produced Water per hydrocarbon production

SBM Offshore reports some of its indicators as a weighted average, calculated pro rata over the volume of hydrocarbon production per region. This is in line with the IOGP Environmental Performance Indicators.

## ONSHORE

SBM Offshore reports on its onshore scope 1, 2 and 3 emissions<sup>2</sup>. As indicated in the 2019 Annual Report, efforts have been made in 2020 to further mature onshore emissions reporting to extend the reporting scope to include all locations in operational control by SBM Offshore. In 2020, the reporting scope includes all locations where the headcount is over 10 and yards over which the Company has full operational control. The Company can now report onshore emissions on more locations. There is no revision of the 2018 data however, as there was no data for the locations added in the scope in 2019.

Next to this, the Company reports both the 'location-based approach' as well as the 'market-based approach' for its scope 2 emissions. This is related to the SDG target on percentage of renewable energy used in the offices set in place for 2019. SBM Offshore reports onshore emissions data for the following locations: Amsterdam, Houston, Kuala Lumpur, Marly, Monaco, Rio de Janeiro, Schiedam, Shanghai, Carros lab, Georgetown, Bangalore, Brazil Shorebases, Canada Shorebase, Luanda Shorebase and Malabo Shorebase. The Singapore office is excluded as we have no visibility on energy breakdown usages as the energy is included in the lease.

The Company reports on scope 3 emissions related to business flights. This consists of all flights invoiced and paid for via our standard travel system in 2020 and the data covers all operating companies. The GHG emissions relating to business flights are based on third-party documentation on distances, the conversion to CO<sub>2</sub>-equivalent is based on CO<sub>2</sub>emissiefactoren.nl.

For the onshore electricity usage, the Company uses the World Resources Institute Greenhouse Gas Protocol (GHG Protocol) method and conversion factors to calculate CO<sub>2</sub> equivalents. For fuels the Company uses conversion factors published by the UK government's Department for Environment Food & Rural Affairs (DEFRA). CO<sub>2</sub> equivalency is a quantity that describes, for a given mixture and amount of greenhouse gas, the amount of CO<sub>2</sub> that would have the same global warming potential (GWP), when measured over a specified timescale (generally, 100 years).

## ATMOSPHERIC EMISSIONS

The calculation of air emissions from offshore operations units uses the method as described in the EEMS-Atmospheric Emissions Calculations (Issue 1.810a) recommended by Oil & Gas UK. SBM Offshore uses the GHG Global Warming Potentials from the Fourth Assessment Report issued by the IPCC.

Emissions reported in the Company records include :

- GHG emissions for the production of energy. Records of GHG emissions from steam boilers, gas turbines and diesel engines used by the operating units.
- GHG emissions from gas flared. Flaring events accountability is split into either client or SBM Offshore: 'SBM Offshore Account' is flaring resulting from unplanned events. Whereas client account is flaring resulting from events caused by the client or planned by SBM Offshore in agreement with the client.
- GHG emissions from flights. Scope 3 emissions are calculated using distances and third-party emissions factors.
- GHG emissions for onshore operations are reported using the market-based and location-based approaches.

Identifying the causes of flaring for which SBM Offshore is responsible and acting on these events is part of the continuous improvement process.

## OFFSHORE ENERGY CONSUMPTION

The energy used to produce oil and gas covers a range of activities, including :

- Driving pumps producing the hydrocarbons or re-injecting produced water
- Heating produced oil for separation
- Producing steam
- Powering compressors to re-inject produced gas
- Driving turbines to generate electricity needed for operational activities

The main source of energy consumption of offshore units is Fuel Gas and Marine Gas Oil.

<sup>2</sup> The World Resources institute GHG Protocol Corporate Standard classifies a company's GHG emissions into three 'scopes'. Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

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### OIL IN PRODUCED WATER DISCHARGES

Produced water is a high volume liquid discharge generated during the production of oil and gas. After extraction, produced water is separated and treated (de-oiled) before discharge to surface water. The quality of produced water is most widely expressed in terms of its oil content. Limits are imposed on the concentration of oil in the effluent discharge stream (generally expressed in the range of 15-30 ppm) or discharge is limited where re-injection is permitted back into the reservoir. The overall efficiency of the oil in water treatment and as applicable reinjection can be expressed as tonnes of oil discharged per million tonnes of hydrocarbon produced.

Incidental environmental releases to air, water or land from the offshore operations units are reported using the data recorded in the SRS database. SBM Offshore has embedded a methodology for calculating the estimated discharge and subsequent classification within the SRS tool.

