



**SDN**

## **2020 Nigerian oil industry environmental performance index**



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SDN supports those affected by the extractives industry and weak governance. We work with communities and engage with governments, companies and other stakeholders to ensure the promotion and protection of human rights, including the right to a healthy environment. Our work currently focuses on the Niger Delta.

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# Disclaimer

The analysis in this report is indicative and based on publicly available data. The environmental performance index (the Index) and methodology, which we have published online, were independently reviewed by relevant peer organisations, and are based on good-faith assumptions and calculations. We welcome new data and information on environmental emissions in the Niger Delta. We also welcome suggestions for how this work could be improved. We will aim to update our future analysis accordingly. Note that we have, in general, used shortened versions of oil company group titles for readability, but the discussion of each company here relates solely to its Nigerian entity or entities. This research was funded by the Ministry of Foreign Affairs of the Netherlands. Please note that the information and analysis contained in this report do not necessarily represent the views or policies of the government of the Netherlands.

# Executive summary

## Overview

This report provides a comparative assessment of the environmental performance of 43 companies operating in the Niger Delta that produced oil in 2020. This is the third annual environmental performance index (the Index) by SDN, and compares performance across the three-year period (2018 to 2020). Data is released several years after, which explains why this report focuses on 2020 data. Analysis is based on the amount of oil spilled and gas flared by each company in seven of the Niger Delta States: Abia, Akwa Ibom, Bayelsa, Edo, Delta, Imo and Rivers. Pollution data is sourced from the environmental monitoring tools of the official government regulator in Nigeria, the National Oil Spill Detection and Response Agency (NOSDRA). Production data is sourced from the Nigerian Extractive Industry Transparency Initiative (NEITI) Annual Oil and Gas Audit Report, which is a review of unpublished government data.

## Key findings

- **Oil and gas industry pollution reduced between 2019 and 2020.** Yet so did two important factors: production and the ability of the regulator to document spills. Therefore, the results likely underestimate the environmental degradation for the year.
- **The volume of oil spilled and the number of incidents were lower than previous years.** In total, a minimum of 17,331 barrels of oil and other potential contaminants are recorded as spilled in the Niger Delta in 2020, across 409 separate incidents. This was a 52% reduction in volume, with a 57% reduction in average spill size, compared to 2019. More than 70% of all known oil spilled was in Rivers State - by far the highest for oil spills for the third year running.
- **The volume of gas flared also decreased year-on-year, but continues to be a major contributor to greenhouse gas emissions.** Over 300 billion scf of gas was flared in 2020, a 30% decrease on 2019. This volume remains equivalent to 18% of Nigeria's CO<sub>2</sub> emissions, or nearly as much as the entire emissions of Ghana.
- **The highest total oil spill and gas flare emissions were generated by international oil companies (IOCs),** namely Shell, ExxonMobil, and Eni, as well as the (then) state-owned oil company, the Nigerian National Petroleum Corporation (NNPC). These companies also have the highest production volumes.
- **In relative terms, domestic oil companies (DOCs) had higher emissions for the volume of oil they produced.** Chorus Energy, Energia, Pillar Oil, and Platform generated by far the highest emissions per barrel of oil (or equivalent) produced. This is concerning, since DOCs are taking over operations from IOCs, at an accelerating rate. Marginal fields (individual fields carved out of larger blocks) have particularly alarming emissions ratios, and the National Oil Company, NNPC, is by far the highest.

- **A small number of companies were responsible for the majority of absolute oil spill and gas flare emissions.** 96% of all recorded oil spilled is attributable to six companies (Shell, Eroton, NAOC, ND Western, Aiteo, and Heritage), while 54% of gas flared is attributable to only two (NNPC and ExxonMobil).
- **The 2020 Index ranks Consolidated Oil as the best environmental performer, and Shell as the worst.** Consolidated was the only oil-producing company with no record of gas flaring or oil spills in the year, explaining its ranking. Shell was the largest oil-producing company for the year, but this does not excuse it from being the largest spiller by far, for the third year in a row.
- **Overall, the Nigerian oil and gas industry's environmental record compares extremely poorly with international averages.** Compared to the global average, companies operating in Nigeria spilled seven times more oil, and flared six times more gas, for every barrel of oil (or equivalent) they produced.
- **There are major discrepancies among data sources on Nigerian oil and gas issues.** The national oil company reports more than 660,000 barrels of crude oil "pipeline losses" for 2020, without further explanation. The data from the government regulator, NOSDRA's Oil Spill Monitor (OSM), the source for this report, recorded just over 17,000 barrels spilled – just 3% of NNPC's figure. There are also differences in gas flare volumes. As such, our analysis is indicative only, but our working assumption is that the true extent of the release of emissions into the Niger Delta's environment is much higher than officially recorded.
- **To develop a clearer picture of industry emissions in Nigeria, greater transparency from government and industry is needed.** The government has not published a detailed set of production figures for the sector since 2019, and this must be revived in the interest of transparency and accountability. Companies' own reporting should include annual accounts for emissions, disaggregated and with a detailed description of impacts, as a minimum. Publishing this data would help inform action to address environmental concerns, and build mutual trust and accountability among all industry stakeholders. It is also essential to inform the public so they can advocate for effective policies and responses.

## Rationale

Our analysis indicates that despite decades of concern over pollution in the Niger Delta, not enough progress has been made in preventing or addressing it. Nearly 3 million litres of oil were spilled in 2020, which in addition to a legacy of unresolved historic incidents, means the region remains an ecological disaster zone.

Meanwhile, new spills, and ongoing gas flaring, mean further contamination of land, air and water. The impact on human health and livelihoods is devastating, and with Nigeria intending to increase oil production by a half in the next decade, it may get worse. The industry is also a major contributor to the climate crisis, so if the Federal Government is going to achieve the ambitious greenhouse gas emissions targets it has set, then the industry needs to be a primary focus for mitigation.

SDN works to minimise the negative impact of the exploitation of Nigeria's oil and gas, and in publishing this report, we seek to increase understanding and access to information on the environmental performance of the extractive industries in the Niger Delta. We aim to enable constructive engagement on the policy solutions needed to minimise the negative impact of exploration and production, and ensure its benefits are distributed fairly and ultimately harnessed to enable Nigeria's transition to clean energy.

## The Index

Our index provides a standardised comparison of the environmental performance of oil companies operating in the Niger Delta. It does this by calculating a score for six indicators related to the emissions each company produced in 2020: specifically, oil spilled and gas flared (burnt off as a by-product of oil production). The first five indicators relate to:

- The total volume of oil spilled by each company.
- The number of spills attributable to each.
- The amount of oil (if any) which was later removed from these spills.
- The volume of gas flared.
- Transparency relating to oil spills, gas flaring, and environmental procedures.

The sixth indicator is an emissions ratio: the amount of oil that each company spilled, and the gas it flared, in proportion to the total amount of useful crude oil it produced. Some companies did not produce oil in 2019, but do have oil spills or gas flaring attributed to them. This may be, for example, because they engaged in oil exploration but not production activity. We have produced different versions of the index to take these factors into account. They are included in the database on which the Index is based. This is published online.

## Discussion of findings

### Oil spills

Oil spills and gas flaring are the source of an ongoing public health and environmental emergency in the Niger Delta. In 2020, 40% of companies were responsible for at least one oil spill. There are significant differences among these, for example, more than 95% of the total volume spilled can be attributed to just six operators: Shell, Eroton, NAOOC, ND Western, Aiteo, and Heritage. These six companies were responsible for 98% of oil spilled the year before, and therefore should be at the centre of efforts to improve

mitigation. Shell had the highest total spill volume – 8,000 barrels – and remediated under half. This is nearly double the spill volume of the next company, Eroton, whose concessions were mostly bought from Shell. The total volume spilled by all companies decreased by 52% between 2019 and 2020. The clean-up rate was slightly higher (38% compared to 37%), and the net discharge (i.e. oil left after remediation) was 53% lower than the year before.

In 2020, the companies in the Index produced 577 million barrels of oil, or around 1.6 million barrels per day, with a market value around US\$24 billion (at an average price of US\$42/bbl). Given this, the volume of oil spilled, in particular, may seem relatively small. But oil spills and gas flaring are the source of an ongoing public health and environmental emergency in the Niger Delta. The oil industry generates a huge amount of revenue for private companies and state authorities, and the resources dedicated to addressing the legacy of decades of spills are woefully insufficient. The lack of action to address past and current oil spills – or prevent further environmental damage – is unacceptable. It is a violation of the right of Nigerians to a healthy environment, and a major source of grievance in the region. Spills have huge economic consequences locally, and it would cost a small fraction of the market value to prevent or remediate them.

The cost of remediating and restoring the environment is low compared with the value of oil produced. It is estimated that it would have cost US\$188 million to clean up the 20,000 barrels spilled in 2020, and restore the environment to its natural state. While this may seem like a large sum, it is the equivalent of just 0.8% of the US\$24 billion market value of crude oil extracted that year. Put this way, and considering that the majority of oil spilled is not cleaned up, and that rehabilitation almost never takes place, the communities devastated by extraction are not getting a good deal for the oil extracted from beneath them.

## **Gas flaring**

According to the data we used, all but four of the forty-three companies discussed in this report flared at least some gas in 2020 – which, if not explicitly exempted by the regulator, has been prohibited in Nigeria for decades. The total volume of gas flared decreased by 30% between 2019 and 2020, but still remains high, despite the government working towards eliminating the practice. For the third year running, more than half of all gas flared is attributable to only two companies – NNPC and ExxonMobil. NNPC's share is high –double ExxonMobil's – because it is the joint partner on almost every concession. ExxonMobil's share is more than double the next company, NAOC, and these were also the biggest oil producing companies for the year.

The estimated volume flared by the companies in this report in 2020 – more than 300 billion standard cubic feet (scf) – released 19.4 million tonnes of carbon dioxide into the atmosphere. This is equivalent to nearly a fifth of the country's 2020 emissions. In addition, as in other oil and gas industries, there is almost certainly methane leakage from Nigeria's infrastructure, the greenhouse effect of which is significantly more potent than carbon dioxide. As Nigeria aims to increase its oil and gas production, it will need to consider how these factors relate to the commitments it has made under the Paris accords, to which it is a signatory, such as achieving carbon neutrality by 2060. Gas flaring has also been linked to respiratory, skin and reproductive disorders, among other health problems, which have a damaging impact on host communities.

Our calculations find that this volume of gas flared should have attracted fines totalling US\$275 million in 2020. It is not clear whether the government enforced these fines, and how many companies were provided exemptions from the Minister, which is not a transparent process, but understood to be widespread. The market value of the gas flared would have been over US\$606 million, which is counter to the typical argument that it is cheaper for companies to burn the gas at site, because the sale value is lower than the flare fine. Clearly, associated infrastructure is needed to utilise the gas that is currently flared, but this calculation illustrates the vast resource value that is being wasted. The government's Gas Flare Reduction Programme aims to address this, but has not led to any successful projects since 2016.

## Comparing performance

The numbers above are absolute, which is significant, because regardless of the size of their operations, oil companies should be aiming to reduce their potentially harmful emissions to zero, or as close to this as possible. However, it is important to recognise differences in progress towards that goal. This is why we calculate the sixth, relative indicator. This reveals that in relative terms, Chorus Energy – a DOC operating a Marginal Field in Delta State – had the worst emissions ratio for all companies. At over 1,100%, Chorus Energy produces more than ten-times more emissions than the useful oil and gas it produces. In general, the emissions ratio was much higher for DOCs than IOCs – more than five times as high. This is highly concerning given the growing role of DOCs in the Nigerian oil industry as they increasingly take over operations previously owned and managed by IOCs. The oil and gas company with the longest presence in the Niger Delta, Shell, was the overall worst performer in the Index for the third year in a row. This is after all scores are included and weighted for production (i.e. for gas flaring, oil spills, emissions ratios, and transparency).

It is also evident that the environmental performance of the Nigerian oil industry as a whole does not compare favourably with oil industry performance elsewhere, including home countries of the major IOCs. Comparing findings from this report against other regions worldwide suggests that the Nigerian oil and gas industry is by far the most polluting in the world. In terms of oil spilled per barrel of oil (or equivalent) produced, Nigeria was seven times above the global average. In terms of gas flared, it was six times higher. Almost certainly, this underestimates the pollution, and the situation is far worse than reported here. With the Nigerian government seeking to further expand the industry, there are difficult policy questions to grapple with relating to Nigeria's economic dependency on the sector, the local impacts, and the climate crisis implications of the industry as a whole. But it is clear that in terms of the Niger Delta, Nigeria's oil and gas can be exploited in a more socially and environmentally responsible manner.

As such, we call on the Nigerian Federal Government and domestic and international oil companies operating in the region, as well as civil society, to approach the reduction of oil spills and gas flaring with renewed focus. NNPC, which is ultimately involved in the production of almost all Nigerian oil through its partnership agreements with local and other companies, has made clear its objective to increase total industry production. Our objective is to ensure that if this does happen, it is not at the expense of human and environmental health in the Niger Delta.



## Cumulative performance – the economics of emissions

For the three years covered by the EPI so far (2018-2020), the regulator has recorded nearly 80,000 barrels of crude oil spilled (over 12.5 million litres) and 1.2 trillion mscf of gas flared. This is equivalent to 0.004% of oil, and 13.3% of gas, produced during the same period. The total estimated cost to remediate and rehabilitate land damaged by these oil spills is US\$858 million, equivalent to less than 1% of the US\$110 billion market value of oil extracted. The total of estimated fines due for flaring over the same period is US\$1.2 billion, and this practice wasted gas with a market value of US\$2.2 billion. Comparing totals in this crude way highlights that the financial costs of repairing the impact of emissions are extremely small compared to the revenues that they have generated for companies and the government; but it would be invaluable for the communities whose health, livelihoods, and environment are devastated.

### Data

The emissions data is incomplete. NOSDRA is not able to reach every oil spill site, the data recorded for offshore spills is nominal, and the techniques for measuring spill volumes is not always comprehensive. NOSDRA's reporting was also hit hard by the COVID-19 pandemic and lockdown measures, which further restricted their ability to document spills. As such, the actual volume of oil spilled is expected to be much higher than recorded. Meanwhile, gas flaring is measured by satellites, which can never be 100% accurate given the extensive cloud cover in the Niger Delta. However, comparisons with industry and World Bank data show the estimates compare reasonably.

The production data is not released in a timely manner, so analysis can only be done a few years after the year under review. This report is based on NEITI's annual oil and gas audit, since the NNPC's Annual Statistical Bulletin released by NNPC, or an equivalent, has not been released by the government since 2019. NEITI's reports are also typically released several years after the year under review, but they do provide an audited version comparing government and industry production data.

As part of this research, we consulted with key stakeholders on draft versions of this report. These included representatives of oil companies, NOSDRA, and other civil society organisations. We would like to thank these groups for the contributions they made, which informed the changes we made to the report. We also incorporated other changes into this report, based on suggestions made to the previous year's report.

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# Abbreviation

ASB	Annual Statistical Bulletin
BBL(S)	Barrel(s) of oil
BOE	Barrel of oil equivalent
BPD	Barrels of oil per day
DOC	Domestic Oil Company
DPR	Department of Petroleum Resources
EITI	Extractive Industry Transparency Initiative
FPSO	Floating Production Storage and Offloading vessel
GFT	Gas Flare Tracker
HYPREP	Hydrocarbon Pollution Remediation Project
IMF	International Monetary Fund
IOC	International Oil Company
JIV	Joint Investigation Visit
LGA	Local Government Area
MSCF	Thousand standard cubic feet
NGN	Nigerian Naira
NEITI	Nigerian Extractive Industry Transparency Initiative
NGFCP	Nigerian Gas Flare Commercialisation Programme
NOGIAR	Nigerian Oil and Gas Industry Annual Report
NOSDRA	National Oil Spill Detection and Response Agency
NPMS	National Production Monitoring System
NUPRC	Nigerian Upstream Petroleum Regulatory Commission
OML	Oil Mining Lease
OPEC	Organisation of the Petroleum Exporting Countries
OPL	Oil Prospecting License
OSM	Oil Spill Monitor
PSC	Production Sharing Contract
US\$	United States Dollar

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# Introduction

This is the third annual Environmental Performance Index of the Nigerian oil and gas industry conducted by SDN. It analyses official government data for production and pollution, to compare the environmental performance of 43 companies that produced oil in 2020.

Since discovering oil in the 1950s, Nigeria has become a major oil and gas producing nation. Its high-quality oil and gas are sold around the world, and the industry is crucial to the national economy. In total, domestic and international companies produced around 1.7 million barrels of oil per day (bpd) in 2020, almost all of it for export. This is a significant source of revenue for the Nigerian government.

However, the impact on the ground in Nigeria's main producing region, the Niger Delta, has been severe. The region is heavily polluted. This stems from a combination of badly maintained infrastructure, inadequate and poorly enforced regulation, historic militancy, and oil theft as part of the local "artisanal oil industry". Decades of oil spills have ruined land and water sources, creating devastation for a region where many are dependent on agriculture and fishing for their livelihoods. The environmental damage also has disturbing health implications. For example, one study indicates that infant mortality rates double for children whose mothers lived near an oil spill prior to conception<sup>1</sup>, and other research has shown a correlation between the presence of gas flares and respiratory problems.<sup>2</sup> Because the principal component of natural gas is methane (which releases carbon dioxide when burnt), Nigeria's flare stacks also contribute directly to global the climate crisis.

This report forms part of SDN's work to address these challenges. A crucial first step is to understand the true extent of the problem, and much has already been written on environmental aspects of the oil industry in Nigeria.<sup>3</sup> This includes research on technical and infrastructure issues, legislation and regulation, and the political economy of the artisanal oil industry, which operates outside any formal environmental protection standards.

To date, though, this has often focused on specific companies, incidents, or communities. This is partly because of the notorious lack of transparency in the Nigerian oil sector. Statistics are often made public when they are well out of date, if at all. This is made worse by the challenges inherent to research in the region, in particular relating to logistics and security, which are an obstacle to generating new evidence.

However, in 2019, the Nigerian government agency responsible for responding to pollution from the industry, the National Oil Spill Detection and Response Agency (NOSDRA), launched improved versions of two environmental monitoring tools. These are the [Oil Spill Monitor](#) (OSM) and [Gas Flare Tracker](#) (GFT), originally developed for NOSDRA by SDN. The OSM and GFT contain up to date and publicly accessible

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1. Bruederle, A. and Hodler, R. (2019). Effect of oil spills on infant mortality in Nigeria. Proceedings of the National Academy of Sciences of the United States of America (PNAS). Vol. 116, no.12, p. 5467-5471. Online: <https://www.pnas.org/doi/epdf/10.1073/pnas.1818303116>

2. SDN. (2023). Gas Expansion and the Energy Transition in Nigeria and the Niger Delta. Online: <https://www.stakeholderdemocracy.org/gas-expansion-and-the-energy-transition-in-nigeria-and-the-niger-delta/>

3. For example see the Bayelsa State Oil and Environmental Commission. (2023). An environmental genocide: The human and environmental cost of Big Oil in Bayelsa, Nigeria. Online: <https://report.bayelsacommission.org>

information on emissions to air and land: oil spilled, and gas flared, as part of oil exploration and production. The data in the OSM is derived from NOSDRA oil spill site assessments, while data in the GFT is based on calculations made using satellite observations of heat emitted from gas flare stacks.<sup>4</sup>

This information makes it possible to produce an estimate of oil company environmental emissions across the Niger Delta. It also enables a standardised comparison of the environmental performance of companies operating in the region in 2020, based on the data available. This includes calculating emissions data for each company, relative to the volume of oil it produced, and therefore accounting for the size of its operations.

This is what this report does. We do not aim to quantify the overall impact of emissions, which is beyond the scope of this research (this would require significant additional data on, for example, human health records, soil contamination levels, and agricultural productivity in areas affected by the oil industry). We do aim to present technical information, in an accessible format, on the extent of oil and gas released into the environment.

We intend to produce this analysis each year, to help track progress in addressing pollution in the Niger Delta. This is especially important given the Nigerian government's public commitments to minimising the environmental consequences of the oil industry – for example, to reduce gas flaring to zero in 2030, a target which faces significant challenges to meet.

In doing so, we recognise that these challenges can only be solved by all parties working together. In the interest of transparency and scrutiny, we have published data and calculations relating to this research – and welcome constructive critique, in recognition that such feedback is invaluable to improving our methodology in future.

Representatives from oil and gas companies, the Nigerian Government, and civil society provided feedback on the last report, and we have integrated suggestions into this one. This includes a rating score for company transparency measures, for example, publishing their own data on oil spills and production. It also includes a section focused on oil spills caused by 'sabotage' or a 'third-party', which were raised as major causes and of major concern.

Our hope is that this analysis will inform discussion about how to reduce the negative impacts of the oil and gas industry, and ensure that its benefits are fairly distributed. Our goal for the report is to support engagement with regulators and oil companies on their environmental management practices, in order to identify the most effective methods of preventing and addressing industry emissions.

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4. More information on the data and these tools is included below, and in the Methodology.

# The report is structured as follows

01

Overview of dynamics in Nigeria's oil and gas industry in 2020.

02

The sources of data for environmental emissions, and limitations.

03

Findings and commentary on five indicators we use to assess the performance of the 43 individual companies we identified as operating in the Niger Delta in 2019 that produced environmental emissions.

04

Provision of a standardised comparison of the absolute and relative performance of these companies. This is based on a weighted index of six indicators.

05

Conclusion and suggestions for next steps that government, regulators and the industry can take to help reduce the environmental emissions of Nigerian oil and gas.



# 1. Overview of dynamics in Nigeria's oil and gas industry in 2020

*The 2018 Index is prefaced by a history of the Nigerian oil industry – oil spills, clean-up, and gas flaring, and the environmental and social impacts. This can be referenced in the 2018 Index, and is not replicated here. Instead, we have noted some of the main dynamics in the international and domestic oil and gas sector during the year under review. We hope this helps add context to the results and analysis in the 2020 Index.*

2020 was a chaotic year for the oil and gas industry, as well as the world economy more broadly. The Nigerian oil and gas sector was particularly hard hit, as the pressure of global dynamics ‘put heavy pressure on the sector’s outputs and economic fundamentals’, and worsened existing structural weaknesses in production and regulation.<sup>5</sup> The sector generated US\$12.5 billion (NGN4.73 trillion) in revenue for the Nigerian Government – only a third of what was generated in 2019.<sup>6</sup> By extension, the oil-dependent wider economy was also hard hit, and by the end of the year, Nigeria was in economic recession, its second in six years, and worst in three decades.<sup>7</sup>

The major external shocks started in March with a battle between OPEC members Russia and Saudi Arabia over their production allowances, which led to over-production of crude oil, and a fall in price. This was motivated by declining global demand as the COVID-19 pandemic unfolded. A sustained period of over-production and under-demand combined to create a shortage of storage, driving crude oil prices even lower, until they crashed in May 2020 to US\$11/bbl, with futures for one crude variant (West Texas Intermediate) hitting negative figures for the first time.<sup>8</sup> As global lockdown measures started to ease in the second half of the year, prices started to rise again, but remained far below those of the pre-COVID era.

