Calendar Year 2022
Greenhouse Gas Emissions Inventory Report

Prepared for:

The U.S. International Development Finance Corporation
(formerly the U.S. Overseas Private Investment Corporation)

Prepared by:

FINAL REPORT

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EXECUTIVE SUMMARY

SC&A, Inc. (SC&A) performed an independent assessment of greenhouse gas (GHG) emissions from projects supported by the U.S. International Development Finance Corporation (DFC), formerly known as the U.S. Overseas Private Investment Corporation (OPIC). GHGs are atmospheric compounds that absorb and emit solar radiation in the thermal infrared range of the electromagnetic spectrum. An increase in the atmospheric concentration of GHGs, and carbon dioxide (CO_2) in particular, has been linked to changes in the global climate and adverse impacts on both human and natural systems. In response to the challenges posed by climate change, initiatives are being developed to assess and abate GHG emissions from anthropogenic sources.

This report, prepared by SC&A, presents the analysis undertaken to quantify calendar year (CY) 2022[1] GHG emissions from "active" OPIC/DFC-supported projects. "**Active**" projects are defined as all insurance contracts in force and all guaranty and direct loans with an outstanding principal balance at the end of OPIC/DFC's fiscal year (September 30, 2023 for this CY 2022 Report).

OPIC/DFC is required to undertake a project-specific GHG analysis of all projects that emit more than 25,000 short tons of carbon dioxide equivalent (CO_2e) per year (STPY). These projects are hereafter referred to as "**carbon-intensive projects**". To account for projects that emit less than 25,000 STPY of CO_2e, OPIC/DFC adds a "buffer" equal to 5% of the aggregate emissions from the carbon-intensive projects.

OPIC/DFC's total CY 2022 GHG inventory is an estimated **11,067,332** short tons of CO_2e. In CY 2022, four projects, GESZ Mineral Port, Nouakchott Container Terminal, Poti New Sea Port LLC, and Techmet Limited (Tier B), came into operation in CY 2022, but fell below the 25,000 STPY threshold. One other project, Energia del Pacifico CV (Tier A), was added to the inventory in CY 2022. Total portfolio emissions increased by 8.0%, or 820,057 short tons CO_2e, relative to CY 2021.

Based on legislation in place at the time of commitment, three of the projects that OPIC/DFC has supported are exempt from counting towards OPIC/DFC's GHG reduction targets[2], with total emissions of 3,211,157 short tons of CO_2e. When the emissions from these projects are removed from the GHG inventory, along with their share of the 5% buffer for additional sources (160,558 tCO2e), OPIC/DFC's CY 2022 GHG inventory of non-exempt projects is an estimated **7,695,617** short tons of CO_2e.

This is OPIC/DFC's sixteenth annual GHG report, and this is the eleventh year that SC&A has prepared the report for OPIC/DFC. The first five annual GHG reports, including the CY 2007 Baseline Inventory, were prepared by Pace Global.

1 OPIC/DFC's fiscal year does not match the fiscal years of most of its clients (which are by calendar year). OPIC/DFC requests GHG data from its clients from the most recently completed calendar year. For this reason, OPIC/DFC's GHG reporting lags 1 year behind.

2 P.L. 111-117 Sec 7079(b)(12/16/2009) statutorily required OPIC/DFC to implement a revised climate change plan to reduce the GHG emissions associated with its projects by at least 30% over 10 years and 50% over 15 years.

RECAP OF THE GHG INVENTORY PROGRAM

To assess the GHG emissions from OPIC/DFC's portfolio, a Baseline Inventory was completed in March 2009 for CY 2007 emissions. In the CY 2007 Baseline Inventory, "carbon-intensive projects" were defined as active[3] projects having a maximum Potential-to-Emit (PTE) of more than 100,000 STPY of CO_2e. Projects exceeding this threshold pertained to the energy, oil and gas, transportation, mining, manufacturing, and construction sectors.