### CHANGES IN REPORTING

#### DATA REVISIONS

The offshore environmental data has been revised due to an improved process methodology in 2020. The following elements have been updated in 2020 which had an impact on the overall emissions KPIs :

- Gas Production figures have been further aligned with IOGP definition (updated to include only Fuel Gas, Gas Flared and Gas Exported). This update has an impact on the overall Hydrocarbon production (sum of oil and gas produced) which decreased compared to what was initially reported. This therefore also affected the different ratios per production such as: gas flared, GHG emissions, Energy Consumption, Oil in water per production. These ratios increased.
- Conversion factors for Gas volumes have been updated to reflect Standard conditions (15.5 deg). This update slightly affected the volumes of gas considered for the vessels where this conversion factor applied. The gas volumes produced (tonnes) considered slightly decreased. This therefore had an impact on the parameters using the volumes of gas such as (gas flaring, GHG emissions from Flaring and Energy generation – as power generation emissions are also based on amounts of Fuel Gas).

These updates have been made to improve data and calculations accuracy and ensure consistency in the way our KPIs are produced. To ensure proper comparison of trends with previous year's reported data, 2019 figures have been presented using the new methodology.

Revised Data for 2019

	2019 Annual Report	Revised 2019 Annual Report
Number of offshore units (vessels)	12	12
<b>SBM Offshore Production</b>		
Hydrocarbon Production (tonnes)	53,442,908	47,492,381
<b>Energy Consumption</b>		
Offshore Energy Consumption <sup>1</sup>	61,368,370	60,720,811
Offshore Energy Consumption per Production <sup>2</sup>	1.15	1.28
<b>Emissions – Offshore</b>		
Carbon dioxide (CO <sub>2</sub> ) in tonnes	5,239,388	5,100,732
Methane (CH <sub>4</sub> ) in tonnes	12,332	11,818
Nitrous oxide (N <sub>2</sub> O) in tonnes	311	304
<b>Flaring</b>		
Total Gas Flared per production <sup>3</sup>	11.87	12.77
Gas Flared on SBM Offshore account per production <sup>3</sup>	3.95	4.30
Proportion of Gas Flared on SBM Offshore account	33%	34%
<b>Other/Air Pollution – Non Greenhouse Gas Emissions</b>		
Carbon monoxide (CO) in tonnes	7,335	7,095
Nitrogen oxides (NO <sub>x</sub> ) in tonnes	7,534	7,384
Sulphur dioxides (SO <sub>2</sub> ) in tonnes	138	137
Volatile organic compounds (VOCs) in tonnes	1,315	1,259
<b>GHG Emissions</b>		
Offshore GHG emissions <sup>4</sup>	5,640,476	5,486,881
Offshore GHG emission per Production	105.54	115.53
<b>Discharges</b>		
Quantity of oil in produced water discharges in tonnes per million tonnes of hydrocarbon production <sup>5</sup>	5.13	5.77

1 GJ = gigajoule, energy from fuel gas and marine gas oil

2 gigajoule per tonnes of hydrocarbon production

3 tonnes of gas flared per thousand tonnes of hydrocarbon production

4 in tonnes of CO<sub>2</sub> equivalent

5 tonnes of oil discharged to sea per million tonnes of hydrocarbon production

### 4.9.3 PROCESS SAFETY REPORTING

A Loss of Primary Containment (LOPC) is defined as an unplanned or uncontrolled release of any material from primary containment, including non-toxic and non-flammable materials (e.g. steam, hot condensate, nitrogen, compressed CO<sub>2</sub> or compressed air).

A Tier 1 or Tier 2 PSE is defined as an LOPC from a process system that meets criteria defined in API RP 754.

LOPC events are reported in the Company's Single Reporting System as highlighted in sections 2.1.2 and 4.10.1. This system includes a built-in calculation tool to assist the user in determining the release quantity of LOPC events. All LOPCs are analysed to identify those considered to be PSEs as per API RP 754. Process Safety KPIs used by the Company include the number of Tier 1 and the number of Tier 2 PSEs.

### 4.9.4 HUMAN RESOURCES REPORTING

The Company's Human Resources (HR) data covers the global workforce and is broken down by region (continents) and employment type. The performance indicators report on the workforce status at year-end December 31, 2020. They include all staff assigned on unlimited or fixed-term contracts, employee new hires and departures, total number of locally-employed staff from agencies, and all crew working on board the offshore operations units and shore bases.