With a sustained period of low global demand and prices, Nigeria struggled to sell its crude oil. It was reported in April that the country had around 15-20 million bbls unsold – about 25% of the country’s total annual output.<sup>9</sup> In the first half of the year, major publicly listed oil companies reportedly saw a revenue drop of 50%.<sup>10</sup> In total, the IMF estimated Nigeria’s total oil and gas exports declined by at least \$26.5 billion in 2020.<sup>11</sup> Significant parts of the industry’s infrastructure were inactive, for example, the active rig count declined from 187 in 2019, to 135 in 2020.<sup>12</sup> This hit the national budget hard, which was benchmarked

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5. NRGI. (2020). Nigeria: Updated Assessment of the Impact of the Coronavirus Pandemic on the Extractive Sector and Resource Governance. Online: : <https://resourcegovernance.org/analysis-tools/publications/nigeria-updated-assessment-coronavirus-extractive>

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10. The Africa Report. (2020). Nigeria: Major oil companies see drop in revenue. 4th August. Online: <https://www.theafricareport.com/36211/nigeria-major-oil-companies-see-drop-in-revenue/>

11. Financial Energy Review. (2020). Nigeria Oil and Gas Export to Dwindle By \$26.5 Billion-IMF. 30th April. Online: <https://financialenergyreview.com/2020/04/30/nigeria-oil-and-gas-export-to-dwindle-by-26-5-billion-imf/>

12. Vanguard. (2021). Nigeria's oil rig count down 29% to 135 in 2020. 19th January. Online: <https://www.vanguardngr.com/2021/01/nigerias-oil-rig-count-down-29-to-135-in-2020/>

on production of 2.18 million bpd, sold at an average crude oil price of US\$57/bbl. The budget had to be redrawn when production was limited further to 1.495 million bpd by OPEC's revised quota.<sup>13</sup>

At the height of the crisis, lockdown measures were introduced, which reduced the number of company and government regulatory staff at facilities. In March, the Department of Petroleum Resources (DPR) claimed 'force majeure' across the industry, and introduced emergency safety orders – to evacuate non-essential staff, reduce the workforce at facilities, and suspend staff rotation. Restrictions on travel delayed maintenance and development operations for months.<sup>14</sup> In one instance, 22 ExxonMobil staff reportedly breached these orders, and were arrested when caught traveling between states during the lockdown.<sup>15</sup> The government also limited the presence of regulatory agencies to one person per location. There was therefore a long period with reduced maintenance and regulatory activities, including oil spill response.

Oil and gas industry total capital investment inflows dropped, increasing debt and causing project delays.<sup>16</sup> Companies also announced cuts to staff, for example, Chevron cut their labour force by 25% in Nigeria.<sup>17</sup> The government was forced to suspend plans for oil licensing rounds, including for marginal fields, which were crucial to achieve the 2023 output target of 3 million bpd. The DOCs in particular – which produced 40% of Nigeria's oil – were more vulnerable to the shocks than the IOCs, and reportedly suffered the hardest impacts.<sup>18</sup> Analysts predicted that the impacts of the pandemic will result in reduced outputs for the next decade in Nigeria.<sup>19</sup>

The external shocks also had an impact on legislation – with passage of the long-awaited Petroleum Industry Bill (PIB) postponed so the President could focus on amending the 2020 budget (it was ultimately assented in late 2021). The head of NNPC lamented that the delay to pass the PIB was preventing further investment.<sup>20</sup> Some significant legislation was still passed, including an amendment to the Petroleum (Drilling and Production) regulations, to increase revenues to government for exploration and expansion.<sup>21</sup> The amendment also enabled DPR to update the Guidelines for releasing staff, in anticipation of mass redundancies expected due to COVID-19. The Finance Act (2019) is an example of broader legislation passed with an impact on the oil and gas industry. Companies engaged in the exploration and production of crude oil were previously exempted from paying Withholding Tax (5% on salaries) in recognition of the other heavy taxes they paid (85% of profits for Joint Ventures, and 50% for Production Sharing Contracts). Analysts were concerned that this would further impact upstream investment, at a time of longstanding uncertainty over whether other fiscal terms would be ushered in under the Petroleum Industry Bill (PIB).<sup>22</sup>

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13. KPMG. (2020a). Nigerian Oil and Gas Industry Update Quarterly Newsletter Edition 2020 - Q1. May. Online: <https://assets.kpmg.com/content/dam/kpmg/ng/pdf/nigerian-oil-and-gas-industry-update-2020-q1-edition.pdf>

14. EURACTIV. (2020). Coronavirus creates repair headache for oil and gas industry. Online: <https://www.euractiv.com/section/energy/news/coronavirus-creates-repair-headache-for-oil-and-gas-industry/>

15. Reuters. (2020). Nigeria's oil hub quarantines 22 Exxon Mobil workers: governor. 17th April. Online: <https://www.reuters.com/article/us-health-coronavirus-nigeria-exxon-mobi-idUSKBN21Z2RQ>

16. KPMG. (2020b). Nigerian Oil and Gas Industry Update Quarterly Newsletter Edition 2020 - Q2 & Q3. November. Online: <https://assets.kpmg.com/content/dam/kpmg/ng/pdf/tax/nigerian-oil-and-gas-update-quarterly-newsletter-edition2020-q2-q3.pdf>

17. Reuters. (2020). Chevron Nigeria plans to cut 25% of staff after oil price drop. 3rd October. Online: <https://www.reuters.com/article/us-nigeria-chevron-idUSKBN26OoV4>

18. Bloomberg. (2020). Oil's Meltdown Crushes Independent Crude Producers in Nigeria. 24th April. Online: <https://www.bloomberg.com/news/articles/2020-04-24/oil-s-meltdown-crushes-independent-crude-producers-in-nigeria?>

19. Energy and Economic Growth. (2020). Impact of Covid-19 on the oil and gas sector and decarbonisation in LICs and MICs. Online: <https://www.energyeconomicgrowth.org/sites/default/files/2020-07/COVID%20oil%20and%20gas%20impacts%20.pdf>

20. Daily Post. (2020). Investors losing confidence in Nigeria's oil, gas industry – NNPC. 22nd September. Online: <https://dailypost.ng/2020/09/22/investors-losing-confidence-in-nigerias-oil-gas-industry-nnpc/>

21. Amendments to the 1969 Regulations included an increase in fees to conduct surveys and drilling from N5,000 to N1.5 million (USD\$??).

22. KPMG. (2020a).

In terms of concessions, the IOC Petrobras sold its Nigeria-focused subsidiary for around US\$1.5bn.<sup>23</sup> The DOC Pan Ocean was acquired by the Federal Government’s Asset Management Company of Nigeria (AMCON), after the Chairman went bankrupt.<sup>24</sup> Meanwhile, exploration outside the Niger Delta reportedly discovered ‘large quantities’ of crude oil in the north of the country, but it remained a long way off extraction.<sup>25</sup> This expansion of production activities was pursued, despite the fact that the DPR acknowledged Nigeria’s oil reserves will be depleted in less than 50 years.<sup>26</sup>

Oil theft and artisanal oil refining continued to be a major issue. The NNPC reported there were 349 “pipeline breaks” due to vandalization throughout the year (only 102 due to weld failure and rupture), leading to losses of 106,135m<sup>3</sup> of crude oil (667,516 barrels).<sup>27</sup> This is notably fewer incidents than what NOSDRA documented for 2020: 409 spills with 17,331 barrels lost (which represents 18% more total spill incidents than reported by NNPC, but only 3% of the total spill volume).

While questions surround the accuracy of NNPC’s figures, they are indicative of the scale of the phenomenon. In 2019, SDN released an economic study of the artisanal oil industry, which estimates that if 140,000 bpd is stolen – a conservative estimate - then over USD\$745 million (NGN 268 billion) is generated across the value chain in a year.<sup>28</sup> This underscores the economic value of the phenomenon, both locally and nationally, which helps explain why it endures. The artisanal oil industry is blamed for causing many of the oil spills that are labelled ‘sabotage’ by a ‘third-party’. As well as the constant drain and damage to infrastructure, the artisanal oil industry allegedly causes major incidents that shut down facilities, and “shut-in” significant amounts of production. These types of incidents reduce production and increase emissions. In response to the concerns raised by companies while reviewing the 2018 Index, we have included a specific section on sabotage in the 2019 and 2020 Indexes.

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23. Petrobras held 8% interest in OML 127 and 16% in OML 130. Not an operator in either. Petrovoda owns 50% share, with BTG Pactual owning the remaining 50%. Both international. Offshore Engineer. (2020). Petrobras Exits Africa As Nigeria-Focused Business Sold for \$1.5B. 15th January. Online: <https://www.oedigital.com/news/474631-petrobras-exits-africa-as-nigeria-focused-business-sold-for-1-5b>

24. This Day. (2020). Oil Magnate Festus Fadeyi’s Myriad of Troubles. 9th August. Online: <https://www.thisdaylive.com/index.php/2020/08/09/oil-magnate-festus-fadeyis-myriad-of-troubles>

25. Daily Post. (2020). NNPC discovers large quantity of crude oil in Benue Trough. 20th November. Online: <https://dailypost.ng/2020/11/20/nnpc-discovers-large-quantity-of-crude-oil-in-benue-trough/>

26. Economic Confidential. (2020). Nigeria’s Oil Reserves’ll Be Depleted In 49 Years – DPR. 20th February. Online: <https://economicconfidential.com/2020/02/nigeria-oil-reserves-depleted-49years/>

27. NEITI. (2022). 2020 Oil and Gas Industry Audit

28. SDN. (2019). More money, more problems: Economic dynamics of the artisanal oil industry in the Niger Delta over five years. Online: <https://www.stakeholderdemocracy.org/moremoneymoreproblems/>

## 2. Data and limitations

### Emissions data

The key regulatory body charged with monitoring Nigerian oil industry environmental performance is the National Oil Spill Detection and Response Agency (NOSDRA). As part of its remit, NOSDRA gathers and stores data on oil spills and gas flaring on two public data platforms. These platforms are the source of emissions data used in this report. Note that they were initially designed by SDN in 2013-2014 as part of a project to provide technical assistance to NOSDRA, and then redeveloped by SDN in 2018-2019.

The first platform is the Oil Spill Monitor ([www.nosdra.oilspillmonitor.ng](http://www.nosdra.oilspillmonitor.ng), OSM). The OSM is the source of oil spill data for this index. The information on each spill in OSM comes from a Joint Investigation Visit (JIV) carried out by NOSDRA to determine the cause and consequence of each spill to which it is alerted. Spills are attributed to particular companies as part of this process.

### Box 1: Joint Investigation Visits

The Joint Investigation Visit (JIV) is the mechanism NOSDRA uses to assess oil spills in the Niger Delta. When NOSDRA receives information relating to an oil spill, it organises a visit to the reported location. The JIV is attended by NOSDRA staff members, oil company staff, and representatives of local communities affected.

Together, they determine and sign off on a record of the spill, including its precise location, the estimated volume of oil spilled, any containment measures taken, and the company whose infrastructure the spill came from.

The JIV has faced criticism in the past: for example, because disputes can arise over the details of a spill incident. This can lead to incomplete information being recorded in the Oil Spill Monitor (OSM). In the validation process for this report, operators did not agree with the claims that the process is often disputed. These claims are contrary to widespread claims from communities that take part in JIVs, civil society organisations (CSOs), and other observers.

*For more see SDN's report, [Improving Oil Spill Response in Nigeria](#).<sup>29</sup>*



Oil spill pollution in creeks of the Niger Delta.

29. SDN. (2015). Improving Oil Spill Response in Nigeria. Online: <https://www.stakeholderdemocracy.org/wp-content/uploads/2016/06/Improving-Oil-Spill-Response-in-Nigeria.pdf>

The second platform is the Gas Flare Tracker ([www.nosdra.gasflaretracker.ng](http://www.nosdra.gasflaretracker.ng)). The GFT uses satellite data to identify gas flare locations, and then estimates the volume of gas flared at each of these.<sup>30</sup>

It is important to note that there are limitations to these sources. The data in the OSM is almost certainly incomplete: for example, many spill records indicate that an incident took place, but do not have an estimated volume attributed to them. One reason for this is that the Niger Delta is vast, and a lot of pipeline infrastructure passes through remote areas which, for example, may only be accessible by boat. NOSDRA has limited logistical capacity, and so getting to spill sites can be a challenge. In addition, there are sometimes accounts, for example, of oil companies denying NOSDRA access to reported oil spill sites.

On the other hand, although it is not possible to verify the validity of the information, some companies are quite open in reporting spills and providing their data on these. One example is Shell, who publishes their own record online. During the validation of this report they identified 4 spills that were duplicates (and we removed these before finalising and publishing).

In terms of gas, the volumes discussed here are, as noted, estimates (the full calibration methodology for the GFT figures is explained on its website). Oil companies are supposed to provide complete data on the amount of gas they flare to Nigerian regulators. However, the extent to which the data they provide is accurate is unclear, with allegations that many flare points lack the metering equipment which is a legal requirement. This data also tends to be provided a long time in arrears (hence the development of the GFT, which provides monthly estimates). The GFT does not attribute gas flared to particular companies, but it does provide estimated volumes by concession. We have matched these with official data on who operates particular concessions in order to attribute gas flared.

The oil industry in Nigeria is generally opaque, and the availability of even basic corporate information on companies and their operations can be limited. The effect of all these factors is therefore confusion regarding the true extent of environmental emissions in the Niger Delta, which is part of the rationale for carrying out this research. Standardising reporting metrics and increasing disclosure requirements would be one way that the government could help address this. In the meantime, our assumption is that actual industry environmental emissions may be significantly higher than the picture we present here.

## Production data

Production data for the 2020 report comes from NEITI's Annual Oil and Gas Audit. This is because the previous data sources – NNPC's Annual Statistical Bulletin (ASB) and the Department of Petroleum Resource's Nigerian Oil and Gas Industry Report (NOGIAR) – have not been released since 2019.

Using data from NEITI requires further work. Firstly, NEITI does not report total production on a company basis. Many of the joint arrangements have their production reported jointly, rather than this being

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30. The primary data source for the Gas Flare Tracker is the Visible Infrared Imaging Radiometer Suite (VIIRS) on board the Suomi National Polar-orbiting Partnership (S-NPP) satellite. The VIIRS source data is made available from the National Oceanic and Atmospheric Administration. The VNF product data used to locate gas flare sites and estimate the volumes of gas flared is from the Earth Observation Group at [www.mines.edu](http://www.mines.edu). For more information, visit <https://nosdra.gasflaretracker.ng/data.html>.

split between the partners. We therefore had to split these based on the arrangement. Secondly, the arrangement of companies owning and operating a lease is not reported. Previously we relied on the NOGIAR for an updated list of concession details. For 2020, the concession details were based on the 2018 NOGIAR report, and then updated based on any ownership or operatorship changes reported in the news. It is therefore possible that minor changes have not been detected. Furthermore, some companies appear to be incorrectly listed as operators. This was picked up in our validation session, where First Hydrocarbon affirmed that they do not operate the block they hold equity in. Therefore, we have updated the production and pollution tables accordingly, and removed them from the main version of the Index.<sup>31</sup>

While these challenges can be overcome for the 2020 Index, this is a worrying development for transparency going forwards. At the time of writing (2023), no further NOGIAR or ASB reports have been published by the government. The Nigerian Upstream Petroleum Regulatory Commission (NUPRC) – the new government regulator that took over from the Department of Petroleum Resources in 2021 – only publishes oil data that is aggregated at the export terminal level, under different blends of crude oil. This is clearly inadequate to break down to companies or concessions – as multiple sources feed into the same export terminals. It also does not publish details on the broader trends within the industry, which both the ASB and NOGIAR covered previously. Going forward, the Index will rely on the Nigerian Extractive Industry Transparency Initiative (NEITI) Annual Oil and Gas Audit for data. NEITI reports that their data is signed off by the Government. The data within the ASB matches the NEITI data, and is in the same format, which indicates that it is a sound resource to base the analysis on, and leads us to assume that the ASB continues to be produced internally, but is no longer published.

Further detail on sources and data is included in the methodology for this report, which is published as a separate document.

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31. Note that the company still features under oil spill count, as they have several spills attributed to them, despite claims they are not an operator

# 3. Findings on environmental emissions in the Niger Delta

This section provides an overview of oil and gas emissions in the Niger Delta in 2020, based on the data available. It is split into three parts. First, it provides a summary of oil and gas emissions for the region as a whole. Second, it breaks this down into oil and gas emissions by specific companies, in terms of six core environmental performance indicators. Third, it weights and combines these indicators to provide an overall comparison of oil company environmental performance; where the fewer emissions are generated, in both absolute and relative terms, the higher a company's score.

## 3.1 Regional overview

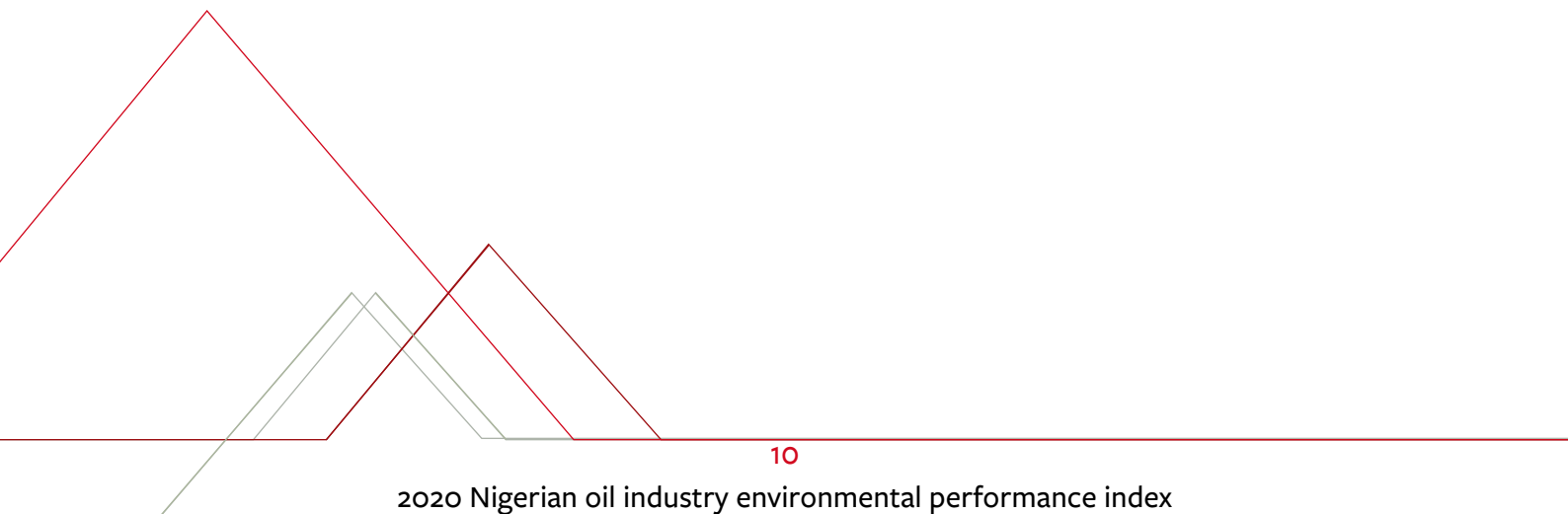
This section looks at the absolute amounts of oil and gas released into the environment in the Niger Delta in 2020, according to Oil Spill Monitor and Gas Flare Tracker data.

### 3.1.1 Oil Spills

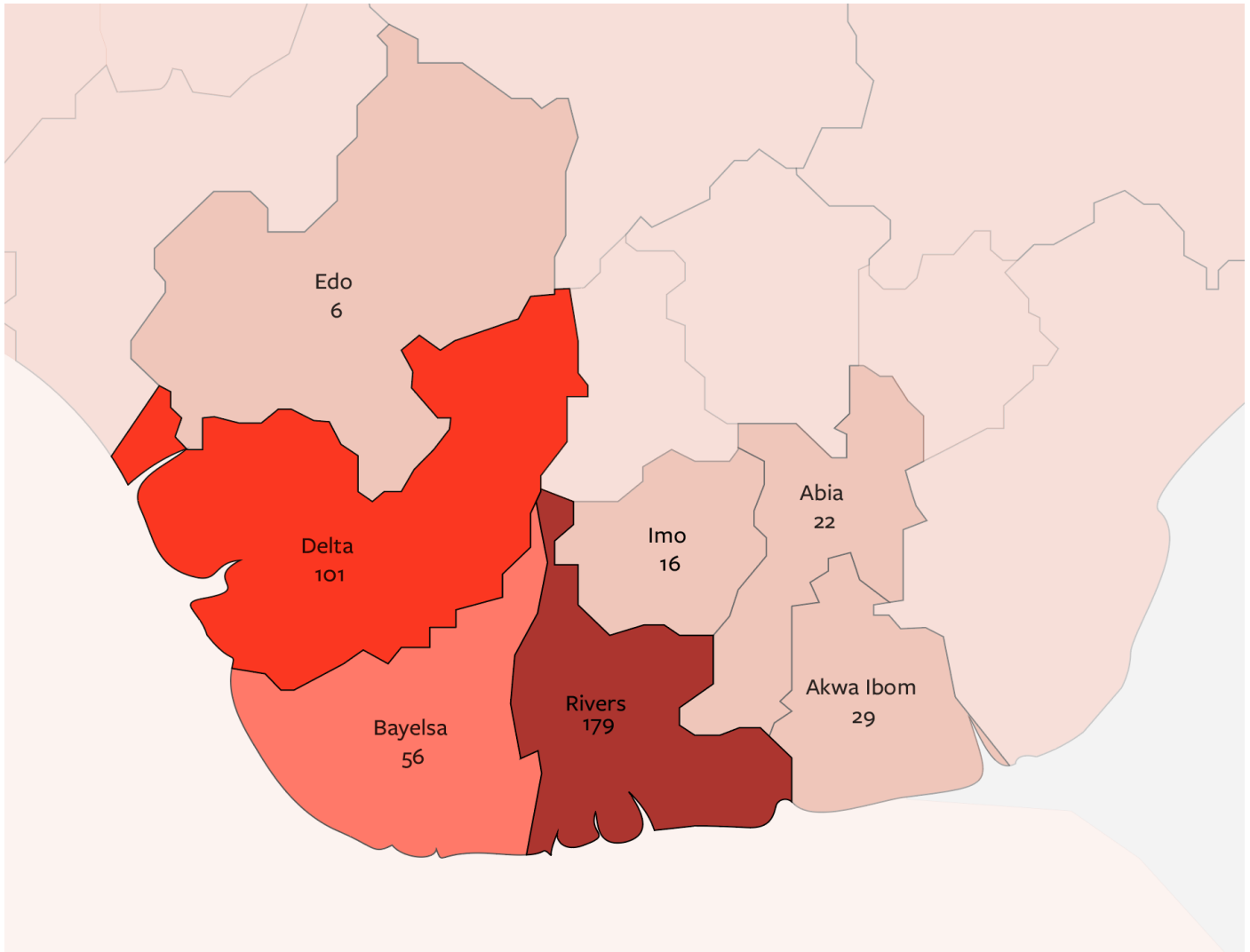
#### Spill quantities and locations

409 oil spill incidents recorded by NOSDRA in the OSM in 2020 are included in this report. This is 32% fewer incidents than the 601 recorded in 2019. The map below shows the number of spills with a known location in each state:

Note that this, and all analysis of oil spills in this report, is based on the information made available to-date in the OSM. The map above, for example, should therefore not be treated as definitive. Rivers State had the highest number of reported spills – nearly three quarters of all spills documented. There may be reasons for this, such as, for example, that the roads are better in Rivers State than others, or more spills took place there during the dry season, both of which would make site access easier, and therefore the completion of spill reports.