The Baseline Inventory excluded direct biogenic emissions, accidental chemical releases, and project construction emissions. Also excluded were indirect emissions related to purchased electricity or heat supply (including steam). For that reason, projects in the finance, banking, insurance, and service sectors were excluded from the list of carbon-intensive projects, given that their carbon footprint is driven primarily by indirect energy purchases. Should direct emissions be generated from projects in the finance, banking, insurance, and service sectors, these would be captured in the "buffer", as described below.

To account for non-carbon-intensive projects in the Baseline Inventory (*i.e.*, sources that emitted less than 100,000 short tons of CO_2e per year), OPIC/DFC added a "buffer" equal to 5% of the aggregate emissions from carbon-intensive projects.

The maximum PTE for each carbon-intensive project was estimated based on best available project information, which typically included a combination of fuel consumption data, the amount of electricity generated, generating capacity, relative project size, and an assumed operating capacity of 8,000 hours per year (unless otherwise noted). OPIC/DFC solicited feedback from the individual project sponsors on methods, assumptions, and operational data to corroborate the soundness of its emission estimates.

The Baseline Inventory used project sponsor-provided information in cases where OPIC/DFC received responses to the requests for data. For projects where project sponsor feedback was not received, emission estimates were developed based on a project's maximum PTE.

REVISIONS TO THE BASELINE INVENTORY

Various Egypt Subsidiaries (Apache)

In the CY 2009 GHG inventory report, the original CY 2007 emissions baseline was revised up by 1,566,685 short tons CO_2e to account for the additional 51% share of the Various Egypt Subsidiaries (Apache) project, which mistakenly reported its emissions in

[3] For the CY 2007 baseline inventory, "active" projects were defined as all insurance contracts in force and all guaranty and direct loans with an outstanding principal balance as of June 30, 2008. For all subsequent inventories, the "active" date was September 30 of the subsequent year (to coincide with the end of OPIC/DFC's Fiscal Year). To mirror the EPA's GHG reporting requirements (40 CFR Part 98), OPIC/DFC lowered the minimum reporting threshold for "carbon-intensive projects" to 25,000 STPY of CO_2e starting with the CY 2009 GHG inventory.

relation to its equity share of the project (49%) for the baseline year. Since OPIC/DFC requires that 100% of emissions be accounted for, regardless of the project sponsor's equity share, the additional project emissions were added to the inventory. The discrepancy was rectified and reported in the CY 2009 GHG inventory report to ensure consistency with OPIC/DFC's GHG accounting methodology. The revised CY 2007 emission baseline was 51,949,178 short tons of CO_2e.

Latin America Power III Fund

The Latin American Power III Fund (LP III) is a "blind pool" fund, and the downstream investments had not been finalized when OPIC/DFC committed to the fund. Therefore, OPIC/DFC allocated 2,077,500 short tons of CO_2e to the LP III Fund in the CY 2007 Baseline Inventory (which was equal to the projected PTE from the thermal power projects in the LP III pipeline at that time), and subsequent GHG reports. However, in FY 2014, LP III became fully invested without having invested in any projects that had a PTE greater than 25,000 STPY of CO_2e. Because LP III did not have any projects in its portfolio that exceeded OPIC/DFC's GHG threshold for carbon-intensive projects, OPIC/DFC removed these allocated emissions from all previous GHG inventories. After accounting for the correction from the Apache Project (see above), and removing the LP III emissions from the Baseline Inventory, the revised CY 2007 emissions baseline was **49,767,803** short tons of CO_2e.

CY 2008 - CY 2012 INVENTORIES

For the CY 2008 GHG inventory, Pace Global followed the same process as during the Baseline Inventory development. The CY 2008 emission estimates were eventually revised up to account for a misallocation of Apache's GHG emissions, as discussed above. The revised CY 2008 GHG emissions total for projects active as of September 30, 2009, equaled **32,915,765** short tons of CO_2e. The large decrease in emissions was primarily the result of a large coal power generation project (Jorf Lastar Energy) becoming inactive (due to loan repayment). Removal of this project accounted for over 85% of the CO_2e reductions.