**Map 1: Number of oil spills by state:**

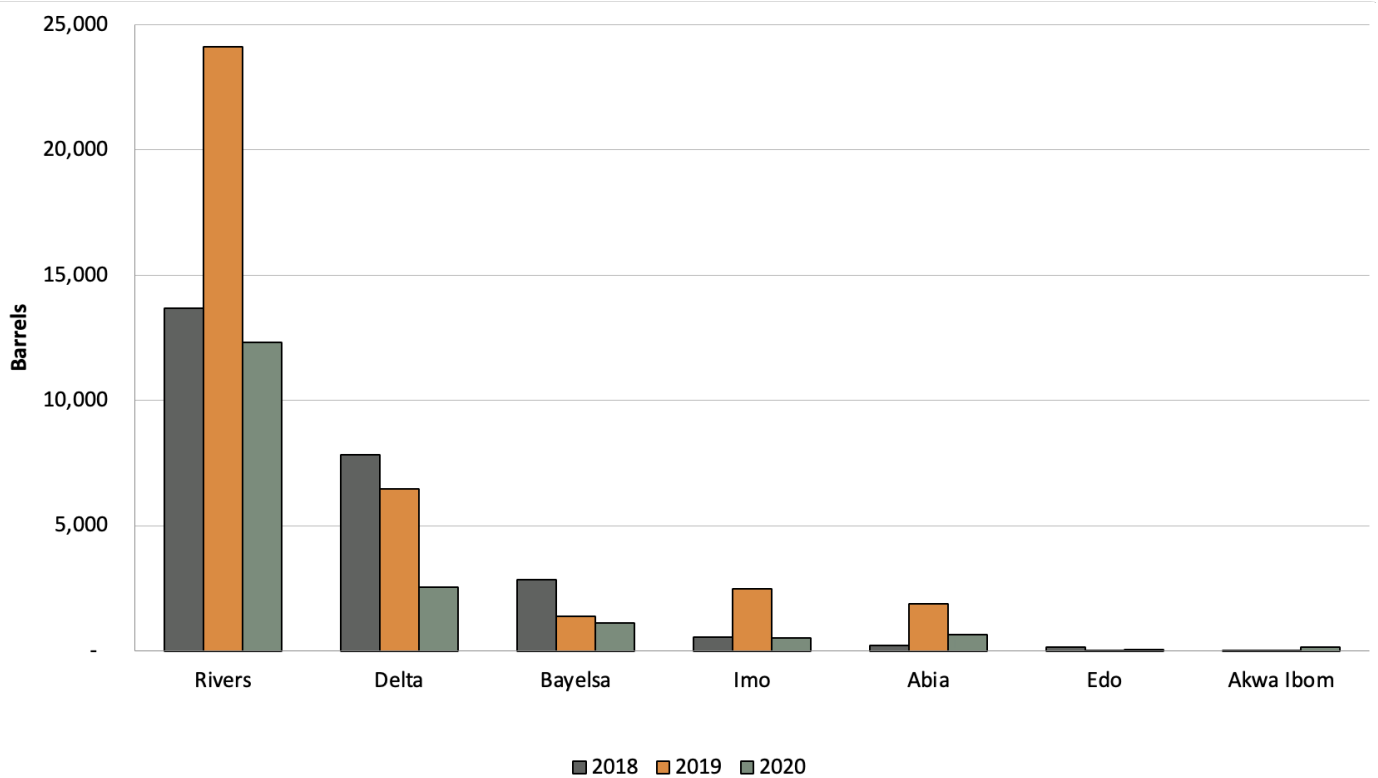


In total, the 409 spill incidents released an estimated 17,331 barrels of crude oil, or over 2.7 million litres. This is a 52% reduction compared to what was documented in 2019. The volume of oil spilled in each Local Government Area (LGA) is shown on the map below. The darker the red, the more oil was spilled:





**Graph 1: Total oil spilled by State** <sup>28</sup>



Cumulatively, over the three-year period covered by EPI reports so far (2018-2020), NOSDRA have recorded nearly 80,000 barrels of crude oil spilled into the Niger Delta, equivalent to nearly 13 million litres.

## Oil spill containment and recovery

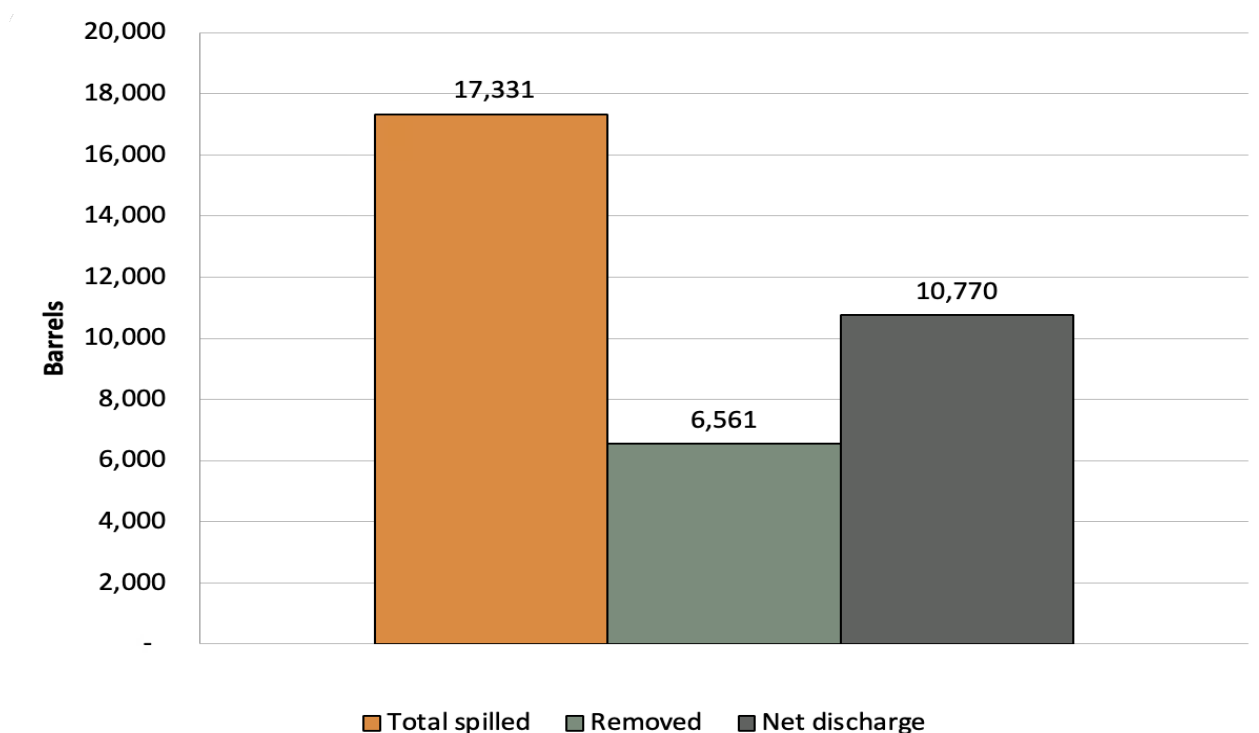
When a spill takes place, initial containment measures can be taken to limit its reach. For example, if a spill takes place near a river, floating booms can be placed across it, to prevent the current from taking the oil downstream. It is important that these measures be implemented as quickly as possible (although sometimes they do not take place at all). If they are put in place, mechanical removal – in simple terms, scooping up oil with shovels and other implements – can then be used to recover the trapped oil. Note that this can physically remove the oil from the site, but is not the same as remediation or restoration, which involves long-term treatment to remedy the toxic and other effects of oil spills on the environment.

Where available, the OSM includes data on how much (if any) oil has been recovered from each spill as a result of such containment measures. In this Index, we refer to this as “oil removed”. It is therefore possible to generate a net figure for how much oil has been discharged – the amount which remains in the ground and water – by subtracting this from the total volume spilled. We refer to this as the “net discharge”.

In 2020, 6,561 barrels, or 38% of total oil spilled, was later removed. The volume was less than half of what was removed in 2019, when 13,475 barrels, or 37% of oil spilled was later removed. But with a much lower volume of oil spilled in the first place, the total net discharge across the Niger Delta was much lower at

10,770 barrels.<sup>32</sup> This is less than half of the 22,859 barrels net discharge in 2019. Therefore, there was a 52% reduction in total oil spilled, and a 34% reduction in oil left in the environment, compared with the year before.

**Graph 2: Total oil spilled and removed**

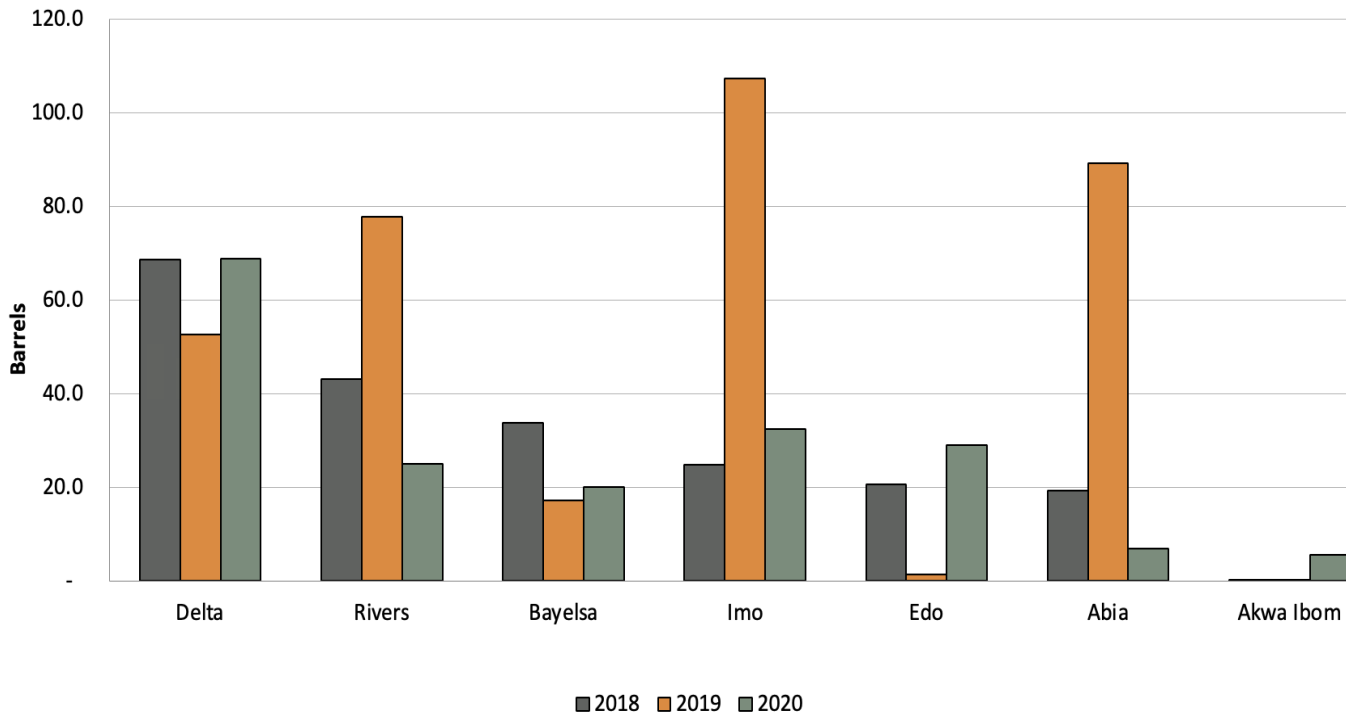


### Number of spills and average spill size:

In 2020, the average spill size for the entire Niger Delta was 42 barrels. This is 31% lower than in 2019 (61 barrels). However, breaking the data down by state reveals big differences in the average spill size. For example, in Rivers State the average was 69 barrels, which is more than double the average in every other state. As noted earlier, this is worrying – Rivers State had the highest number of spills, the highest average spill size, and the highest volume of total oil spilled.

<sup>32</sup>. There are approximately 159 litres in a barrel of oil.

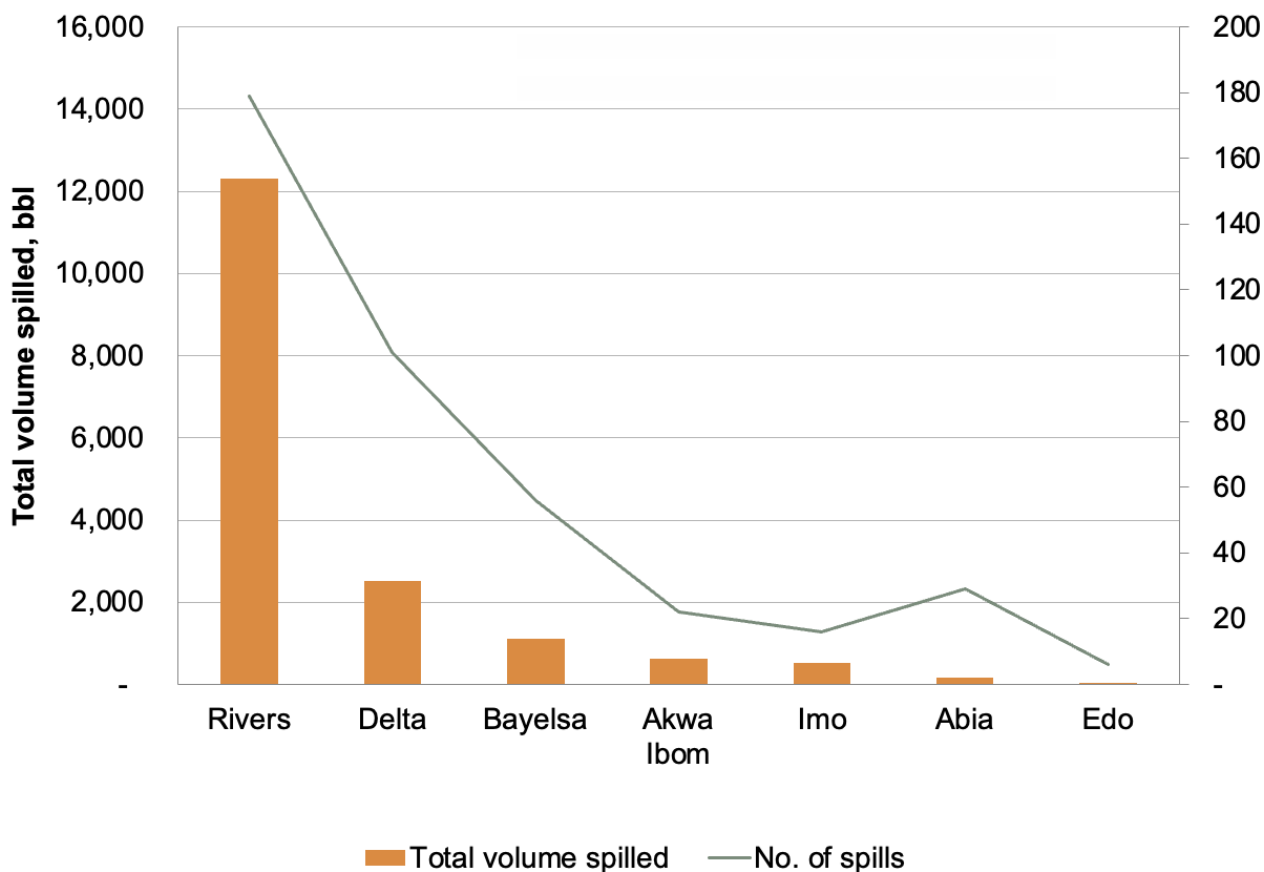
**Graph 3: Average oil spill size by state**



Rivers and Delta States had a far higher number of spills than other states. The two states witnessed the top ten spills recorded in 2020. This combined with their relatively high average spill volume explains why these two states account for almost 70% of all spill incidents, and 86% of all spill volume – 14,850 barrels in total. This suggests that at least in terms of absolute impact, these two states may be the worst affected, based on data available.<sup>33</sup>

33. Note that because oil blocks and State boundaries do not overlap, it is difficult to determine specific production volumes by State. As such, care should be taken not to over-interpret this data: for example, if, as well as spill volumes, oil production in Delta and Rivers States is also much higher than elsewhere, then the relative amount of oil spilled may be lower. This topic needs further research.

**Graph 4: Total volume spilled and number of spills by State**



Cumulatively, over the three-year period covered by EPI reports so far (2018-2020), NOSDRA have recorded over 1,600 crude oil spill incidents in the Niger Delta.

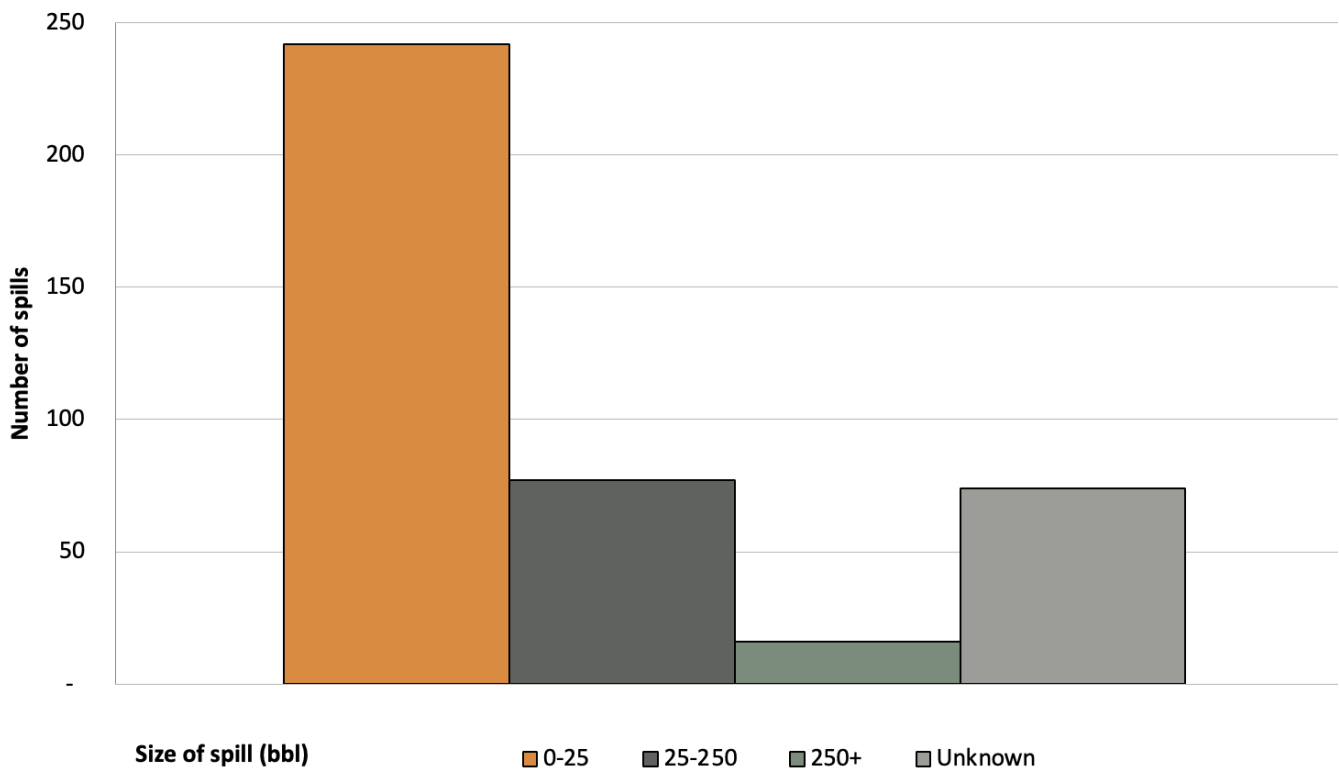
**Spills by size**

NOSDRA’s classification of oil spills (see table) is based on the capacity needed to respond to them. In 2020, there were at least 93 spills of 25 barrels or more, which qualify as “minor” if they take place in inland waters. However, 25 barrels equates to nearly 4,000 litres of oil. This is easily enough to create lasting damage across a community.

**Table 1: NOSDRA oil spill size guide**

Spill site	Spill size (bbl)		
	Minor	Medium	Major
Inland waters	0-25	25-250	250+
Land, swamp, shore-line or open sea	0-250	250-2,500	2,500+

**Graph 5: Total number of spills by size in barrels**



## Box 2: Case study on the impact of COVID-19 on NOSDRA's oil spill response

At the start of 2020, the FGN started to introduce lockdown measures to prevent the spread of COVID-19 in the country. All government agencies and oil and gas companies were forced to abide by these measures.

NOSDRA, for example, directed its staff on grade level 12 and below to work from home for a sustained period. Movement restrictions meant that staff could not travel to oil spill locations to conduct JIVs, and when they could, the JIV team was much smaller, and had limited interactions with host communities.

As a result of the challenges faced in this period, NOSDRA told SDN that “*there was a significant reduction in oil spill reporting during this period*”.

This is an important point for the EPI, and it means that the data does not paint a full picture of the situation. This helps explain why the number of oil spills documented is much lower than in previous years (e.g. 15,000 barrels less than in 2019). Therefore, this does not mean that there were less oil spills in 2020, just that fewer were documented.

It is possible that there were in fact more oil spills as a result of lockdown measures. For example, companies could not rotate staff at facilities, or conduct routine maintenance of facilities. This would increase the risk of human or technical error at facilities, and reduce the likelihood that spills would be detected and reported to the regulator. However, this is an assumption, and there is no way to tell in the absence of regulator data.

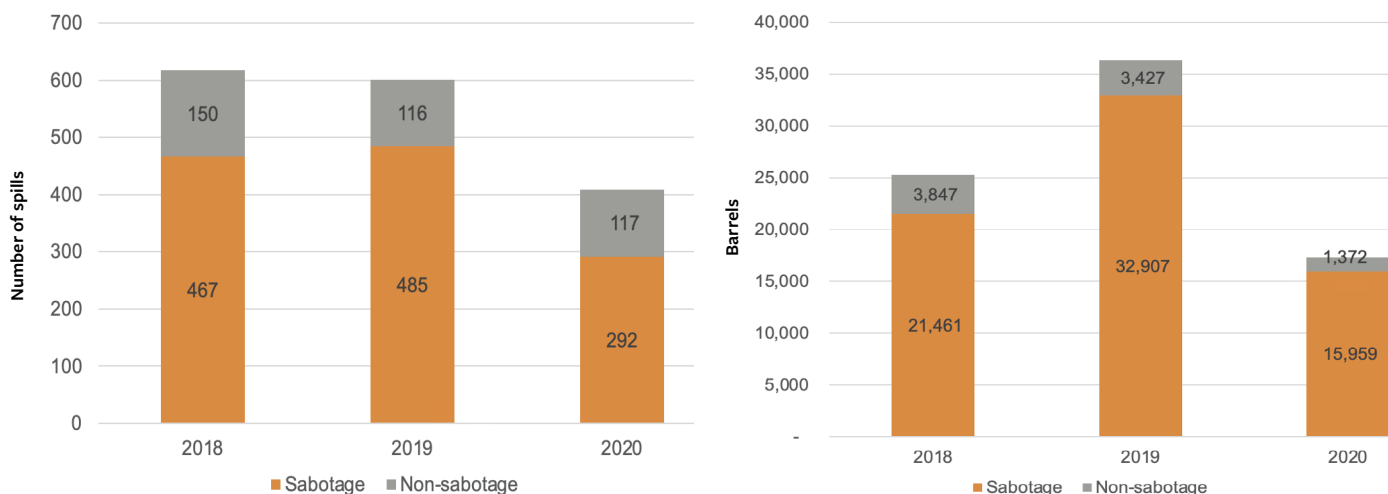
## Spills by sabotage

The causes of oil spills are mostly labelled as “sabotage” or “third-party”. As outlined in the context section, this is typically blamed on the artisanal oil industry, where individuals fix a tap onto a pipeline in order to syphon crude oil, either to sell it or process it in an artisanal oil refinery. “Sabotage” can also relate to attacks on pipelines, which are conducted for many reasons, ranging from local disputes with an oil and gas company over community payments, contracts, or environmental pollution, to more coordinated attacks by militant groups to force the hand of government or companies in negotiations over demands.

As noted, the artisanal oil industry and “third-party” interference are major concerns for the oil and gas industry, regulators, and local communities in the Niger Delta. Company representatives were concerned that the Index methodology did not sufficiently acknowledge the challenge of third-party oil spills. For example, staff from one company said that an operator producing oil solely onshore, in an oil theft hotspot, would face different challenges from a company operating solely offshore. We acknowledge the significant role that third-party interference can play in oil spills, and are now including this section in the report.

In 2020, the causes of 71% of oil spills were attributed to “sabotage”, and this accounts for 92% of the total oil spill volume. This is a decrease in incidents compared with 2019, where 81% of spills were attributed to “sabotage”, and a slight increase in volume, compared with 90% in 2019.

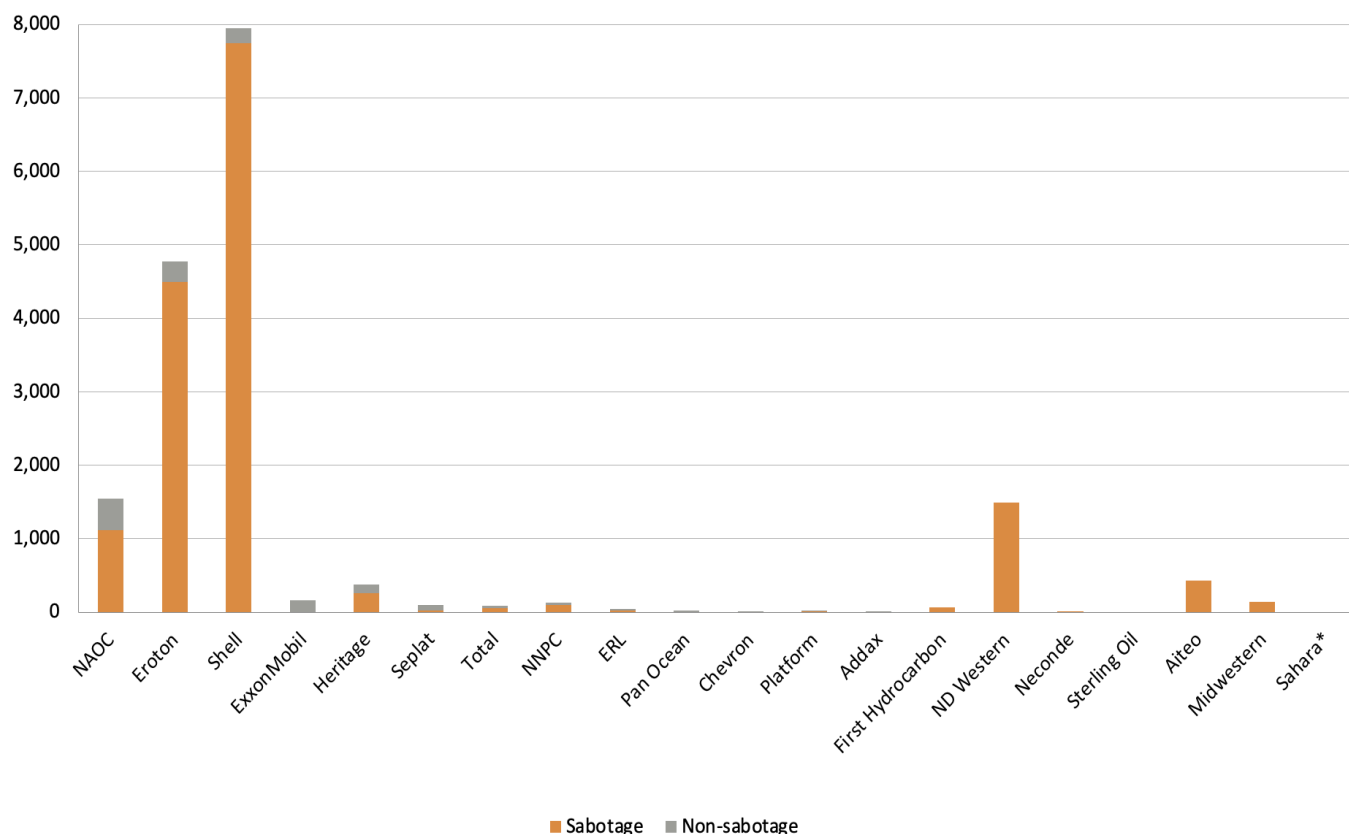
### Graphs 6 and 7: Number of spills by cause (2018-20), and Volume of oil spilled by cause (2018-20)



First Hydrocarbon, Midwestern, Aiteo, and Neconde attributed all of their spills to sabotage, but these companies had a relatively small number of incidents overall (24 in total). Shell (88%) and NAOC (81%) claimed that most of their oil spills were from sabotage. Together they were responsible for a much higher number of spills (163 and 77) – together, over half the number of total spills and total spill volume. As such, they are responsible for a much higher number of spills caused by sabotage (143 and 62) – together, over two-thirds of all spills caused by sabotage, and just under two-thirds of all spill volume for spills caused by sabotage. Eroton had the second-highest total spill volume attributed to sabotage (4,497 barrels). This is because they were responsible for the largest spill of the year by far – a 2,994-barrel spill in Okrika, Rivers State – and attributed the cause to sabotage.



**Graph 8: Volume spilled by companies, ranked by non-sabotage volume**



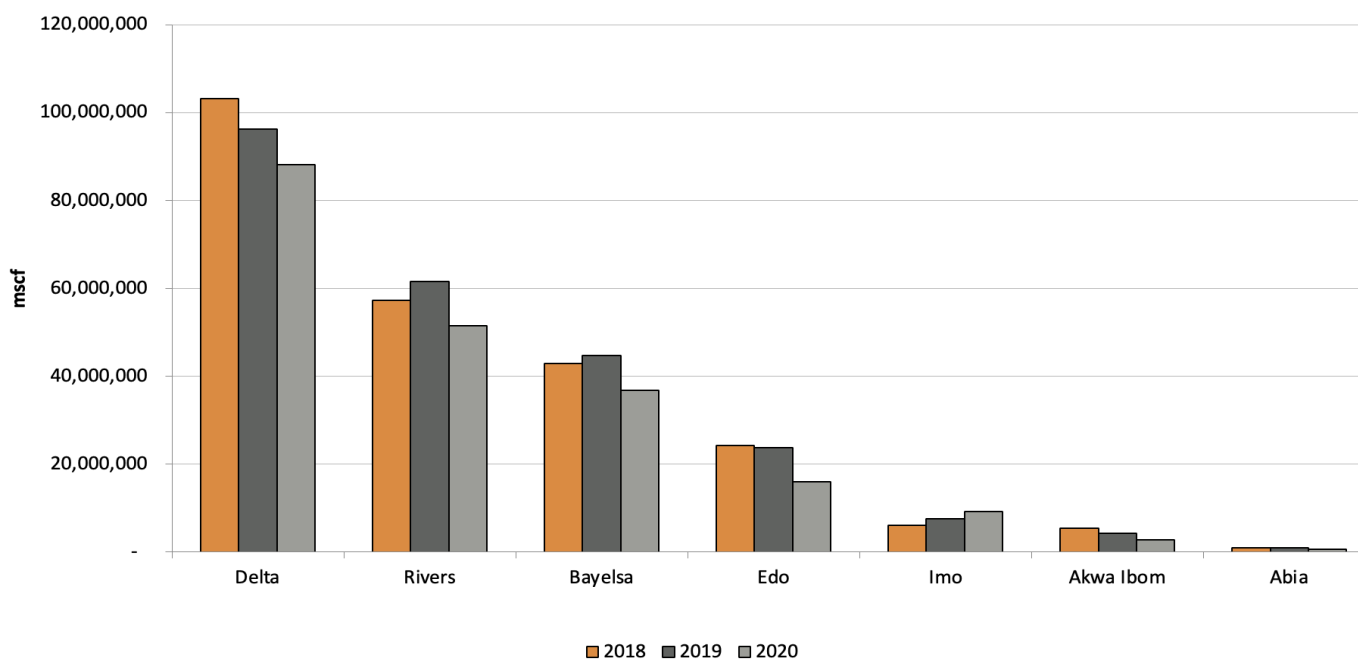
Sabotage is clearly a serious problem facing the industry. However, further consideration will be needed on the validity and extent to which third-party interference should be reflected in a company’s score in the Index. This is for two main reasons. Firstly, the process of attributing a cause for a spill is highly disputed, with the JIV team often disagreeing with community members on the cause, especially over whether it was sabotage or operational failure. Secondly, it is often argued by observers that oil and gas companies push for a spill to be recorded as sabotage so that they avoid liability, and do not have to pay compensation for damages. This is part of a broader narrative that argues companies are not liable for such spills, because it is criminal elements that are attacking their infrastructure. This is enabled by the Nigerian legal system, which does not use the “no-fault liability” principle, unlike most other countries. If it was applied to oil and gas companies, they would be held responsible for all oil spills from their infrastructure. The argument would be that they can introduce measures to make the infrastructure safer – such as conducting better maintenance, replacing old pipelines liable to corrosion, and burying pipelines below ground, rather than above ground, in and around settlements.

## 3.1.2 Gas flaring

### Total gas flared

Graph 9 below shows how much gas is estimated to have been flared in each state, in thousand standard cubic feet (mscf, a common industry unit). Table 2 shows how much was flared in each state as a share of the total. Flaring in Delta State and Rivers State alone accounted for more than two-thirds (68%) of all gas flared in the Niger Delta:

**Graph 9: Gas flared by State**



**Table 2: Gas flared by State as a percentage of the total**

State	2020 (mscf)	% of total
Delta	88,113,030	43
Rivers	51,497,483	25
Bayelsa	36,755,356	18
Edo	15,901,739	8
Imo	9,155,313	4
Akwa Ibom	2,682,859	2
Abia	548,805	0
<b>Total</b>	<b>204,654,584</b>	<b>100</b>

Flaring gas is prohibited in Nigeria, and doing so attracts a fine. For 2020, the GFT data suggests that companies should have paid US\$280 million in fines. Cumulatively, over the three-year period covered by EPI reports so far (2018-2020), 1.2 trillion cubic feet of gas has been flared in the Niger Delta. This should have led to fines of US\$1.2 billion, but it is not clear whether the regulator (DPR) enforced this on companies, or whether many were given exemptions to flare, as is understood to be widespread. The commercial value of this gas was US\$2.2 billion, which raises two issues. First, this is a huge waste of resources that could generate revenue for the state if utilised, or electricity for citizens if captured. Second, this contradicts the popular argument that companies continue flaring because it is cheaper to pay the fine than sell the gas. However, this does not account for the infrastructure required to capture and sell the gas.

### Gas flare carbon emissions

The total amount of gas flared onshore and offshore in Nigeria amounts to an estimated 19.4 million tonnes of carbon dioxide released into the atmosphere in 2020. There was a larger difference between the proportion emitted onshore and offshore than in previous years (11.2 to 8.1 million tonnes).

These emissions are equivalent to 18% of Nigeria's total 2020 carbon emissions (106 million tonnes).<sup>34</sup> For comparison, Nigeria's total gas flare emissions are almost as high as the entire emissions of Nigeria's (admittedly much smaller) regional neighbour Ghana, which produced 21 million tonnes of CO<sub>2</sub> in 2020.<sup>35</sup> This also does not take into account the huge amount of methane emissions that are released by flaring gas, and by fugitive emissions (leakages) from pipelines and other infrastructure.

## Box 3: Case study on the environmental impact of gas production in Rivers State

Gas emissions are harder to monitor and address than oil spills for the regulator. They come from two main sources: gas flaring, and leaks from infrastructure (also known as “fugitive emissions”). Nevertheless, they have serious impacts on human health and the environment, as this case study illustrates, and actions are needed to improve responses.

SDN made several visits to host communities in Rivers State that surround a large gas processing facility operated by Nigerian Agip Oil Company (NAOC), the subsidiary of Italian oil major Eni.

Constant gas flaring was observed at several locations. Observations also identified visible gas leaks at several points on pipelines that are generally poorly installed, run overground, alongside and under roads, and are not sufficiently maintained. The local King stated that as a result of the proximity of facilities to settlements, there have been several explosions that cost lives, and that *‘many of the roads in the hinterlands are unpassable. You are afraid that you may be passing and the gas may catch fire, because it will be leaking’*.

34. US Energy Information Administration. (2023). Country emissions. Online: <https://www.eia.gov/international/data/world/other-statistics/emissions-by-fuel>

35. Ibid

## Health

Community members narrated a chilling account of health impacts that they link to the pollution. While ailments are generally not well diagnosed due to the low provision of healthcare, many of the reported ailments are plausibly linked to emissions according to the medical and scientific literature.

The freshwater sources are reportedly no longer suitable for drinking, likely as a result of acid rain, which forms from emissions released from flares. Studies link human consumption with skin cancers, lesions, stomach ulcers, and leaching of mucus in the intestinal walls.<sup>36</sup>

Flares also release compounds such as benzene, which are highly cancerous, and affect blood forming, giving rise to anaemia and leukaemia.<sup>37</sup> Flaring is also linked to bronchial, rheumatic, neurological, cardiovascular, developmental, and reproductive disorders.<sup>38</sup>

We heard stories from residents about how the gas flaring causes ‘a pepperish feeling in your eyes’, and that there are now ‘more people with eye problems’, and how ‘young people are going blind’. A NAOC staff member reported that after leaks, ‘sometimes you will just see somebody getting weak and dying off due to the inhalation of gases’, and that ‘people are having so many lung problems, so many cancer problems’.

Several respondents claimed that ‘arthritis is now like malaria and typhoid’, meaning a very common occurrence. Emerging studies find excessive risk evident at very low levels of exposure to air pollution, including pollutants found in gas flares, such as carbon monoxide, nitrogen oxide, and particulate matter.<sup>39</sup>

## Livelihoods

Firstly, the health of farmers and fisherfolk is harmed by the impacts highlighted above, reducing their capacity to work.

36. UNduka, J. Orisakwe, O. Ezenweke, L., Ezenwa, T. Chendo, M. & Ezeabasili, N. (2008). Acid rain phenomenon in Niger Delta region of Nigeria: economic, biodiversity, and public health concern. *The Scientific World Journal*, 8, 811- 818.

37. Kindzierski, W.D. (2000). Importance of human environmental exposure to hazardous air pollutants from gas flares. *Environmental Reviews*, 8, 41-62.

38. Ite, A., & Ibok, U. (2013). Gas flaring and venting associated with petroleum exploration and production in the Nigeria’s Niger Delta. *American Journal of Environmental Protection*, 1(4), 70-77; Yakubu, O. (2018). Particle (soot) pollution in Port Harcourt Rivers State, Nigeria— double air pollution burden? Understanding and tackling potential environmental public health impacts. *Environments*, 5(1), 2; Ovuakporaye, S. I., Aloamaka, C. P., Ojeh, A. E., Ejebe, D. E. and Mordi, J. C., (2012). Effects of gas flaring on lung function among residents of a gas flaring community in Delta State, Nigeria,” *Research Journal of Environmental and Earth Sciences*. 4(5). 525-528; World Bank. (2022). The impact of gas flaring on child health in Nigeria. 14/09/2022. Online: [https://blogs.worldbank.org/developmenttalk/impact-gas-flaring-child-health-nigeria?cid=SHR\\_BlogSiteEmail\\_EN\\_EXT](https://blogs.worldbank.org/developmenttalk/impact-gas-flaring-child-health-nigeria?cid=SHR_BlogSiteEmail_EN_EXT)

39. For example: Adami, G. Viapiana, O. Rossini, M. Orsolini, G. Bertoldo, E. Giollo, A. Gatti, D. and Fassio, A. (2021). Association between environmental air pollution and rheumatoid arthritis flares, *Rheumatology*, Volume 60, Issue 10, pp 4591–4597; Yamamoto SS. Yacyszyn, E. Jhangri, GS. Chopra, A. Parmar, D. and Jones, CA. (2019). Household air pollution and arthritis in low-and middle-income countries: Cross-sectional evidence from the World Health Organisation’s study on Global Ageing and Adult Health. *PLoS ONE* 14(12).

Secondly, farmers complain that *'the soil is no longer advantageous to us'*. Pollutants from flaring – such as nitrogen, black carbon, and sulphur – have been proven to acidify the soil and deplete nutrients, supporting claims that agricultural land is less fertile.

Residents also complain that vegetation is no longer green, but 'yellowish, because of the [heat from the] flare", which has caused plants and crops to become stunted and die off'. Therefore, the previous 'huge harvest from the yam farmers, from cassava and others' is a thing of the past, as 'these days, these crops do not do well'.

Third, flares also hinder the hunters, 'because the gas being flared in the night, and the flame is so high that when the animals see them, they run away'.

Fourth, fisherfolk also report lower yields, as 'the gas has so polluted our rivers that you cannot even see the aquatic animals that we are supposed to get from there'. Acid rain increases absorption of aluminium, which makes water toxic to fish and crustaceans.

Fifth, the waterways are also no longer suitable for other economic uses, such as for 'those who use the river water for the fermentation of cassava'. The waterway pollution exacerbates the impacts of oil spills, and is worsened by discharges from the gas facility. As the area is prone to flooding, this washes over farmlands, destroying crops, and breeding grounds for snails, which are another local protein source.

As a result of all these impacts on livelihoods, there is a high level of unemployment, and locals claim, 'that is why there is a high rate of crime here'

## **Conclusion**

As this case study illustrates, companies are currently operating without sufficient adherence to industry standards, government regulations, and host communities.

We contacted NAOC with these allegations, and they responded by defending their environmental and community records, which are in stark contrast to the reality observed on ground.

As a result, gas extraction is causing mass hardship, while residents are exposed to emissions, and suffering severe long-term negative health and economic effects.

This highlights the risks of further expansion if oil and gas companies continue to operate without due care, under the current system of weak enforcement of federal regulations for pollution and host community development.

For more on this case study, and wider impacts of the gas industry, please see our report: Gas expansion and the energy transition in Nigeria and the Niger Delta. <https://www.stakeholderdemocracy.org/gas-expansion-and-the-energy-transition-in-nigeria-and-the-niger-delta/>

## 3.2 Company analysis

The figures in the previous section describe the overall scale of environmental emissions in the Niger Delta, according to data available in the Oil Spill Monitor and Gas Flare Tracker. These emissions are attributable to the companies which make up the Nigerian oil sector. However, there will clearly be differences among them. This section identifies some of these differences, examining emissions on a company-by-company basis. It describes company environmental performance in terms of six core indicators, in turn. The first five are absolute, while the sixth is relative to a company's oil production volume. The indicators are:

- Quantity of oil spilled (in barrels)
- Number of oil spills
- Oil spill removal rate (the proportion of oil spilled by a company which was later removed)
- Volume of gas flared (in mscf)
- Transparency
- Emissions ratio (total oil spilled and gas flared relative to company oil production)

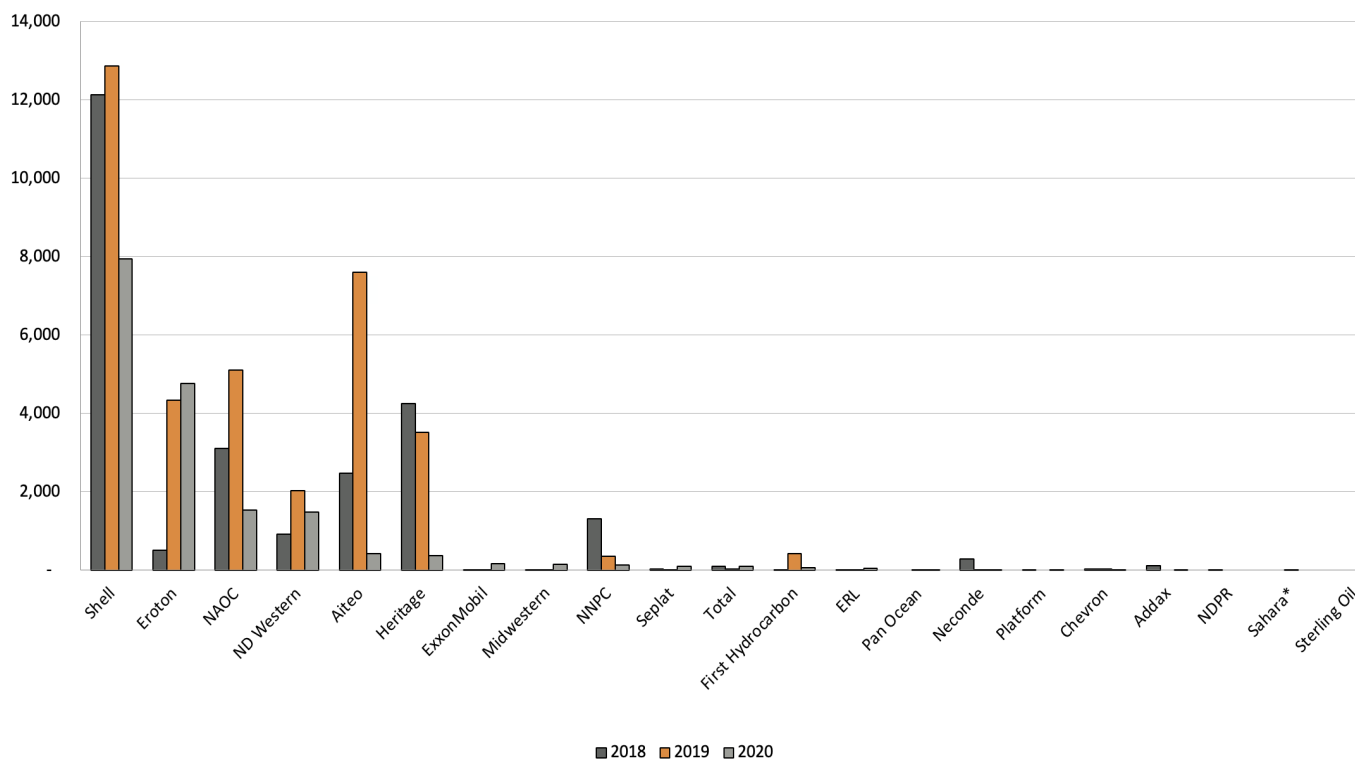
### 3.2.1 Indicator one: total oil spilled

In total, 18 companies operating in the Niger Delta in 2020 had oil spills attributed to them by NOSDRA.<sup>40</sup> Indicator one describes the total volume of oil spilled as a result of all spills attributed to each company. The lower the total spill figure, the better the environmental performance is considered in the Index:

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<sup>40</sup>. This does not, of course, mean that the other companies did not spill oil, only that they were not recorded as having done so. Note as previously that the information in this report is the public record of oil spills in 2020, according to the relevant Nigerian environmental regulator.