Starting with the CY 2009 GHG inventory, OPIC/DFC lowered the minimum threshold for "carbon-intensive projects" projects from 100,000 to 25,000 STPY of CO_2e to match the U.S. EPA's GHG reporting requirements (40 CFR Part 98). Because projects that were previously included in the buffer (i.e., projects between 25,000 and 100,000 STPY of CO_2e) were now being included as carbon-intensive projects, OPIC/DFC defined a new buffer to account for projects emitting less than 25,000 STPY of CO_2e (see page 4 for a detailed explanation). Total CY 2009 GHG emissions for projects active as of September 30, 2010, equaled **31,824,461** short tons of CO_2e.

Subsequent inventories followed the same inventory development process as for the CY 2009 GHG inventory. CY 2010 GHG emissions for projects active as of September 30, 2011, totaled **32,480,195**. CY 2011 GHG emissions for projects active as of September 30, 2012 amounted to **32,047,719** short tons of CO_2e. CY 2012 GHG emissions for projects active as of September 30, 2013, totaled **7,970,993** short tons of CO_2e.

Emissions decreased considerably in CY 2012 because a large number of carbon-intensive projects became inactive (due to loan repayment or contract cancellation), while only a few carbon-intensive projects became active.

CY 2013 INVENTORY

The CY 2013 GHG inventory followed the same inventory development process as in the previous year, with one important exemption; namely, the exclusion of estimated emissions for the Latin American Power III Fund (see page 3). Total CY 2013 emissions were **7,586,646** short tons of CO_2e.

CY 2014 INVENTORY

For the CY 2014 GHG inventory, SC&A reviewed OPIC/DFC financial reports to screen projects likely to meet the "carbon-intensive projects" threshold of 25,000 STPY of CO_2e. Additional scrutiny was given to projects previously identified as carbon-intensive, as well as new projects to OPIC/DFC's portfolio that were active as of September 30, 2015. The outcome of the screening analysis resulted in a short list of thirteen (13) projects having a maximum PTE value equal or greater than 25,000 STPY of CO_2e. To provide assurance of GHG estimates, OPIC/DFC and SC&A solicited additional supporting evidence from project sponsors to corroborate GHG assertions and assumptions made by individual project sponsors.

Change in Buffer Calculation

For the CY 2007 and CY 2008 inventories, the buffer for additional sources was calculated as 5% of the sum of emissions from projects over 100,000 STPY of CO_2e – the threshold for "carbon-intensive projects" at the time. After the threshold for a "carbon-intensive project" was lowered to 25,000 STPY CO_2e for the CY 2009 inventory, the buffer for additional sources was defined each year such that the sum of projects emitting between 25,000 and 100,000 STPY and the buffer would equal 5% of the sum of emissions from projects over 100,000 STPY of CO_2e. This maintained the proportion of emissions from projects above the old "carbon-intensive" threshold of 100,000 STPY of CO_2e.

Starting with the CY 2014 inventory, the buffer for additional sources has been calculated as 5% of the emissions from all carbon-intensive projects (i.e., projects emitting more than 25,000 STPY). In the CY 2014 report, OPIC/DFC applied this calculation retroactively to emissions reported in CY 2009 – CY 2013 to have a consistent picture of potential additional sources across all inventory years. This change does not have a significant impact on past reported emissions and yields a more conservative estimate than the previous method.

Additional Corrections to the CY 2014 Inventory

The CY 2014 GHG inventory also corrected the CY 2013 estimates for CGLOB Astarta Zhadanivka Kyiv and Qalaa Holdings based on additional communication with the project sponsor. The Results section of this report presents the corrected CY 2013 estimates for these two projects, as well as the updated buffer for additional sources.