**Graph 10: Total oil spilled by company**



Almost all the oil spilled – 96% of the total volume, over 16,500 barrels – is attributable to six companies:<sup>41</sup>

- The Shell Petroleum Development Company (SPDC, the Nigerian subsidiary of Shell Plc)
- Eroton, a Nigerian domestic oil company
- The Nigerian Agip Oil Company (NAOC, the Nigerian subsidiary of Eni)
- ND Western, a Nigerian domestic oil company
- Aiteo, a Nigerian domestic oil company
- Heritage (the Jersey-based owner of domestic Nigerian oil company Shoreline)

These are the same six companies that were responsible for almost all spills (98%) in 2019. All these companies recorded a lower volume of oil spilled than in 2019, apart from Eroton, who’s total volume increased 10%. Aiteo’s and Heritage’s volumes decreased the most, by 94% and 89% respectively. It is also important to note that a fifth of all spill reports have no volume attributed to them, which if documented, would change the findings.

41. Note as previously that the data presented here is the data made available by NOSDRA. We have standardised the names of oil companies to shortened versions of corporate group titles for readability. See the Annex for further information.

Cumulatively, over the three-year period covered by EPI reports so far (2018-2020), Shell spilled just under 33,000 barrels of crude oil – more than triple the company ranked second, Aiteo, which spilled over 10,500 barrels. Shell’s spills account for over 40% of all oil spilled over this period, highlighting the need for the company to act on the constant pollution emitted.

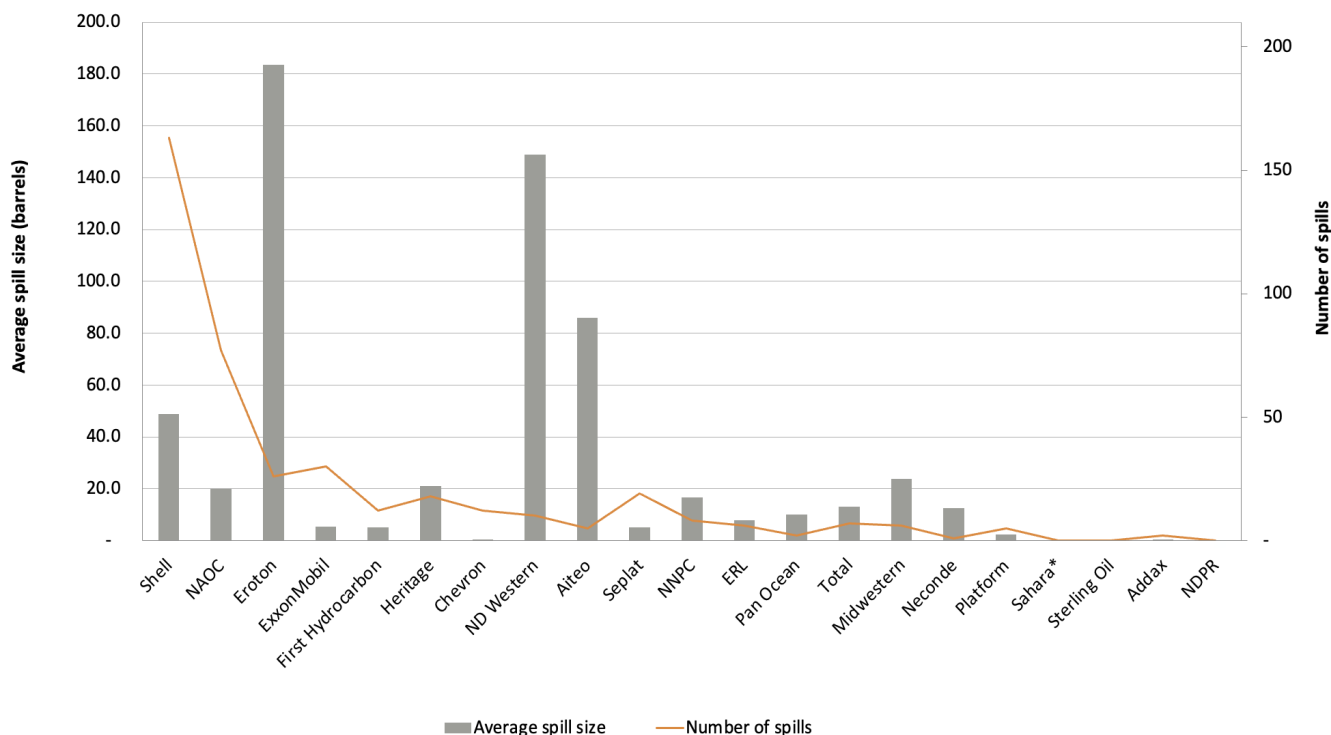
### 3.2.2 Indicator two: number of oil spills

Shell had the highest number of spills overall, far more than the second-highest NAOC – 163 and 77 respectively. This is significant: As discussed previously, a spill need not be large to have a major impact, and so it is as important to address the cause of frequent small spills as it is to address major incidents.<sup>42</sup> Shell’s high number of spills, combined with its relatively high average spill volume (49 barrels), explains why it spilled 5 times NAOC’s total volume.

Shell was responsible for five of the ten largest spills recorded in 2020. Eroton was responsible for three of the ten, including the largest spill all year (2,994 barrels). This explains why Eroton has the largest average spill size (183.5 barrels), whilst only recording a total of 26 spill incidents. Eroton’s average spill size was over 6.5 times higher than the average for all other companies (28 barrels).

The lower the number of spills recorded, the better the environmental performance is considered to be in the Index. Note that in the graph below, the average spill size is included for comparison, but does not contribute to the indicator score.

**Graph 11: Number of oil spills and average spill size by company**



42. There are numerous reasons for when, where and why oil spills take place. The OSM includes data on reported cause, with sabotage reportedly being responsible for three-quarters of incidents. However, as previously noted, ultimate responsibility for preventing and cleaning up oil spills lie with the companies that operate oil infrastructure.



Cumulatively, over the three-year period covered by EPI reports so far (2018-2020), Shell ranked first in terms of the number of spills, with 550 documented by NOSDRA. Shell was therefore responsible for a third (34%) of all spill incidents over this period. Shell also has the highest cumulative volume spilled at 32,947 barrels, which is 42% of oil spilled over this period. It is followed closely by NAOC, which was responsible for 504 spills, although NAOC's cumulative spill volume was less than a third of Shells (9,749 barrels).

### 3.2.3 Indicator three: oil spill removal rate

Total (gross) volume spilled is the most relevant figure for a company's environmental performance: oil has the most direct impact on the local environment and the communities which live there, and the aim of oil companies should be not to spill any. However, it is also important that spills are cleaned up once they have taken place, which begins with removing surface oil at a spill site.

We calculated the total oil spill removal rate for the spills attributed to each company, and plotted this against the total net discharge (total volume spilled less total oil removed).<sup>43</sup> Doing this highlights that while ND Western had the fourth highest absolute spill volume, the high removal rate (78%) means that their net discharge is significantly reduced (but they still rank fourth for net spill volume).

On the other hand, although a third of oil spilled by Shell was removed, its high total volume spilled means that the estimated 4,189 barrels net which it discharged into the environment presumably remain there, untouched – nearly half the net discharge for the entire region.

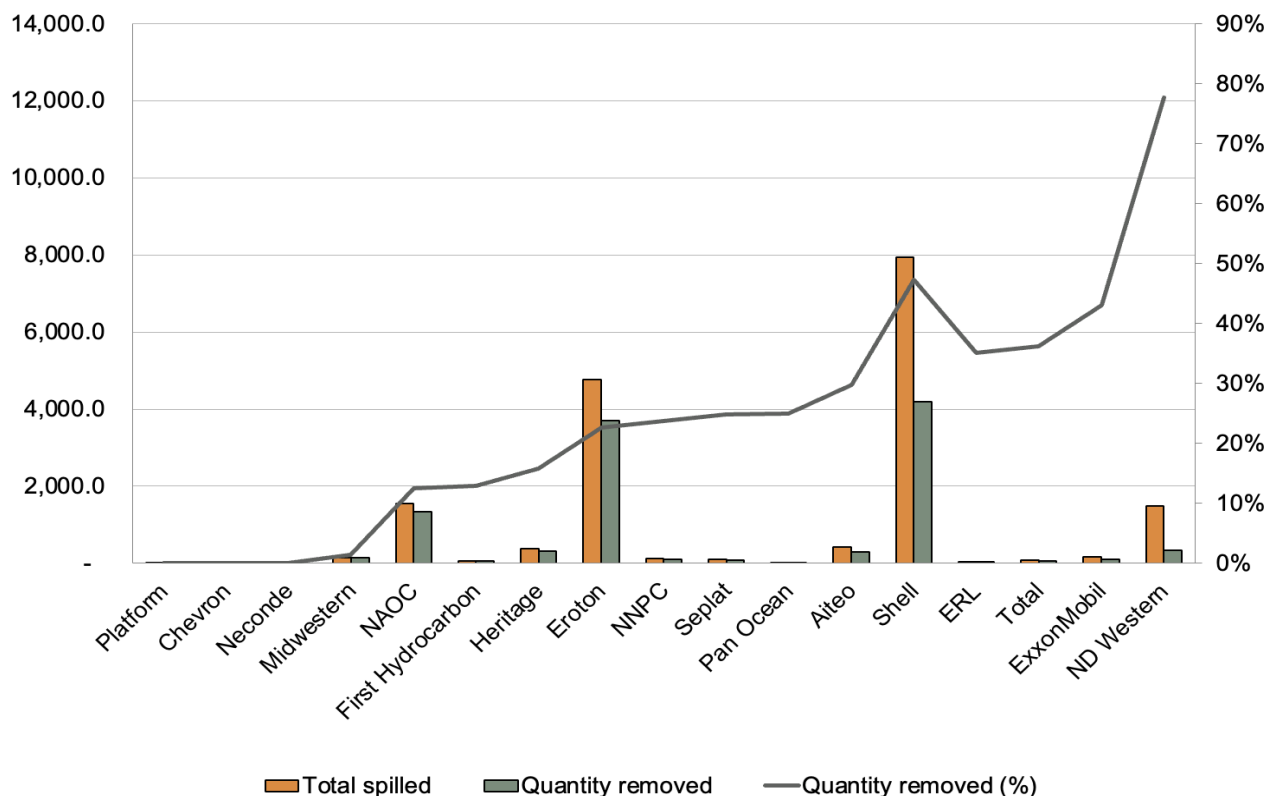
Note that these oil removal volumes are recorded by NOSDRA in its data on 2020 oil spills. As clean-up activity may continue after the time of assessment, further oil may later be recovered. This should still be documented, but it is often not. This is discussed in Appendix 2.

The higher the oil removal rate, the better the environmental performance is considered to be in the Index:

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43. Note that oil removal may not necessarily be a result of company action. However, it still affects the total amount of oil spilled attributable to a company, and hence environmental performance is partly a function of this metric.

**Graph 12: Total spill, net discharge and oil removal rate by company**

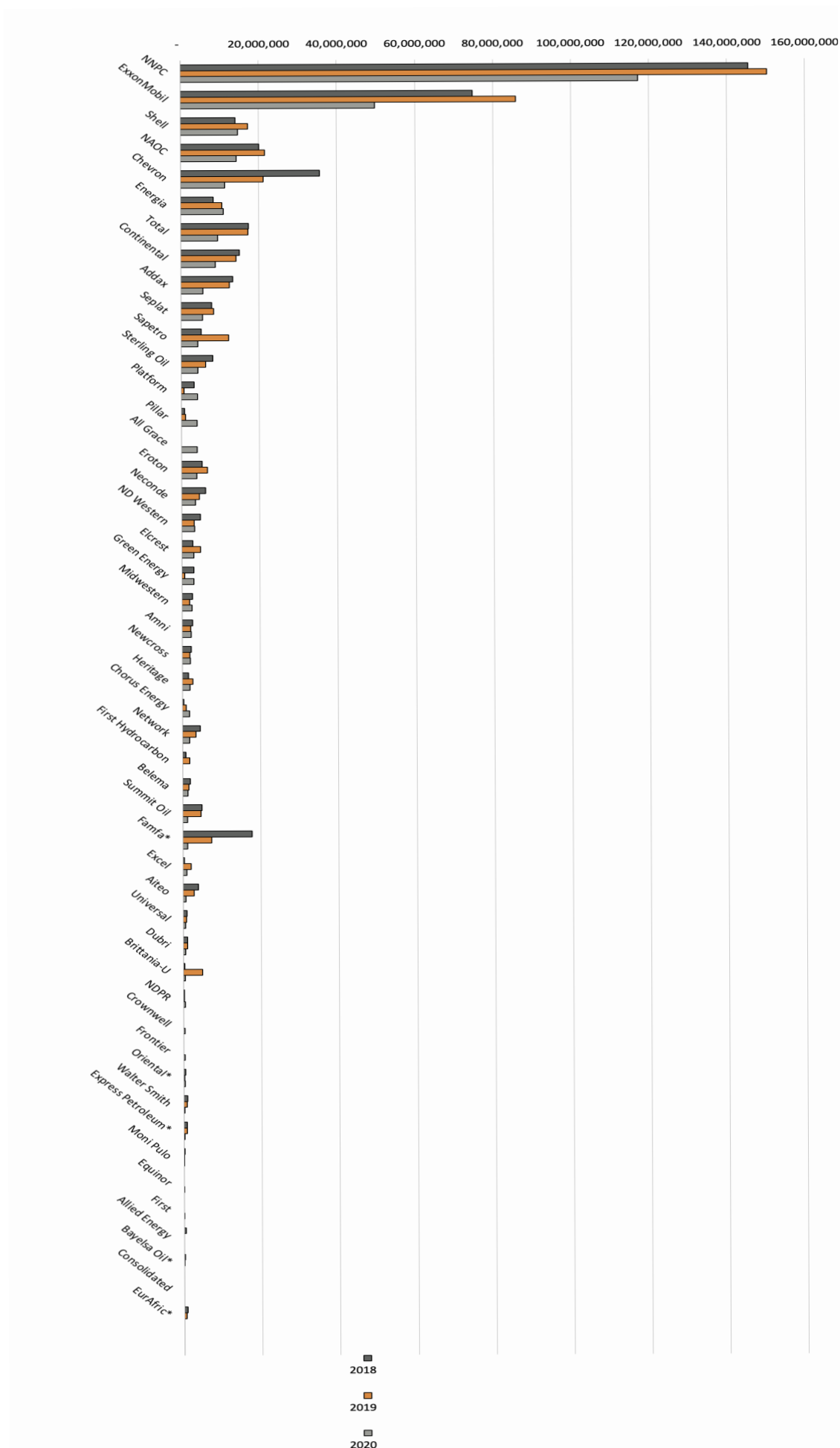


### 3.2.4 Indicator four: gas flared

This indicator describes the total volume of gas flared by each company. There is a huge difference between the companies to which flared gas can be attributed to in the Niger Delta in 2020.

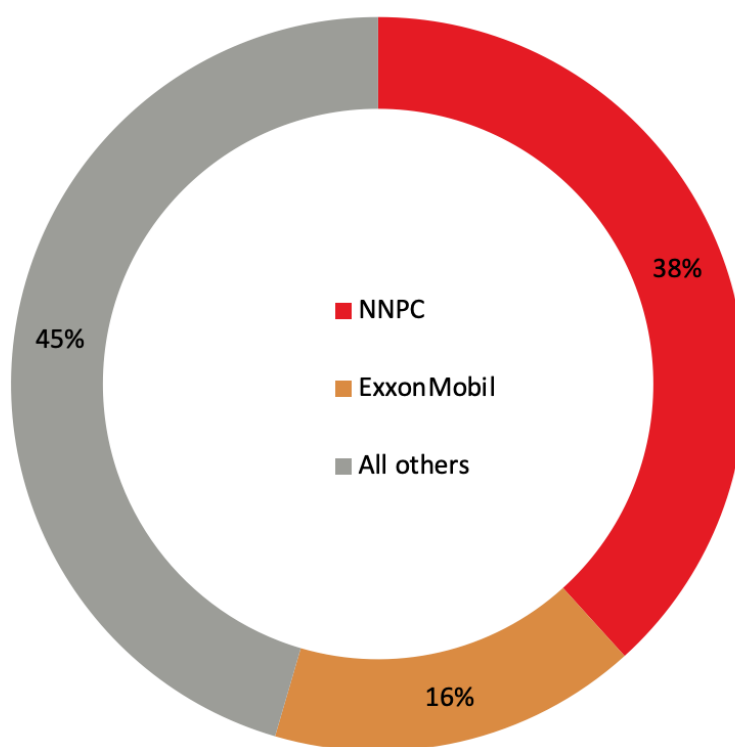
The lower the figure, the better the environmental performance is considered to be in the Index:

Graph 13: Gas flared by company



All the top ten companies recorded a lower volume of gas flared year-on-year. More than half (55%) of the gas flared in the region is attributable to two companies: ExxonMobil and the state-owned oil company, NNPC. This is the same situation as 2018 and 2019. NNPC's total is unsurprising, given that on paper it is involved in almost all exploration and production in Nigeria via the joint venture and other operating agreements through which the industry is organised. ExxonMobil on the other hand appears to be a long way from achieving zero flaring, which the FGN has committed to achieve by 2030.

**Graph 14: The two largest gas flarers**



Our calculations, using the regulators formula for fines, suggest that ExxonMobil should have paid a fine of US\$4.6 million for the gas flared in 2020. Cumulatively, for the three-year period the EPI reports cover (2018-20), ExxonMobil's fines amount to US\$14.2 million.

### 3.2.5 Indicator five: Transparency

This indicator was added to the index in 2019, following feedback from the oil and gas industry. We also acknowledge that this is an important attribute of performance, as it helps all stakeholders to remain accountable and make improvements.

The indicator scores companies on their public disclosures relating to environmental issues. Specifically, whether the companies publish their own oil spill and gas flare data, and whether they publish their environmental procedures for dealing with these emissions.

‘Publishing data’ means at least some kind of breakdown for Nigeria, at the highest aggregate level, of the number and/or volume of oil spills and gas flares in 2020, published either on the company website or in its corporate reporting.

‘Environmental procedures’ means at least some kind of explicit description of techniques and projects which have been implemented to prevent oil spills or gas flaring in Nigeria (beyond merely a statement of commitment to achieving this), published either on the company website or in its corporate reporting.

We could only find three companies that publish their spill and flare data – Shell, NAOC, and Seplat – and only two which publish their environmental procedures – Shell and NAOC.

It is possible that we missed this information on the websites of companies, and welcome companies to highlight where they publish this information so we can update the Index. But the fact that we could not find this information when specifically searching for it suggests that industry-wide improvements can be made.

Nigeria is a signatory to the Extractive Industries Transparency Initiative (EITI), which introduced new standards for environmental reporting in 2023. This includes making environmental, social, and gender impact assessments, as well as monitoring reports, accessible to the public (requirement 6.4); and to disclose disaggregated greenhouse gas emissions data (requirement 3.4).<sup>44</sup> The Nigerian chapter (NEITI) can explicitly state that this should include oil spills and gas flaring data, given the significance and scale of these two environmental threats in Nigeria.

### 3.2.6 Indicator six: emissions ratio

Indicators one to four relate to the absolute release of oil and gas into the environment. This is important, as oil companies should be aiming to reduce oil spills and gas flaring to as close to zero as possible, regardless of the size of their operations. However, as different companies produce different quantities of oil, it is also possible, and instructive, to examine the emissions they produce relative to this.

In order to do so, oil and gas volumes must first be made directly comparable. This can be done using a conversion factor, which turns a given volume of gas flared into barrels of oil equivalent (BOE).<sup>45</sup> This is the number of barrels of oil that would have the equivalent energy value to the gas flared. As oil and gas are often found in the same geological formation, it is common industry practice to calculate this figure in order to compare total hydrocarbon reserves across different resource basins, and so it serves here to estimate total hydrocarbon reserves released into the environment.

Once the BOE figure has been obtained, combining it with a company’s total oil spill volume (which is already in barrels) gives a total emissions figure: that is, the total amount of oil and gas a company released into the environment. Dividing this figure by each company’s annual oil production then gives its emissions

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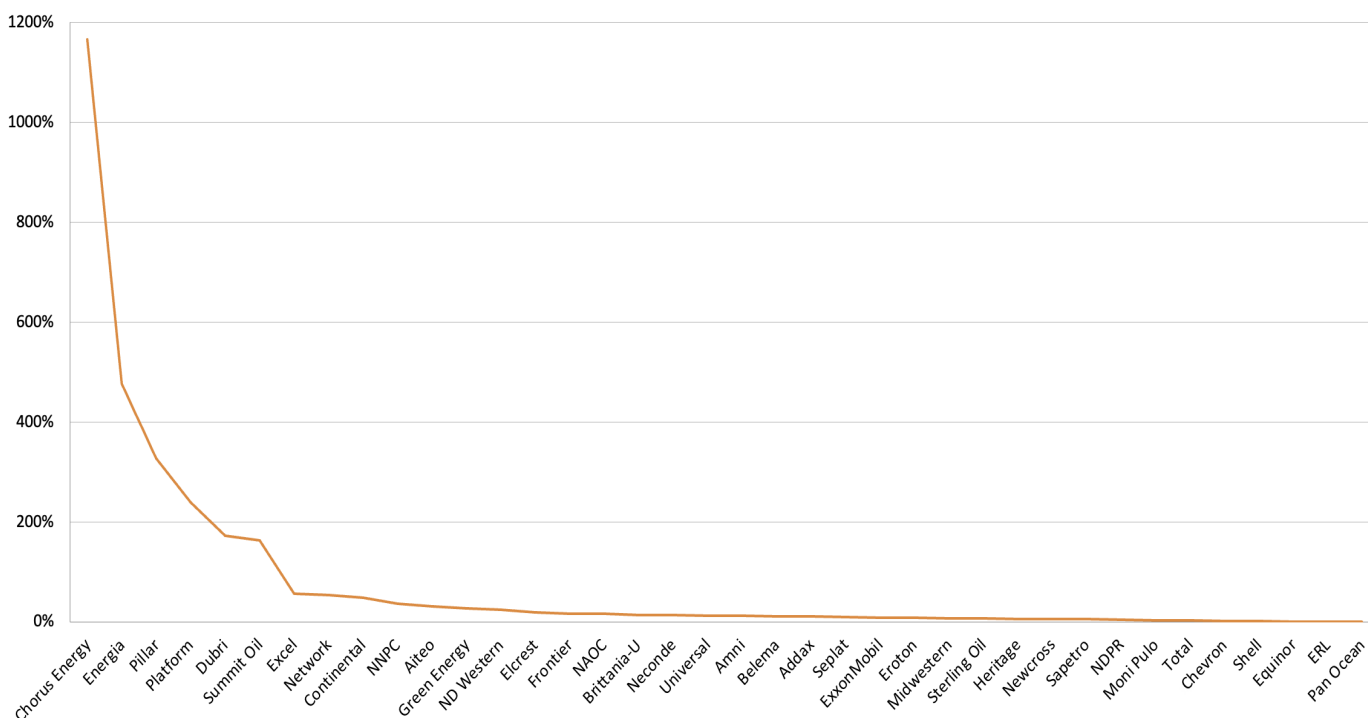
44. EITI. (2023). EITI Standard 2023. Summary of changes. [https://eiti.org/sites/default/files/2023-06/Explainer\\_EITI%20Standard%202023\\_%20Summary%20of%20changes.pdf](https://eiti.org/sites/default/files/2023-06/Explainer_EITI%20Standard%202023_%20Summary%20of%20changes.pdf)

45. The process for doing so is described in the methodology

ratio, which is its total emissions expressed as a percentage of its useful oil production. For example, a company that produced 100,000 barrels of oil in a year, and 10,000 BOE as emissions, would have an emissions ratio of 10%: it released the equivalent of 10% of its useful oil production into the environment as emissions. More than 100% means that a company is producing more in environmental emissions than it is in useful output.

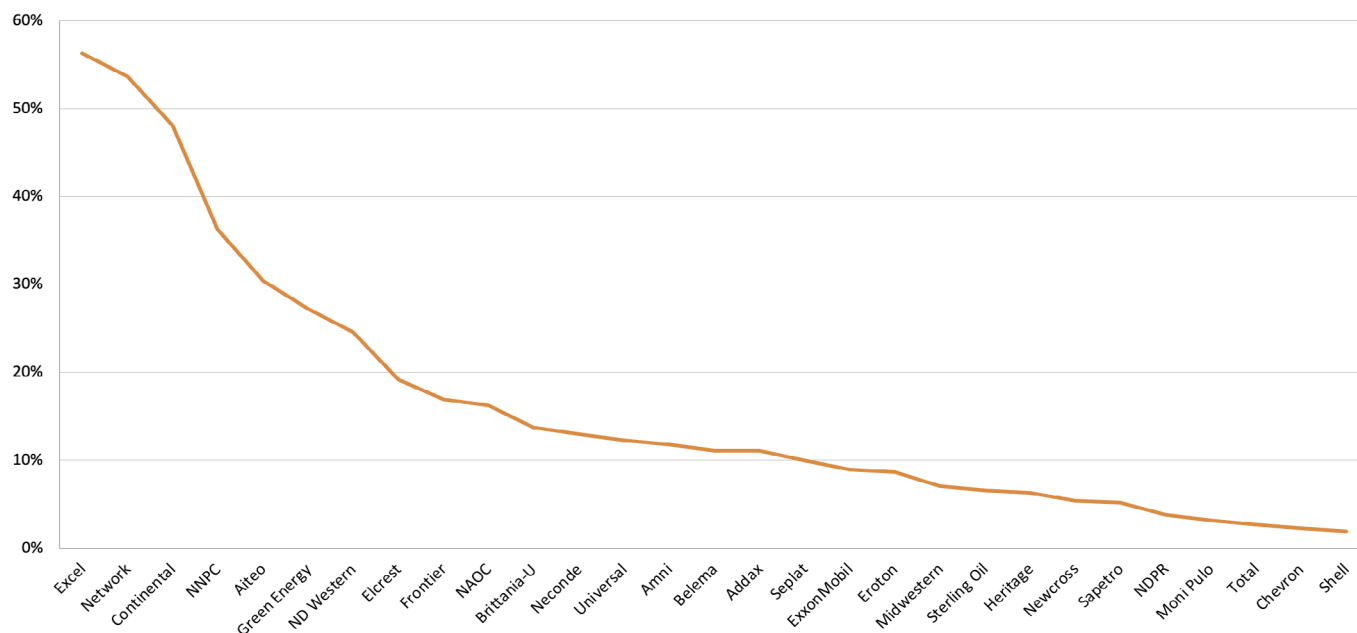
Note that an emissions ratio can only be calculated if a company actually produced oil. The graph below shows the ratio for all companies which have official production volumes attributed to them for 2020. The lower the percentage, the better the environmental performance:

**Graph 15: Emissions ratio by company, oil producers only**



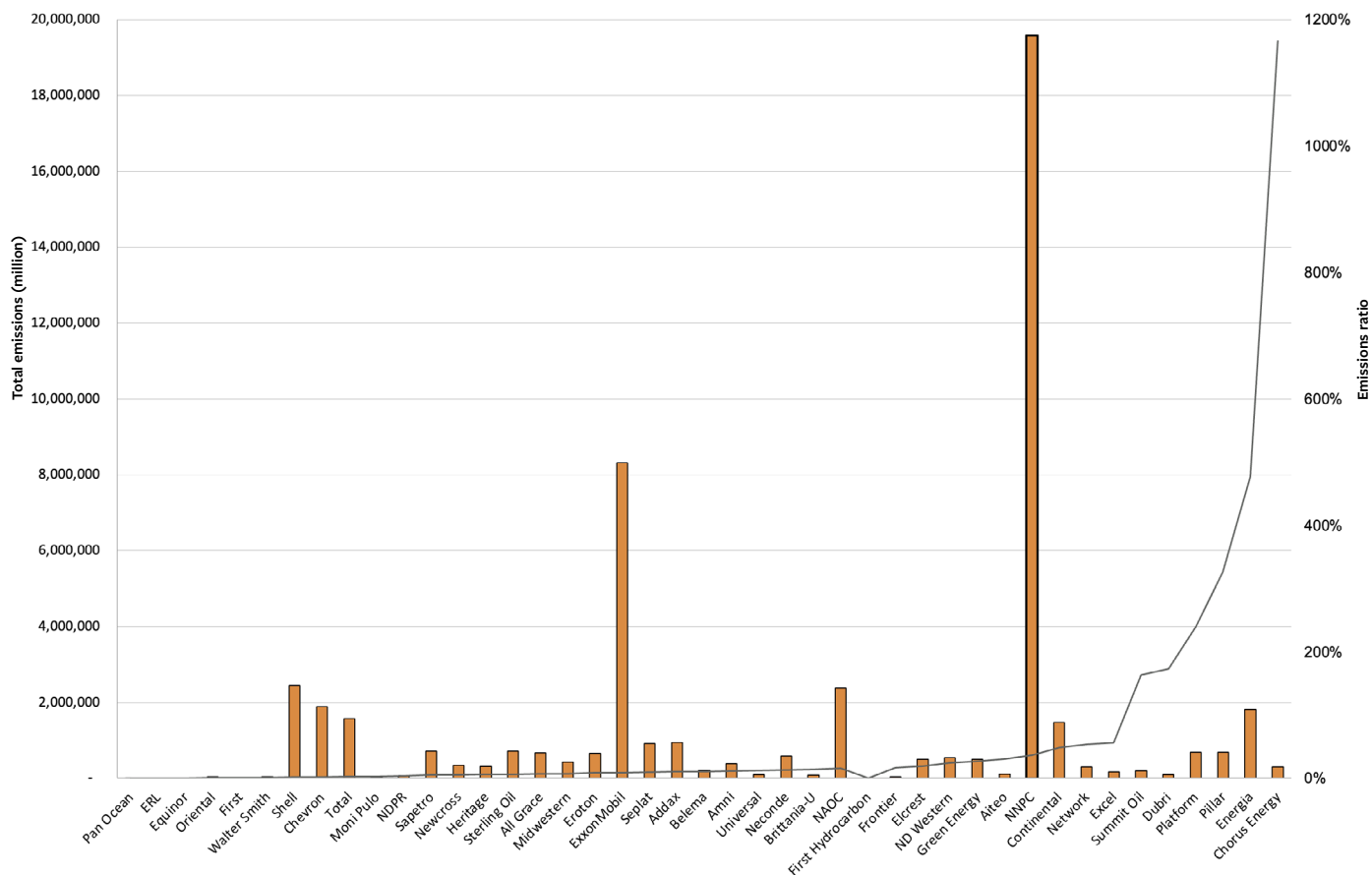
Performing this calculation makes it obvious that the worst performers in relative terms are the Nigerian domestic companies. The worst by far is Chorus Energy (1,116%), followed by Energia (477%), Pillar (327%), Platform (240%), Dubri (173%), and Summit Oil (163%). These are all DOCs, and overall, relative to production, domestic oil companies pollute more (in BOE terms). However, the six companies listed above are clearly outliers. Excluding these makes the differences between the emissions ratios of the other companies more distinct:

**Graph 16: Emissions ratio by company, oil producers only – excluding six outliers**



Plotting the emissions ratio against the total emissions for each company, as in graph 17, also highlights the different ways of evaluating environmental performance. Because of the scale of their operations, the major international companies discharge far more in absolute terms. However, in general, their relative performance is stronger. Indeed, Shell – the worst performers in absolute terms – is among the best in terms of its relative environmental emissions.

**Graph 17: Total emissions and emissions ratio by company**



However, the degree to which gas flaring tends to account for the majority of total emissions should be taken into account. As noted previously, more than half of all gas flared in Nigeria can be attributed to NNPC and ExxonMobil, which helps to explain why they have very high total emissions. But the impact of oil spills, which make up a much smaller proportion of total emissions, may be more significant for local communities in the Niger Delta. We place a higher weight on oil-related indicators in our Index because of this.

## 4. The environmental performance index

The indicators analysed in section three demonstrate how disaggregating emissions data enables oil company environmental performance to be assessed in different ways. Individual indicators are benchmarked against the worst absolute emissions in each category, based on the principle that companies should be targeting zero oil spills and gas flares.

To provide an overall assessment of each company, we developed these by combining the indicators and calculating a total score for each company between 0 and 1.<sup>46</sup> The higher the number, the better a company's relative environmental performance. To reiterate, this is relative to the other companies in the Index. Only the theoretical high score of 1 would imply 'zero' emissions from oil spills and gas flaring.<sup>47</sup> However, this would not necessarily mean that a company did not have other environmental impacts, such as operational emissions, as well as challenges related to issues including land use, water management, and deforestation.

Note that we have produced three versions of the Index. This is to account for the fact that not all companies spilled oil, flared gas, or produced oil in the first place, and so relative performance differs depending on how companies are grouped. All three versions of our Index are included in the database which accompanies this report, and we encourage readers to look at these.

The version of the Index in Graph 18 includes the 43 companies which produced oil in 2020. The higher a company's score, the better its relative environmental performance:

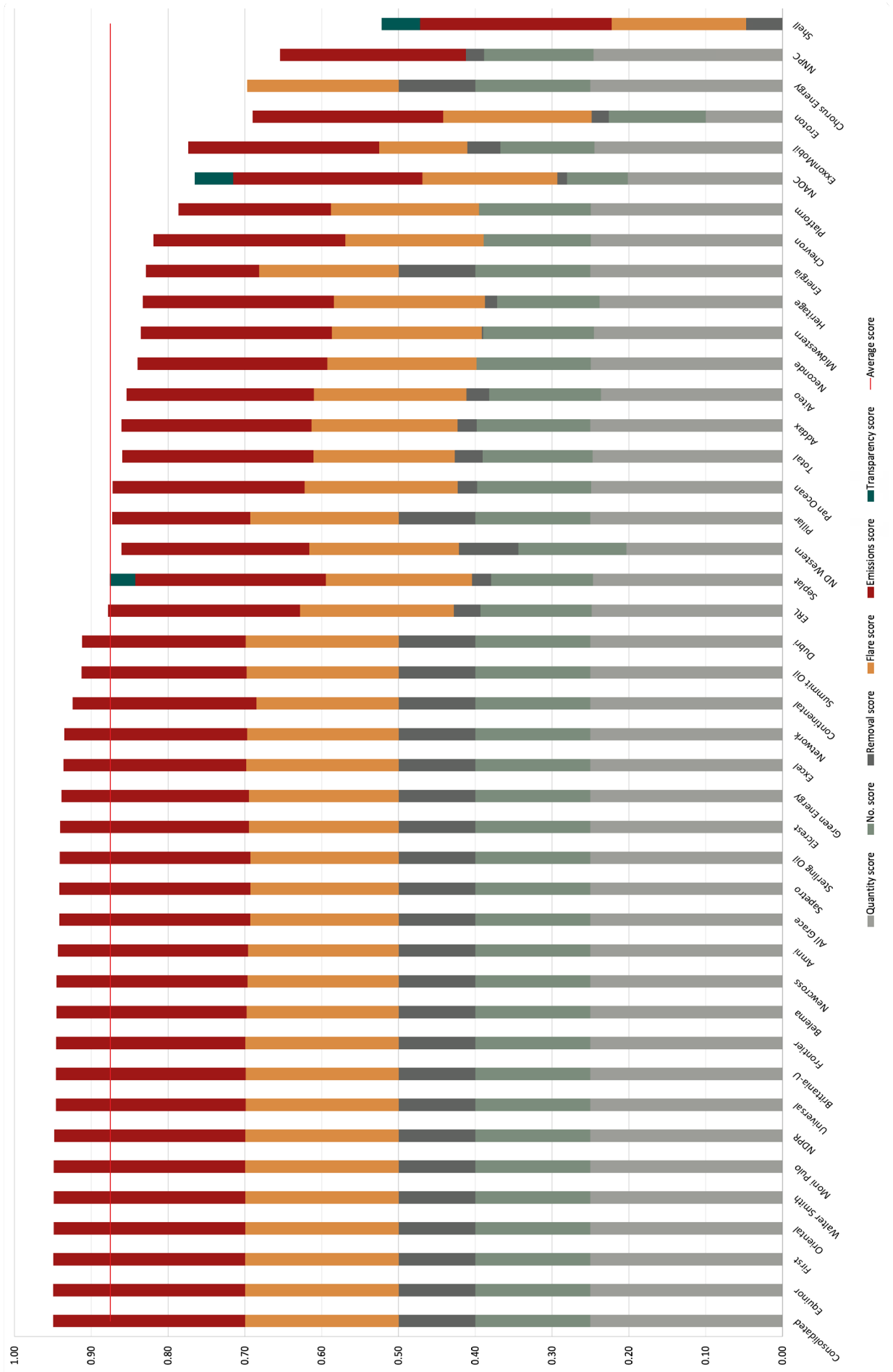
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46. The process for doing this is described in the methodology.

47. Scores are rounded, and so it appears that some companies score 1. This is not the case.



Graph 18: The 2020 environmental performance index – all oil-producing companies



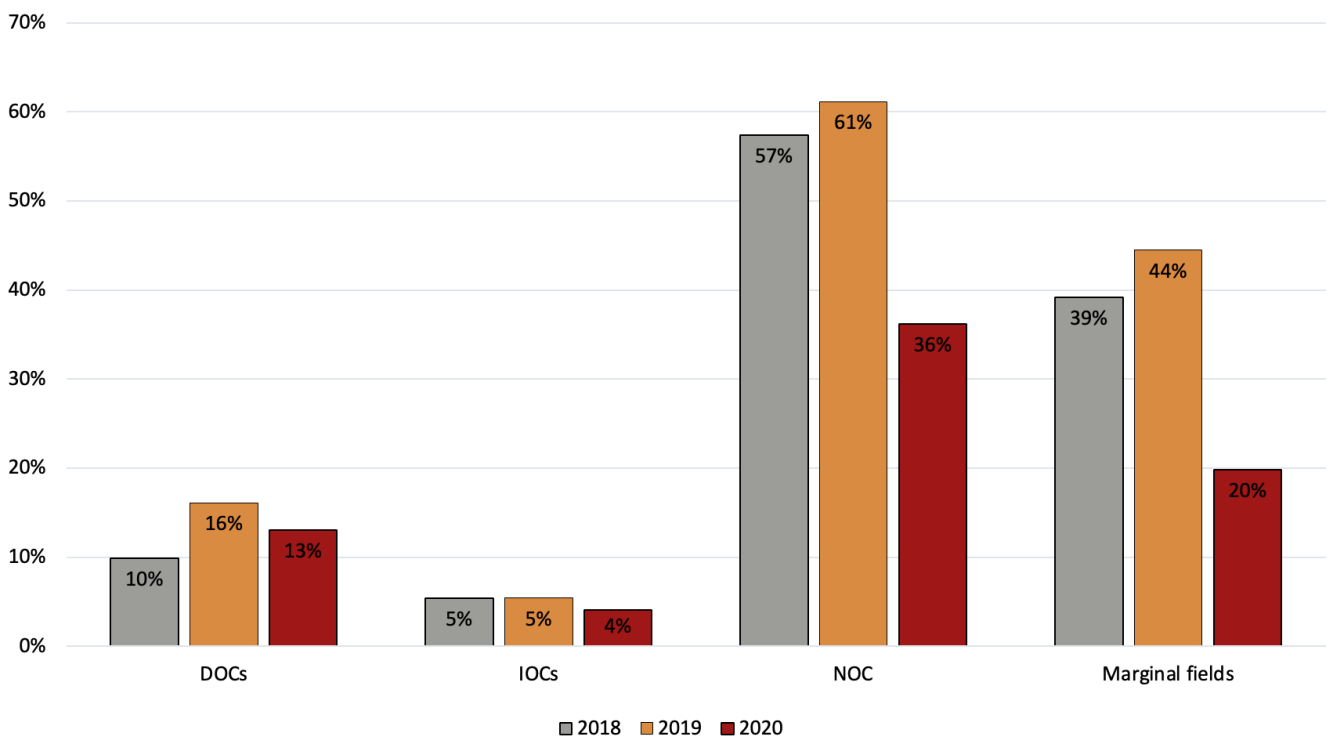
In broad terms, some clear features can be identified:

**1** With higher production, all other things being equal, come higher emissions. As such, the international oil companies tend to score less well, in absolute terms. Of the major international companies, Shell (43<sup>rd</sup>) had the lowest environmental performance score three years in a row, according to the calculations used in our methodology. This is because we prioritise the absolute discharge of oil, on the grounds that size matters: one ‘minor’ spill has the potential to damage cropland for one community, but a spill of a thousand barrels could ruin the productive capacity of an entire stretch of shoreline. This is an order of magnitude worse.

Other international companies, such as ExxonMobil (39<sup>th</sup>), as well as the national oil company, NNPC (42<sup>nd</sup>), flare a very large volume of gas. This accounts for their placement further down the Index, while others still, such as NAOC (38<sup>th</sup>), have a high number of spills. As previously discussed, the cumulative impact of these is an important consideration when discussing environmental performance. Some domestic companies also perform poorly: Chorus Energy (41<sup>st</sup>), due to their high emissions ratio; and Eroton (40<sup>th</sup>), due to their high oil spill volume.

**2** In relative terms, Nigeria’s domestic oil companies (DOCs) perform worse than international oil companies (IOCs) (graph 20). Their total environmental emissions are lower than the bigger companies, so they tend to have a good overall ranking in the Index. However, because their oil production volumes are much lower, and they do release a significant amount of emissions, their emissions ratios are higher, as graphs 16 and 17 in this report make clear.

**Graph 19: Emissions ratio by company type (2018-2020)**



Another way to demonstrate this is by putting the rank for each company's total score (in other words, its overall position in the Index) next to the individual rank for its emissions ratio. This shows that while Shell, for example, has the worst overall rank in the Index, it is eighth-best in terms of the quantity of emissions it produced per barrel of oil. Indeed, the worst performers on a per-unit basis (those in orange and red in the right-hand column of Table 3) are all Nigerian domestic oil companies.

Calculating the average emissions ratio for domestic and international companies as a group (graph 20) also shows that the international companies have stronger performance on a per unit-basis. The emission ratio reduced for all companies in 2020, likely due to reduced production levels (see Context section). Marginal field operations reduced their emissions ratio the most to bring them in line with DOCs. However, we do not know whether the production drop in 2020 affected marginal field operators more than DOCs, and this could explain the large drop. As DOCs are gradually taking over from IOCs, and more marginal fields are being awarded, if they do not improve their emissions ratio, the overall emissions from the industry will increase drastically.

**Table 3: Total score rank vs emission ratio score rank**

Company	Rank (total score)	Rank (emission ratio score)
Consolidated	1	1
Equinor	2	4
First	3	6
Oriental	4	5
Walter Smith	5	7
Moni Pulo	6	11
NDPR	7	12
Universal	8	25
Brittania-U	9	27
Frontier	10	29
Belema	11	23
Newcross	12	14
Amni	13	24
All Grace	14	17
Sapetro	15	13
Sterling Oil	16	16
Elcrest	17	30
Green Energy	18	32
Excel	19	37
Network	20	36

Continental	21	35
Summit Oil	22	38
Dubri	23	39
ERL	24	3
Seplat	25	21
ND Western	26	31
Pillar	27	41
Pan Ocean	28	2
Total	29	10
Addax	30	22
Aiteo	31	33
Neconde	32	26
Midwestern	33	18
Heritage	34	15
Energia	35	42
Chevron	36	9
Platform	37	40
NAOC	38	28
ExxonMobil	39	20
Eroton	40	19
Chorus Energy	41	43
NNPC	42	34
Shell	43	8

Red - lower relative performance

Green - higher relative performance

As noted previously, we prioritise total emissions in our Index, and this is important: absolute emissions released into the environment are what matter most for the inhabitants of the Niger Delta, and as a proportion of total emissions, the contribution of smaller companies is much less. Nonetheless, the differences in relative environmental performance are relevant: for example, domestic oil companies are gradually taking over from international oil companies, as the latter divests from the assets they have managed for decades.

**3** Overall, there are some clear “performance bands”. 60% of companies in the Index above (26 of 43) score at or above the average score of 0.88. But this means that they score within a small range of total possible scores. This is partly a function of the fact that a small number of companies are responsible for the majority of oil spilled, and oil spill indicators account for half of each overall score. Those companies which did not spill at all will therefore tend to cluster at the top end of the Index, as the relative differences between them are minimised. As illustrated by the fact that, the top 23 companies had no oil spills attributed to them. Although this does not mean there are not important differences between companies in terms of specific indicators (as discussed).

**4** The minimal differences between many of the companies may also be a product of broader challenges related to the data available on the Nigerian oil industry. It is very difficult to verify the volumes of oil spilled. The JIV process is imperfect, and, for example, although there are technologies available to oil companies to do so, it is not clear how offshore oil spill volumes are measured, if at all. This means that companies which operate entirely offshore may appear to produce fewer environmental emissions than they actually do. This includes Equinor, which is ranked second. All Equinor’s production is offshore, and it has no oil spills attributed. The overall score is therefore low, influenced by the large oil production level (more than 28 million barrels).

Moreover, sources differ drastically. This index uses data from the tools developed by SDN for NOSDRA (note that NOSDRA provides the actual data in the OSM, although the GFT generates gas flare volume estimates from satellite observations). However, there are discrepancies with other agencies as well as oil companies. For example, in comparison with the NOSDRA figure of 17,331 barrels of oil spilled in 2020, the NEITI audit of NNPC accounts reports more than 660,000 barrels of crude oil “pipeline losses” due to “theft and sabotage”.<sup>48</sup> While this figure includes crude oil that is spilled and stolen, it is the only alternative government figure available. There are also differences between DPR-reported gas flare volumes (in NEITI) and those in the GFT, as well as between company oil production volumes from different sources.

These discrepancies are extremely hard to reconcile, and as such our analysis is indicative only. But it is clear that the true extent of oil spill pollution in the Niger Delta may be far higher – and, importantly, that there may be additional companies which have spilled oil, but which are not presently included in the OSM data. If this is true, there will likely be greater variance in the scores in the Index.

As an example of another difference in figures, Shell Nigeria’s website says that it spilled 10,689 barrels of oil in Nigeria in 2020, while the figure for Shell in the OSM (for the states covered in this report, where the vast majority of onshore oil production takes place) is over 7,943 barrels. Recording oil spills is challenging, and there may be valid reasons for the discrepancy; we use NOSDRA’s figures for all companies, in order to ensure consistency and fairness.