The estimated CY 2014 GHG emissions for projects active as of September 30, 2015 amounted to **7,772,851** short tons of CO_2e.

CY 2015 INVENTORY

The CY 2015 GHG inventory followed the same inventory development process as the previous year. Regarding emission methods, a revision was made to the fugitive and combustion emission factors for the West Africa Gas Pipeline (WAGP) project to increase traceability with cited method sources. These emission factors were applied retroactively and had the effect of revising down WAGP's maximum PTE as well as its CY 2009 and CY 2010 emission estimates. The estimated CY 2015 GHG emissions for projects active as of September 30, 2016 amounted to **7,689,416** short tons of CO_2e.

CY 2016 INVENTORY

The CY 2016 GHG inventory continued the inventory development process developed in previous years. The estimated CY 2016 GHG emissions for projects active as of September 30, 2017 amounted to **8,205,063** short tons of CO_2e.

CY 2017 INVENTORY

The CY 2017 GHG inventory continued the inventory development process developed in previous years. The estimated CY 2017 GHG emissions for projects active as of September 30, 2018 amounted to **7,820,596** short tons of CO_2e.

CY 2018 INVENTORY

The CY 2018 GHG inventory continued the inventory development process developed in previous years. One notable change was the removal of the Central Asia University project from the Short List because its maximum potential to emit was found to be below the reporting threshold when recalculated using project sponsor information. The estimated CY 2018 GHG emissions for projects active as of September 30, 2019 amounted to **8,887,542** short tons of CO_2e.

Based on legislation in place at the time of commitment, several of the projects that OPIC/DFC supported were exempt from counting towards OPIC/DFC's GHG reduction targets[4] because they were affordable power projects located in countries that were eligible for lending under the International Development Association (IDA). These included the Azura-Edo project, Cap-des-Biches project, and the Amandi Energy project. When the emissions from these projects were removed from the GHG inventory, OPIC/DFC's CY 2018 GHG inventory of non-exempt projects was an estimated **7,494,453** short tons of CO_2e.

4 P.L. 111-117 Sec 7079(b)(12/16/2009) statutorily required OPIC to implement a revised climate change plan to reduce the GHG emissions associated with its projects by at least 30% over 10 years and 50% over 15 years.

CY 2019 INVENTORY

The CY 2019 GHG inventory continued the inventory development process developed in previous years. One project, the West African Gas Pipeline (Tier B), dropped out of OPIC/DFC's portfolio due to the expiration of its insurance contract, and another project, Central Asia University (Tier C), was removed from consideration because it was consistently below the 25,000 STPY threshold in previous years. In addition, one project, Negev Energy (Tier C), came into operation in CY 2019, but fell below the 25,000 STPY threshold. Estimated CY 2019 GHG emissions for projects active as of September 30, 2020 amounted to **9,550,437** short tons of CO_2e.

Based on legislation in place at the time of commitment, several of the projects that OPIC/DFC supported are exempt from counting towards OPIC/DFC's GHG reduction targets[5] because they are affordable power projects located in countries that were eligible for lending under the IDA. These include the Azura-Edo project, Cap-des-Biches project, and the Amandi Energy project. When the emissions from these projects are removed from the GHG inventory, OPIC/DFC's CY 2019 GHG inventory of non-exempt projects is an estimated **7,531,694** short tons of CO_2e.

CY 2020 INVENTORY

The CY 2020 GHG inventory continued the inventory development process used in previous years. One project, Lebanese American University (Tier C), was removed from consideration because it was consistently below the 25,000 STPY threshold in previous years. In addition, one project, Arish-Ashkelon Pipeline (Tier B), came into operation in CY 2020, but fell below the 25,000 STPY threshold. Estimated CY 2020 GHG emissions for projects active as of September 30, 2021 amounted to **9,636,337** short tons of CO_2e.