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48. NEITI OGA Reference

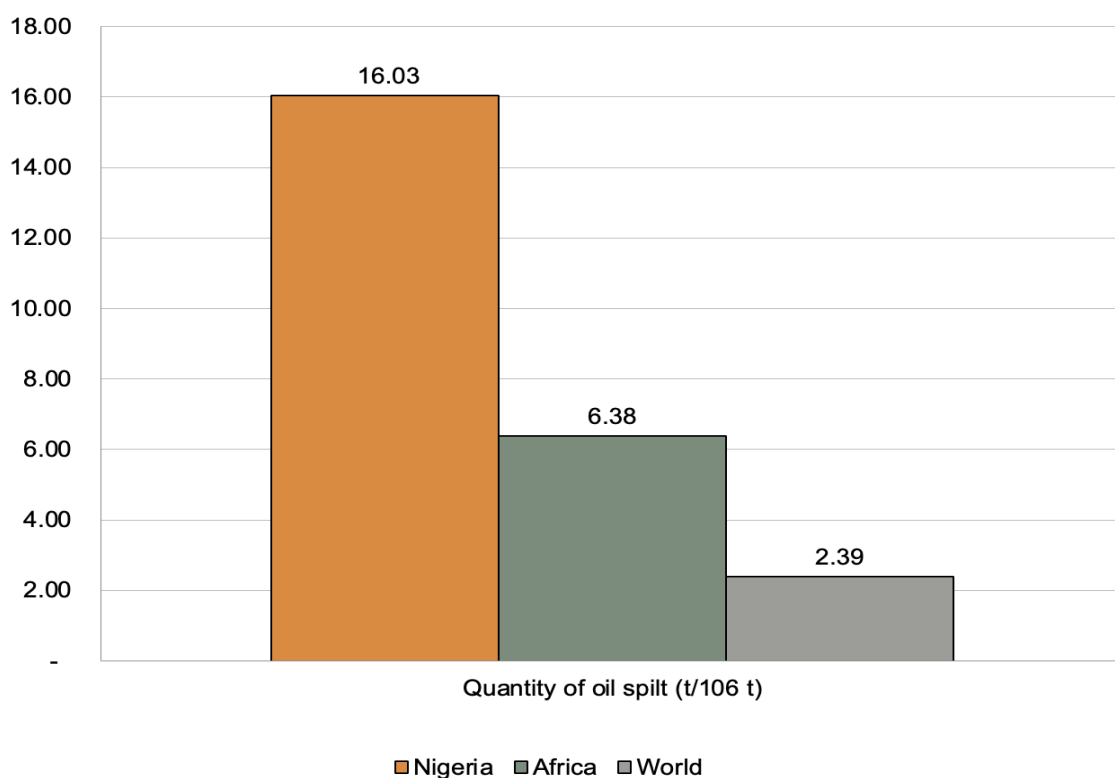
However, it is to Shell’s credit that it provides detailed information on oil spills on its website, and that the NNPC/NEITI provides at least an aggregate industry figure for oil losses. Other companies also provide information of varying detail. But the discrepancies reveal the degree to which NOSDRA – which does a difficult job, in difficult circumstances – needs additional support and funding to deliver its remit.

Companies who know their wellhead production volumes and the amount delivered at the end of a pipeline are presumably able to measure the difference and infer losses from this data, while NOSDRA relies on having spills reported to it and then delivering physically and politically complex site visits to assess each one. It is therefore no surprise if figures differ, but this does draw attention to the need to address the discrepancies.

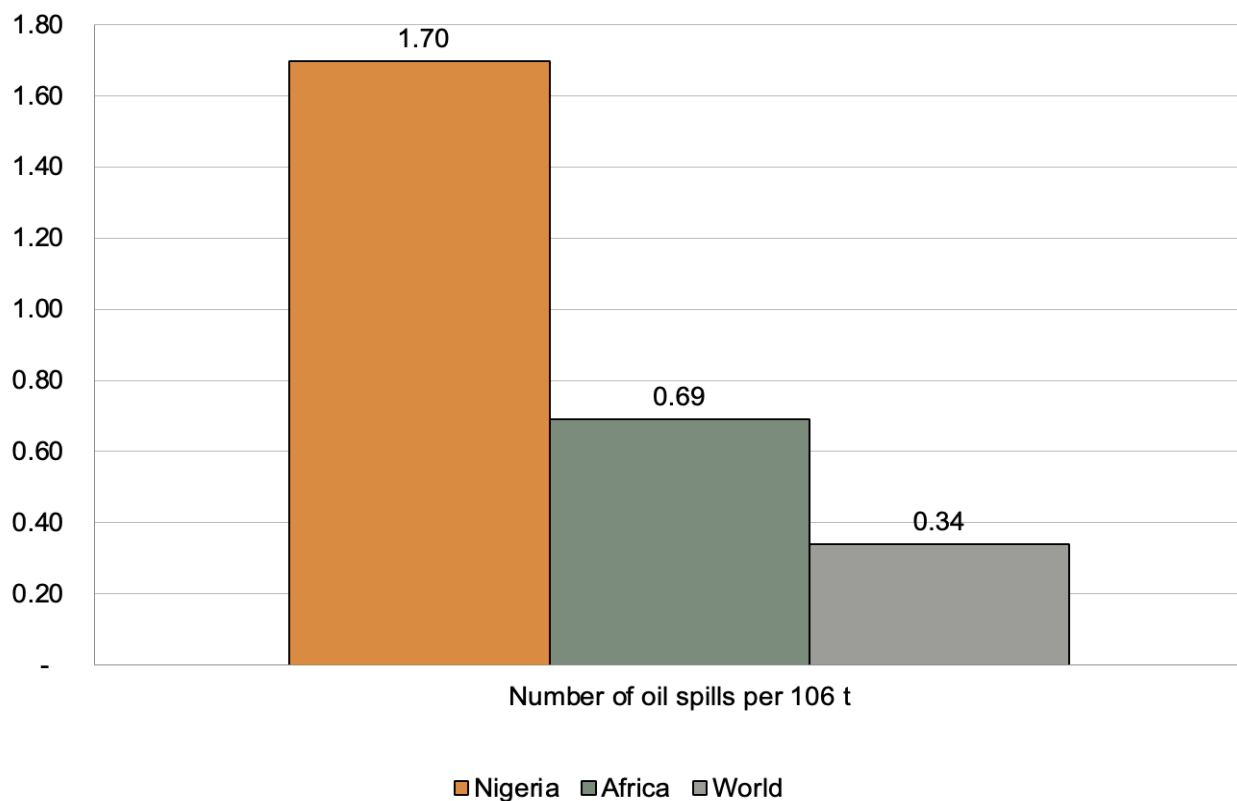
**5** The total quantity of emissions in Nigeria is large. In absolute terms, the companies we looked at spilled over 17,000 barrels of oil, and flared over 300 billion cubic feet of gas. These are sizable figures in aggregate, while communities can be significantly impacted by a single spill or gas flare site. Furthermore, Nigeria is demonstrably a poor performer in international terms. This is made clear by placing 2020 Nigerian environmental emissions data alongside the 2020 data of the International Oil and Gas Producers’ Association (IOGP). This is an imperfect comparison, partly because it depends on calculation assumptions. However, the discrepancy is sizeable, with the Nigerian oil industry appearing to have far higher emissions than other oil industries (graphs 21-23).

The comparison implies that the Nigerian oil and gas industry is far dirtier than any other region in the world, when assessed on an emissions per barrel of production basis. Companies operating in Nigeria flare twice as much as Africa as a whole, 12 times as much as Russia and Central Asia, and six times the global average. In terms of oil spilled, companies in Nigeria spilled three times more than Africa as a whole, 1,603 times higher than Russia and Central Asia, and seven times the global average.

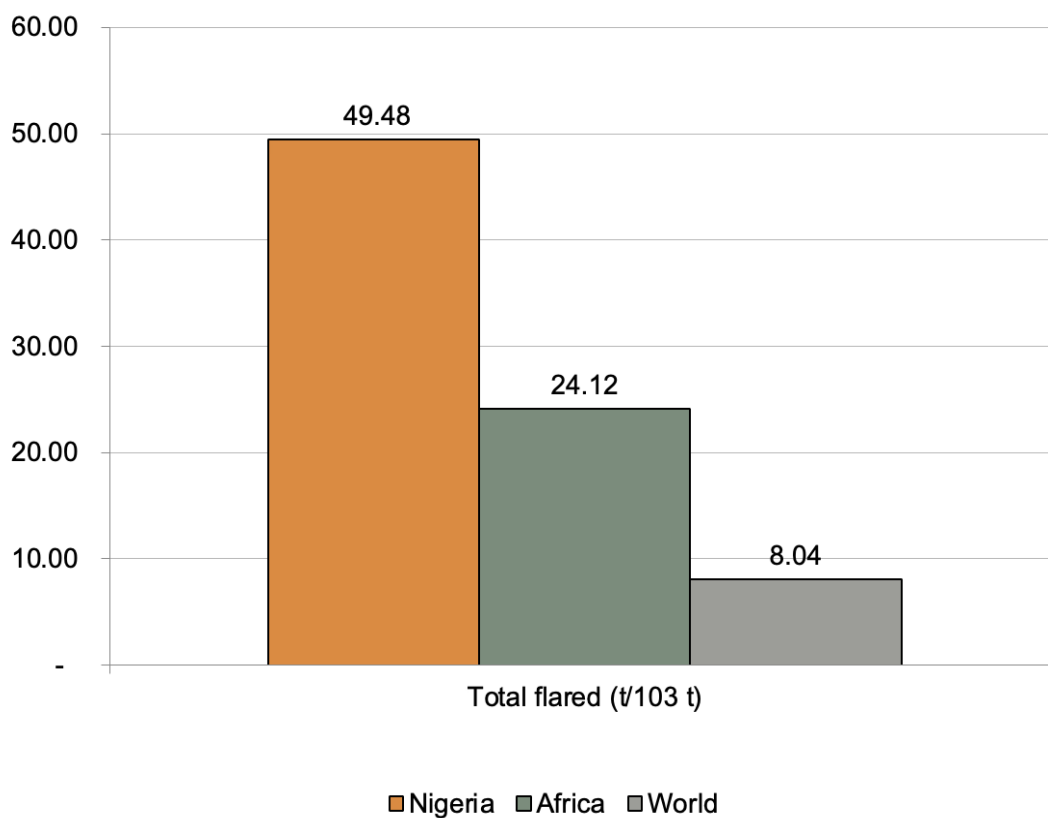
**Graph 20: Nigerian vs international regions - oil spilled quantity**



Graph 21: Nigerian vs international regions – number of oil spills



Graph 22: Nigerian vs international regions – gas flared



The poor performance of the Nigerian oil sector is obvious to inhabitants of the Niger Delta, which is why there continues to be significant local anger at the environmental impacts of the industry. As such, **care should be taken not to interpret the fact that many companies score close to 1 in our Index—which ranks relative not absolute performance—as a sign of strong performance. It simply means that their emissions are lower than those of other companies in Nigeria.** Relative to the rest of the world, the Nigerian oil industry overall is a demonstrably poor performer.

## 5. Conclusion: The environmental cost of Nigerian oil and gas

The 2020 Index illustrates that emissions reduced across the industry compared with 2019 and 2018 but there are important caveats to this (see below). Due to the extraordinary context, it does not necessarily mean that progress was made on the environmental performance of the industry. We intend to produce this report on an annual basis, to examine trends in the environmental performance of the Nigerian oil and gas industry, and to help identify measures to support action on environmental performance. The subsequent 2021 Index will help show whether operations returned to ‘business as usual’ after the pandemic.

### 5.1 Emissions in context: current and future developments

Oil and gas industry emissions in Nigeria appear to have decreased between 2019 and 2020, but this has to be caveated by two important points. Production was lower, and the regulator NOSDRA was restricted from conducting investigation visits to spill sites due to the COVID-19 pandemic lockdown measures. Therefore, it is highly likely that many spills went undocumented, and that the figures presented in this report are significantly under the actual emissions. Even in “normal” years, the data published by the regulator likely covers only a fraction of total oil spills and gas flaring. Almost certainly, this underestimates the pollution, and the situation is far worse than reported here. This is highlighted by comparing the NNPC figures, which claim over 660,000 barrels of crude oil leaked from pipelines, with NOSDRAs record of 17,000.

Comparing findings from this sample against other regions worldwide suggests that the Nigerian oil and gas industry is by far the most polluting. In terms of oil spilled per barrel (or equivalent) produced, Nigeria was seven times higher than the global average in 2020. In terms of gas flared, it was more than six times higher. These findings are relevant to countries that are encouraging Nigeria to increase production to meet their domestic energy needs, since turning away from Russia. When comparing Nigeria’s oil and gas industry to Russia’s, we find that it flares 12 times more gas, and spills an enormous 1,603 times more oil, for every barrel of oil (or equivalent) produced.

It is clear that the *environmental impact* of any individual incident depends on many factors, including: where an oil spill takes place; whether a community is down or upwind of a gas flare; and local capacity to initiate and follow up on containment, and response measures to pollution. But the cumulative



environmental cost of repeated oil spills and flaring is huge. In 2020, there were at least another 409 oil spills, which added at least another 17,000 barrels of crude into the area's land and water. Cumulatively, for the three years the Index has run (2018-2020), NOSDRA recorded nearly 80,000 barrels of crude oil spilled (over 12.5 million litres) and 1.2 trillion mscf of gas flared. Just over a third of the oil spilled was removed, meaning the remainder remains in the environment, along with the emissions from gas flaring.

In any case, removal does not mean the reversal of impact, and an increasing body of research is documenting the long-term effects of emissions on human health.<sup>49</sup> This is especially worrying considering the physical location of at least half of Nigeria's oil and gas industry infrastructure: onshore, amidst 45 million people in the Niger Delta, who cannot escape the impacts of pollution on their everyday health. Given the subsistence nature of livelihoods for most communities in the region, the economic cost is also high. Even a small spill of a few barrels of crude oil is often enough to make land and waterways toxic enough to kill off farms or fisheries, and cause shocks in already faulty local economies. A farmer whose crops fail because their land has been poisoned will lose their entire means of generating income, possibly for many years if land is not remediated and restored. As such, the destruction of livelihoods in this manner makes those who lose them dependent on other people, while they are often pushed into more destructive livelihood practices, such as clearing primary rainforest areas in the search for unpolluted land. It also generates an incentive to join the artisanal oil industry, which pollutes significant amounts of hydrocarbons. This is an understandable short-term response, but one which contributes to the longer-term problem.

The situation must change. Those who bear the biggest local impact from the oil industry are among those least able to seek redress: the route to justice for communities which have suffered from environmental damage is slow, complicated, and expensive.

Furthermore, the Federal Government maintains that it aims to increase oil and gas production. As such, without improvements in pollution prevention, management, and control, the state of the environment in the Niger Delta can be expected to get significantly worse. The government is also exploring for crude oil and gas in other parts of the country, such as the Lake Chad basin in the North East. If Nigeria ends up developing new oil-producing regions, it is imperative that the mistakes of the past be avoided to curtail the associated impacts.

## 5.2 Addressing the challenge: government priorities

A holistic and multi-agency government approach, led by The President of Nigeria, is required to address these issues in the Nigerian oil and gas sector. This analysis indicates that the environmental performance is worse than all other regions of the world. It is a national embarrassment, a crime against Nigerian citizens, and a curse preventing investment and development in the marginalised Niger Delta region. It is unrealistic to expect the Nigerian government not to exploit its hydrocarbon reserves, in the near term, at least. Crude oil will be extracted for decades to come, and plans are being implemented to produce and consume more gas as part of a transition away from crude oil.<sup>50</sup> But these resources can be exploited far more responsibly, alongside strategies to invest the revenues generated into a long-term just transition towards an economy powered by cleaner energy sources.

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49. See for example Bayelsa State Oil and Environmental Commission. (2023). An environmental genocide: The human and environmental cost of Big Oil in Bayelsa, Nigeria. Online: <https://report.bayelsacommission.org>

50. SDN (2023).

The overriding priority should be to empower, legally and financially, a set of independent regulators to oversee the industry. The President must work with the National Assembly to revive the NOSDRA Amendment Bill, intended to strengthen the statutory basis on which NOSDRA can inspect and regulate oil producers. Under the new PIA (passed in 2021), there remains a conflict of interest between maximising revenues and minimising environmental costs, as regulation of production and environmental performance both fall under the same agency (the Nigerian Upstream Petroleum Regulatory Commission, which replaced the Department of Petroleum Resources). To remedy this, oil spill and gas flare regulation should be transferred to NOSDRA, with the parent ministry, the Federal Ministry of Environment, empowered with the mandate to lead on overall environmental regulation of the industry.

However, while passing legislation is one thing, enforcing it is another. NOSDRA should be provided with the funding and logistical resources to discharge its mandate. Its Zonal Office staff – responsible for organising the response to oil spills on site – sometimes lack the basic equipment necessary to do their job. As the case study in Box 3 shows, NOSDRA often faces difficulties when responding to spills, especially those with a high volume and public interest. This must change. For its part, NOSDRA should assess and make public the estimated number of oil spill sites it is unable to reach or conduct a full investigation into, so a clearer picture of the true extent of pollution can be drawn.

Similarly, the NUPRC should abide by the new regulations on decommissioning and publish a comprehensive asset integrity review for all oil and gas infrastructure in the Niger Delta. It should be used to identify unused and abandoned infrastructure that should be decommissioned and removed entirely. NUPRC has powers to compel operators to carry out decommissioning, who in turn are now required to have a plan and funding in place to do so for all concessions. Going forward, this should inform the development of a plan to monitor integrity, and ensure the repair and upgrade of all infrastructure which does not meet international best practice and standards (for example, pipelines over 20 years old, or which do not include leak detection and remote flow reduction capability). Similarly, the NUPRC should take a zero-tolerance policy towards ending gas flaring, as it is illegal and contributes an enormous amount of climate heating emissions. Companies should not be provided exemptions to continue flaring, which at one point were reportedly were in place for over 55% of oil fields.<sup>51</sup> They should be forced to implement mitigation guidelines,<sup>52</sup> and make flares available as part of the Gas Flare Commercialisation Programme. The NUPRC must also pick up where the DPR left off, and start publishing a detailed set of accounts for the oil and gas sector, in the interest of transparency and accountability. This has not been done since 2019, and it is only through the NEITI audit that production data will be available going forwards.

The government must also prioritise achieving success for the Hydrocarbon Remediation Project (HYPREP). HYPREP is the major clean-up project intended to address decades of pollution in the Ogoniland area of Rivers State. It is years behind schedule, and facing fresh challenges. Successfully executing HYPREP, and ensuring that progress is transparent and publicly accountable, would demonstrate meaningful commitment to addressing past, and preventing future, environmental damage from the oil industry.

Finally, progress needs to be delivered on harnessing natural gas, with the twin objectives of reducing flaring and utilising the resource to increase access to power. Lack of access to reliable electricity is an

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51. Afinotan, U. (2022). How serious is Nigeria about climate change mitigation through gas flaring regulation in the Niger Delta? *Environmental Law Review*, 24(4), 288-304.

52. Such as the NUPRC 'Guidelines for management of fugitive methane and greenhouse gases emissions in the upstream oil and gas operations in Nigeria'. <https://www.nuprc.gov.ng/wp-content/uploads/2022/11/METHANE-GUIDELINES-FINAL-NOVEMBER-10-2022.pdf>

obstacle to economic growth in Nigeria. It also drives demand for generator fuel. This, in turn, creates demand for the artisanal oil refining industry, which operates completely outside any formal environmental protection initiatives, is a major source of pollution, and is sometimes used to justify inaction on the broader issues in the Niger Delta. The Nigerian Gas Flare Commercialisation Programme offers a potential, and long-overdue, solution – but the government and oil and gas companies need to move from contract signing to breaking ground on projects.

### 5.3 Oil and gas industry action

As our analysis shows, performance varies across companies and geography. The range of circumstances in which companies operate may partly account for this – onshore and offshore, in new, marginal, and mature fields – with different infrastructure and working practices involved in extracting resources related to each.

DOCs continue to perform far worse than IOCs, relative to the amount of oil and gas they produce. This is illustrated by the emissions ratios in 2020 of 13% and 4% respectively. On the other hand, IOCs continue to perform far worse than DOCs in terms of absolute emissions, although there are emerging super-polluters among the DOCs – such as Eroton, Aiteo and ND Western. In the 2020 index, we isolated the marginal field operators for the first time, and found that their emissions ratio was even worse than the average for all DOCs. However, in the 2020 Index, the marginal field emissions ratio dropped to 20%, down from 44% the year before. It is not clear whether they made improvements to their environmental practices, or whether they were even harder hit by the market turmoil, and produced far less than the year before. Either way, all companies clearly have improvements to make in terms of mitigating pollution, and cleaning up the impacts, with a particular focus on marginal field operators and DOCs, who are relatively new entrants and may benefit from guidance and technical capacity building.

Furthermore, it appears that offshore spills are not monitored, as there are only a few reports, with nominal (or zero) volumes attributed to them. NOSDRA have previously described the logistical costs that prevent them from conducting JIVs in these locations. This needs to be urgently addressed since almost half of Nigeria’s oil is produced offshore, and the share of production is growing. Cost-effective solutions could be deployed, such as satellite detection of oil on water, as pioneered by the likes of Skytruth.<sup>53</sup> The Federal Government has a system for tracking tankers on water,<sup>54</sup> and this could be combined with the satellite detection techniques to also highlight spills from loading at sea and transshipment.

The challenges of artisanal oil refining are also real, and environmental performance is not purely a technical question. Shell says on its website that more than 90% of its spills in Nigeria are caused by “sabotage”. However, further consideration will be needed on the validity and extent to which third-party interference should be reflected in a company’s score in the Index. As mentioned earlier (under Spills by sabotage), the process for investigating and documenting spills is usually a point of controversy. Improving this process should be a priority, as part of broader reforms in environmental regulation of the industry. Moreover, according to NOSDRA data, this equates to over 500 spills caused by sabotage that can be attributed to Shell between 2018-20. If this is a problem, then the company should work with stakeholders to design new approaches to addressing this problem, as the current ones clearly are not working.

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53. Skytruth. (2023). First-Hand Accounts, Satellite Imagery Point to Oil’s Dreadful Impacts on Gulf of Guinea. Online: <https://skytruth.org/2023/04/first-hand-accounts-satellite-imagery-point-to-oils-dreadful-impacts-on-gulf-of-guinea/>

54. Reuters. (2019). Nigeria deploys satellite tech to track oil smugglers. 30th April. Online: <https://www.reuters.com/article/us-nigeria-oil-theft-idUSKCN1S61KG>

Investigating the reasons for the differences in environmental performance in more detail is a key area for further research, and the first step is doing this – and addressing the social questions – is to build trust, by increasing transparency. All oil companies should follow the lead of a select few, who publish an annual account of their oil spills, and other solid and liquid emissions, disaggregated by location, type of loss, volume, reported cause, and with a detailed description of impact. They should do this as a minimum, and start to replicate this for an account of all gas flared at any relevant facilities, disaggregated into similar categories. Doing so would help establish a more accurate record of the true extent of environmental emissions and their causes. These figures could then be audited alongside the independent regulator’s record, compared with measurements from remote sensing, and feed into new global emissions inventory reporting mechanisms, such as the EITI, which recently expanded its remit on sustainability reporting.

It is only by acknowledging the scale of the problem that companies will dispel the notion that they are fundamentally interested in Nigeria solely for their own benefit. This in turn would help improve their social licence to operate, which in the context of the region – where oil production is frequently shut -in because of local protests relating to the industry, and its environmental performance – should also be of interest to investors. The IOCs also face a global challenge to their licence to operate, with regular protests and public debate across many countries. As such, Nigerian oil’s environmental, social and governance issues, not to mention the climate and economic risk associated with investment in non-renewable energy, will be of increasing interest to financial and regulatory institutions.

## 5.4 Next steps

If an effective just energy transition is going to be secured, addressing environmental pollution in the Niger Delta must be a priority. Hydrocarbon resources have been extracted for close to 70 years, despoiling this crucial wetland ecosystem, and there are rough waters ahead. As is often said, it is an “*environmental emergency*”, calling for leadership on presidential-level policy, strengthened regulators and legislation, industry-wide compliance with best practice, with full and informed participation of host communities.

SDN will engage constructively with all those willing to find a solution to these challenges. We are also going to continue refining the methodology and welcome constructive feedback on the data and analysis in this report. We are organising a series of public and private events to launch this report, and look forward to hearing from all interested parties on how change can be enacted.

# Appendices

## Appendix 1: Company scores

Company	Weighted score							Performance Ranking						
	Oil spill volume	Oil spill count	Oil spill removal	Gas Flare	Emissions ratio	Transparency	Total score	Oil spill volume	Oil spill count	Oil spill removal	Gas flare	Emissions ratio	Transparency	Total
Consolidated	0.25	0.1500	0.10	0.20	0.25	0.00	0.95	1	1	1	1	1	4	1
Equinor	0.25	0.1500	0.10	0.20	0.25	0.00	0.95	1	1	1	5	4	4	2
First	0.25	0.1500	0.10	0.20	0.25	0.00	0.95	1	1	1	4	6	4	3
Oriental	0.25	0.1500	0.10	0.20	0.25	0.00	0.95	1	1	1	8	5	4	4
Walter Smith	0.25	0.1500	0.10	0.20	0.25	0.00	0.95	1	1	1	7	7	4	5
Moni Pulo	0.25	0.1500	0.10	0.20	0.25	0.00	0.95	1	1	1	6	11	4	6
NDPR	0.25	0.1500	0.10	0.20	0.25	0.00	0.95	1	1	1	10	12	4	7
Universal	0.25	0.1500	0.10	0.20	0.25	0.00	0.95	1	1	1	13	25	4	8
Brittania-U	0.25	0.1500	0.10	0.20	0.25	0.00	0.95	1	1	1	11	27	4	9
Frontier	0.25	0.1500	0.10	0.20	0.25	0.00	0.95	1	1	1	9	29	4	10
Belema	0.25	0.1500	0.10	0.20	0.25	0.00	0.95	1	1	1	17	23	4	11
Newcross	0.25	0.1500	0.10	0.20	0.25	0.00	0.95	1	1	1	21	14	4	12
Amni	0.25	0.1500	0.10	0.20	0.25	0.00	0.94	1	1	1	22	24	4	13
All Grace	0.25	0.1500	0.10	0.19	0.25	0.00	0.94	1	1	1	29	17	4	14
Sapetro	0.25	0.1500	0.10	0.19	0.25	0.00	0.94	1	1	1	33	13	4	15
Sterling Oil	0.25	0.1500	0.10	0.19	0.25	0.00	0.94	1	1	1	32	16	4	16
Elcrest	0.25	0.1500	0.10	0.19	0.25	0.00	0.94	1	1	1	25	30	4	17
Green Energy	0.25	0.1500	0.10	0.19	0.24	0.00	0.94	1	1	1	24	32	4	18
Excel	0.25	0.1500	0.10	0.20	0.24	0.00	0.94	1	1	1	15	37	4	19
Network	0.25	0.1500	0.10	0.20	0.24	0.00	0.94	1	1	1	18	36	4	20
Continental	0.25	0.1500	0.10	0.18	0.24	0.00	0.92	1	1	1	36	35	4	21
Summit Oil	0.25	0.1500	0.10	0.20	0.21	0.00	0.91	1	1	1	16	38	4	22
Dubri	0.25	0.1500	0.10	0.20	0.21	0.00	0.91	1	1	1	12	39	4	23
ERL	0.25	0.1445	0.04	0.20	0.25	0.00	0.88	32	32	31	1	3	4	24
Seplat	0.25	0.1325	0.02	0.19	0.25	0.03	0.88	34	39	35	34	21	3	25
ND Western	0.20	0.1408	0.08	0.19	0.24	0.00	0.86	40	36	27	26	31	4	29
Pillar	0.25	0.1500	0.10	0.19	0.18	0.00	0.87	1	1	1	30	41	4	26
Pan Ocean	0.25	0.1482	0.03	0.20	0.25	0.00	0.87	31	28	33	1	2	4	27
Total	0.25	0.1436	0.04	0.18	0.25	0.00	0.86	33	34	30	37	10	4	30
Addax	0.25	0.1482	0.02	0.19	0.25	0.00	0.86	27	28	34	35	22	4	28
Aiteo	0.24	0.1454	0.03	0.20	0.24	0.00	0.85	39	30	32	14	33	4	31
Neconde	0.25	0.1491	0.00	0.19	0.25	0.00	0.84	30	27	41	27	26	4	32
Midwestern	0.25	0.1445	0.00	0.20	0.25	0.00	0.84	36	32	40	23	18	4	33
Heritage	0.24	0.1334	0.02	0.20	0.25	0.00	0.83	38	38	38	20	15	4	34
Energia	0.25	0.1500	0.10	0.18	0.15	0.00	0.83	1	1	1	38	42	4	35
Chevron	0.25	0.1390	0.00	0.18	0.25	0.00	0.82	28	37	41	39	9	4	36
Platform	0.25	0.1454	0.00	0.19	0.20	0.00	0.79	29	30	41	31	40	4	37
NAOC	0.20	0.0791	0.01	0.18	0.25	0.05	0.77	41	42	39	40	28	1	39
ExxonMobil	0.24	0.1224	0.04	0.12	0.25	0.00	0.77	37	41	29	42	20	4	38
Eroton	0.10	0.1261	0.02	0.19	0.25	0.00	0.69	42	40	37	28	19	4	41
Chorus Energy	0.25	0.1500	0.10	0.20	0.00	0.00	0.70	1	1	1	19	43	4	40
NNPC	0.25	0.1426	0.02	0.00	0.24	0.00	0.65	35	35	36	43	34	4	42
Shell	0.00	0.0000	0.05	0.18	0.25	0.05	0.52	43	43	28	41	8	1	43

## Appendix 2: Oil and gas industry feedback

### Introduction

SDN aims to work constructively with all stakeholders committed to reducing the environmental impact of the Nigerian oil and gas industry. As such, we sought in particular to engage with the companies included in the Index as part of our research and publication process, and NOSDRA, as the key regulator. This annex summarises feedback from their representatives and our response to this feedback, including how we hope to develop future versions of the Index.

### Oil and gas company feedback: Summary

Prior to finalising the analysis in the 2019 and 2020 Indexes, we wrote to companies with copies of the draft findings, inviting them to provide their response at a discussion event in Abuja. This took place in November 2023, where we validated findings in both the 2019 and 2020 Indexes. We then shared copies of the draft Indexes, and gave three weeks for further written comments.

Based on the comments made during these engagements, we would like to draw attention to a number of points. These relate to the ways in which company representatives suggested the Index could be improved. Particular comments raised by industry representatives related to:

- Concerns that the Index does not sufficiently recognise the challenges that the industry faces with respect to third party interference (namely oil theft)
- The view that NOSDRA's Oil Spill Monitor database is not updated with details submitted following the response to a spill, meaning that the official data on oil spill recovery is not up-to-date.
- The potential to change the weighting of Index scores, particularly those related to oil spill recovery and transparency.

We agree that these are important issues, and provide responses below. We believe the reaction and engagement of company representatives shows that this Index continues to provide a useful basis for discussion, and we thank them for their inputs. We are committed to improving this work, and to developing an Index of the highest possible quality, and we will aim to incorporate many of the points raised in future versions of the Index. We would also note that there is a limit to the extent to which the Index can account for every factor which could be useful in assessing environmental performance, especially when not all the relevant data is publicly available. We have highlighted this throughout this research where relevant.

We have incorporated a number of changes in the text of the published report based on comments made by oil industry representatives. Other key points raised by them on the Index relate to:

## Third-party interference

As noted in the report, the artisanal oil industry and third-party interference are major concerns for the oil industry, regulators, and local communities in the Niger Delta. Company representatives were concerned that the Index methodology did not sufficiently acknowledge the challenge of third-party oil spills. For example, staff from one company said that an operator producing oil solely onshore, in an oil theft hotspot, would face different challenges from a company operating solely offshore. Another company representative highlighted that the Nigerian industry compares poorly with other regions, but that this would not be the case if third-party spills were removed from calculations.

We acknowledge the significant role that third party interference can play in oil spills, and included a new chapter in the 2019 Index so we could include the data analysis on this phenomenon.

However, as noted in the report, further consideration will be needed on the validity and extent to which third-party interference should be reflected in a company's score in the Index. This is for two main reasons. Firstly, the process of attributing a cause for a spill is highly disputed, with the JIV team often disagreeing with community members on the cause, especially over whether it was sabotage or operational failure (see box 3 for a case study). Secondly, it is often argued by observers that oil and gas companies push for a spill to be recorded as sabotage so that they avoid liability, and do not have to pay compensation for damages. This is part of a broader narrative that argues companies are not liable for such spills, because it is criminal elements that are attacking their infrastructure. This is enabled by the Nigerian legal system, which does not use the "no fault liability" principle, unlike most other countries. If it was applied to oil and gas companies, they would be held responsible for all oil spills from their infrastructure. The argument would be that they can introduce measures to make the infrastructure safer – such as conducting better maintenance, replacing old pipelines liable to corrosion, and burying pipelines below ground, rather than above ground, in and around settlements.

## Data Sources

As noted in the Index, identifying and assessing oil spills is a complex task. The environmental emissions attributed to each company in this report are the total emissions estimated or recorded by the pollution monitoring tools of NOSDRA. We have not altered this data beyond standardising it for use in our database. Minor changes made as part of this are highlighted in the database published.

Several companies suggested that the government data – whether on emissions or production – is not complete. They suggested that we instead approach companies and request a copy of their data for analysis. We tried this previously, and received no responses. Therefore, we did not do it for the 2019 or 2020 Indexes. Furthermore, even if all companies provided their data, there is no way for SDN to verify if it is accurate. Therefore, we will always defer to the Nigerian government's official record for future reports.

Companies wished to also clarify the source of data for oil spill removal volumes. These can vary depending on the point in the assessment process at which they are recorded. The source for these volumes in the Index is the "Quantity recovered" column of data in the Oil Spill Monitor. This may refer to the relevant field, which has the same title on two NOSDRA forms used to assess oil spills and their clean-up. These are available on NOSDRA's website: Form B: Risk Based Assessment of Oil Spill Incidence and Form C: Site Clean-up/Remediation Assessment Form.

Form B is supposed to be submitted within two weeks of a spill, while Form C is to be completed after any clean-up has taken place. As such, if the “Quantity recovered” column in the OSM refers to Form B, it may be that more oil has since been removed from the spill site than what is recorded in the data (and used for our Index). However, it is not clear in the data to which form the figure on oil removed for a given incident refers. In any case, there is only one column including this information and so these are the figures we have used for our calculations. The alternative would be not to include any oil removal figure at all, which would penalise company performance unreasonably. And if the “Quantity recovered” column does refer to Form C, this is presumably the final amount of oil which has been removed. As such, we do not think that a company’s performance suffers unfairly from this issue.

Companies were concerned that NOSDRA does not update the OSM regularly with details on removal submitted in these forms. As a result, they claim that their actual recovery levels are higher than the data suggests. Companies have shared their own records with SDN to back these claims, and it seems to be a real problem that needs to be addressed. From our perspective, this requires further discussion with NOSDRA and companies to evaluate the upload process, and identify improvements to fix these delays. We cannot start a parallel process to assess recovery reports on a spill-by-spill, company-by-company basis. But we can join in the discussions to identify and plan improvements in the processes of the regulator.

Companies also highlighted the fact that with the current scoring system, a company that did not spill any oil will have a 100% oil spill recovery score, and thus get more points for the overall scoring system. The alternative is to award these companies a 0% score for recovery, but this would unfairly penalise companies that avoided spilling oil, and who actually have higher environmental performance. This is a tricky situation to address – and we plan to explore whether we can include a split measure, i.e. can a company that does not have any oil spills (or recovery) be given a special score, then those that do spill and recover be scored slightly differently? This will complicate scoring in the Index, but we welcome these suggestions to also enrich the quality of the analysis.

## **Operatorship**

Linked to data sources, the issue of operatorship came up in our engagements. One company – First Hydrocarbon - disputed that they were not the operator of the single OML that they hold equity, which is contrary to what is noted in the official government database, NOGIAR. They subsequently provided documents that support the claim that they are not the operator, and so we will change this in future versions of the Index. This highlights that other companies may also not be operators, despite being listed as such in official government data. Again, this highlights a challenge we face with the Index – we must use official data, but at the same time, it is full of inaccuracies that we have to cross check. Validation and engagement helps us to identify any other inaccuracies in the official government data that we may have missed, and we encourage all companies to continue applying this level of attention to detail, and contribute further errors we need to address.

## **Transparency and other indicators**

During engagements on the 2018 Index, companies felt that the Index would be strengthened by taking into account public and other commitments to transparency on environmental issues. For example, some companies wished to highlight that they produce and publish their own data on environmental emissions in Nigeria.



This is important, and we have introduced a new score in the Index to rank company performance on transparency. This is based on whether a company 1. Publishes its own oil spill data 2. Publishes its own gas flare data, and 3. Publishes environmental procedures, such as for oil spill response.

Only a few companies, mostly IOCs, benefit from the inclusion of this score at present. We call on all oil companies, international and domestic, to do the same. In general, we strongly believe in mutual accountability, which is why we have published all of our own data and calculations relating to the EPI. We welcome further constructive critique on this work.

## **Stakeholder engagement**

Companies noted that there is a wide range of stakeholders involved in work to prevent and respond to environmental emissions in the Niger Delta, including government, civil society and local communities, and that all these groups should be involved in work to address the issues raised in this report.

We agree, and we consult regularly with these and other stakeholders in our work. Drafts of this research were reviewed by staff from NOSDRA and oil companies themselves, as well as an independent consultant.

## **Future engagement**

We would like to reiterate our thanks for the feedback on this research from all parties, and the improvements we have been able to make as a result. Note that the research and analysis do not necessarily reflect the views or policies of any organisation which provided input.

We welcome further feedback

### MORE WOMEN IN GOVERNANCE

Advocacy Roundtable

30th July 2019 9 AM Hotel Presid Port Harcourt

Funded by OSWISA

**SDN**

#### Women's political participation and representation in the Niger Delta

**SDN**

#### Public perceptions of security dynamics and stabilisation interventions in the Niger Delta

October 2018-March 2019

**SDN**

### Agitators to legislators:

The migration of ex-militants into Niger Delta politics

**Summary**

Since the 2009 start of the Niger Delta amnesty programme, dozens of self-described 'agitators' (ex-militants) have migrated out of the creeks and into politics. Initially, many acted as political fixers, or 'godfathers', to help mainstream politicians win elections, in exchange for payoffs, privileges, and the protection of their activities. Increasingly, though, ex-militants are entering mainstream political positions, obtaining government appointments, and winning local government, federal, and state legislative elections. The role and performance of these actors will continue to evolve up to, and beyond, the 2019 elections. Whilst this does not represent a positive trend for democracy, early indications suggest that it poses no more of a threat to democracy and governance than the continued dominance of the region's violence-sponsoring political class.

**Key messages**

- The Presidential Amnesty Programme (PAP) helped bring ex-militants into politics, provided them with legitimate candidates for political positions, and provided resources to build their support base.
- As senior ex-militants have migrated into political positions, it has become easier for politicians to mobilise ex-militant groups to protect and enforce their mandates.
- Although most ex-militants are dependent on appointments granted by the existing political class, they are increasingly running for office themselves to retain independence and considerable power.
- The effect of ex-militants migrating into politics, who are able to deploy force and violence to achieve their demands, poses a greater threat to the region than the already violent and corrupt political system.
- Initial indications suggest that the perception in communities that ex-militants are more capable and willing to provide security, as there are stronger ties between militant leaders and the community.

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### IMPROVING OIL SPILL RESPONSE IN NIGERIA

COMPARATIVE ANALYSIS OF THE FORMS, DATA AND RELATED PROCESSES OF THE JOINT INVESTIGATION VISIT (JIV) AND SUGGESTIONS TO HOW THESE COULD BE IMPROVED

**SDN**

### ENVIRONMENTAL REGULATION

INTERNATIONAL COMPENSATION SYSTEMS FOR OIL SPILLS IN RELATION TO WOMEN IN NIGERIA

**SDN**

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### Women's priorities for increased political participation in Rivers State

**Summary**

Across Nigeria, women are severely underrepresented at all levels of governance and face additional social and economic barriers that hinder their active participation in politics. The situation in the Niger Delta is particularly difficult, due to highly competitive and violent aspects of politics, and poor resource management by the government.

SDN's More Women in Governance project consulted women across 24 communities in Rivers State and 12 representatives of women-led civil society organisations (WOCOs) on their priorities to support women's increased engagement in politics. These consultations identified four main barriers: a lack of economic means to participate in politics, inadequate political education and training, a lack of understanding of internal political party dynamics, and lack of support for women to enter public life and a lack of corresponding recommendations included in this brief.

These findings reinforce the need for greater progress on implementing existing policies and programmes that promote gender equality in politics in the Niger Delta and across Nigeria. Increasing women's and young women's participation in politics through an improvement in their political, social, and economic status is a crucial step towards achieving gender equality in Nigeria and in ensuring a more democratic, equitable, responsive, and inclusive political system.

**Recommendations**

- Reduce the financial barriers which prevent women entering politics
  - Political parties can do this by providing free non-union forms and reducing other financial requirements for women.
  - Federal and State Government can do this by providing additional support to the Ministry of Health Affairs and the Ministry of Employment Generation and Empowerment to expand their economic empowerment programmes, especially in rural areas, to enable greater financial independence of women.
- Establish and increase programmes to build women's leadership skills and understanding of the political process
  - Federal and State Government can provide further support to African for Women's Leadership Programmes, including in rural areas.
  - Political parties should establish their own programmes to assist members to develop their leadership skills and understanding of the process.

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### COMMUNITIES NOT CRIMINALS

ILLEGAL OIL REFINING IN THE NIGER DELTA

Trying to unlearn an illegal activity

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### Niger Delta WATCH 2019

A civil society report on the conduct of the Nigerian elections

**SDN**

### Community voices for change

Local advocacy in the Niger Delta

Case Study 1: Odu Community

This is the first case study in a three-part series looking at how local communities have successfully lobbied for change in the Niger Delta. This case study documents how members of Odu community in Rivers State, called on the government to rebuild school buildings which had been demolished. They did so through a campaign with their local politicians and officials, and were successful in securing a commitment to quality education returning to their community.

**Key outcomes**

- Improved educational infrastructure
- Increased community capacity
- New relationships developed

**The problem**

Odu is a community in Rivers State, in the Niger Delta. Over several years, its people have been fighting for the reconstruction of buildings at the Odu government secondary school, which were destroyed during the Rivers State Government in 2009. This was supposedly to test a new 'model' school, but this never happened. Odu's school leadership to parents, teachers, and students.

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### BUILDING BRIDGES

COMMUNITY-BASED APPROACHES TO TACKLE PIPELINE VANDALISM

**SDN**

### Pipeline surveillance contracts in the Niger Delta

**Summary**

Pipeline surveillance contracts are awarded to private firms by government agencies and oil companies to monitor and protect the infrastructure of oil pipelines. However, the concept of pipeline surveillance contracts in the Niger Delta is a misnomer. They rarely involve any actual surveillance, but are used as a disguised payment for local politicians and other community actors. Factors such as a lack of local participation in the oil and gas industry necessitate the existence of this system of pipeline surveillance, to avoid pipeline vandalism and other criminal activities that may disrupt oil and gas production.

Pipeline surveillance contracts have similar short-term effects as amnesty programme payments to ex-agitators. They are not sustainable, especially as they are not part of a wider holistic security and development plan. There is growing concern amongst local communities about the impact of pipeline surveillance contracts on the local economy, and the potential for pipeline vandalism to increase as a result of the current approach.

**Recommendations**

- Ensure full transparency of the award process of pipeline surveillance contracts. The terms of reference (TOR) should be fully disclosed to ensure fairness, transparency and competitiveness of the award process.
- The Economic and Financial Crimes Commission (EFCC) and the Department of State Services (DSS) should increase scrutiny of the award process of pipeline surveillance contracts and conduct thorough background checks on both pipeline surveillance contractors and private security companies to minimise the scope for bribery and collusion.
- Design and pilot non-militarised community based pipeline surveillance approaches that integrate industry best practices and regulations.
- Separate the National Oil Spill Detection and Response Agency (NOSDRA) from the Nigerian Petroleum Industry Corporation (NIPIC) to ensure NOSDRA is independent and able to monitor implementation of pipeline surveillance contracts.
- Expand the requirements of pipeline surveillance contracts to include monitoring and management. Add skilled roles to improve the quality of surveillance work and productivity in host communities.

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### POWER SECTOR REPORT

NIGERIAN POWER SECTOR REVIEW 2018

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### Commercial Fish Farming Guide

**SDN** **UKaid** **Zambia**

**SDN**

### SPOTLIGHT ISSUE

NIGERIA'S FUEL SUBSIDY

AUGUST 2019

**SDN**

### The Petroleum Industry Governance Bill

**Summary**

This policy brief assesses environmental and other aspects of the Petroleum Industry Governance Bill (PIGB). The PIGB was passed by the Nigerian Senate in May 2017, and House of Representatives on January 2018, as part of a package of legislative reform for the oil and gas sector. However, it was subsequently rejected by the President and is now being discussed again.

The purpose of the Bill is to make the oil and gas sector more transparent and commercially viable, as it stands, it does not adequately provide for the protection of the environment of the Niger Delta from the impact of oil production and transportation. It continues to combine functions of revenue generation and environmental protection in a single agency, and therefore only remedies the existing conflict of interest at the heart of the regulatory framework. As such, it will not be able to improve environmental standards. Separating the regulatory functions would be a major step towards this goal and that is the major recommendation of this brief.

**Policy recommendations**

- The PIGB has been under consideration for more than 15 years, and there remains a narrow window of opportunity for review. Given this, SDN has identified key areas that need to be addressed in specific clauses of the Bill, but rather than the two overarching proposals which would guide the overall development. Regardless of the date, if these provisions are added to the PIGB should deliver progress on the sector.
- Separate regulatory from revenue
- Place regulatory powers under NOSDRA, within the Ministry of the Environment

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### "MORE MONEY, MORE PROBLEMS"

ECONOMIC DYNAMICS OF THE ARTISANAL OIL INDUSTRY IN THE NIGER DELTA OVER 15 YEARS

Visit [www.stakeholderdemocracy.org](http://www.stakeholderdemocracy.org) for a wide selection of our publication and resources on the Niger Delta.

“

More than six million litres of oil were spilled in the Niger Delta in 2020, which in addition to a legacy of unresolved historic incidents means it remains an ecological disaster zone.

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2020 Nigerian oil industry environmental  
performance index