Based on legislation in place at the time of commitment, several of the projects that OPIC/DFC supported are exempt from counting towards OPIC/DFC's GHG reduction targets[6] because they are affordable power projects located in countries that were eligible for lending under the IDA. These include the Azura-Edo project, Cap des Biches project, and the Amandi Energy project (which was not in operation in CY 2020). When the emissions from these projects are removed from the GHG inventory, OPIC/DFC's CY 2020 GHG inventory of non-exempt projects is an estimated **7,204,914** short tons of CO_2e.

CY 2021 INVENTORY

The CY 2021 GHG inventory continued the inventory development process used in previous years. Two projects, Acu Petroleo (Tier B) and Negev Energy (Tier C), were removed from consideration because they were consistently below the 25,000 STPY threshold in previous years, and one project, Arish-Ashkelon Pipeline (Tier B), was removed from consideration because its contract with DFC was terminated. In addition,

5 P.L. 111-117 Sec 7079(b)(12/16/2009) statutorily required OPIC to implement a revised climate change plan to reduce the GHG emissions associated with its projects by at least 30% over 10 years and 50% over 15 years.

6 P.L. 111-117 Sec 7079(b)(12/16/2009) statutorily required OPIC to implement a revised climate change plan to reduce the GHG emissions associated with its projects by at least 30% over 10 years and 50% over 15 years.

two projects, Alistair James Company and Tetra4 Proprietary Limited (Tier B), came into operation in CY 2021, but fell below the 25,000 STPY threshold. Two other projects, Amandi Energy Limited and Te Power SASU (Tier A), were added to the inventory and exceeded this threshold. Estimated CY 2021 GHG emissions for projects active as of September 30, 2022 amounted to **10,247,274** short tons of CO_2e.

Based on legislation in place at the time of commitment, several of the projects that OPIC/DFC supported are exempt from counting towards OPIC/DFC's GHG reduction targets[7] because they are affordable power projects located in countries that were eligible for lending under the IDA. These include the Azura-Edo project, Cap des Biches project, and the Amandi Energy project. When the emissions from these projects are removed from the GHG inventory, OPIC/DFC's CY 2021 GHG inventory of non-exempt projects is an estimated **7,317,078** short tons of CO_2e.

CY 2022 INVENTORY

The CY 2022 GHG inventory continued the inventory development process used in previous years. Four projects, GESZ Mineral Port, Nouakchott Container Terminal, Poti New Sea Port LLC, and Techmet Limited (Tier B), came into operation in CY 2022, but fell below the 25,000 STPY threshold. One other project, Energia del Pacifico CV (Tier A), was added to the inventory and exceeded this threshold. Estimated CY 2022 GHG emissions for projected active as of September 30, 2023 amounted to **11,067,332** short tons of CO_2e.

Based on legislation in place at the time of commitment, three of the projects that OPIC/DFC has supported are exempt from counting towards OPIC/DFC's GHG reduction targets[8] because they are affordable power projects located in countries that were eligible for lending under the IDA. These include the Azura-Edo project, Cap des Biches project, and the Amandi Energy project. When the emissions from these projects are removed from the GHG inventory, OPIC/DFC's CY 2022 GHG inventory of non-exempt projects is an estimated **7,695,617** short tons of CO_2e.

7 P.L. 111-117 Sec 7079(b)(12/16/2009) statutorily required OPIC to implement a revised climate change plan to reduce the GHG emissions associated with its projects by at least 30% over 10 years and 50% over 15 years.

8 P.L. 111-117 Sec 7079(b)(12/16/2009) statutorily required OPIC/DFC to implement a revised climate change plan to reduce the GHG emissions associated with its projects by at least 30% over 10 years and 50% over 15 years.

INVENTORY BOUNDARY

The CY 2022 inventory boundary extends to direct emissions from fossil fuel combustion associated with "active" projects having a maximum PTE over 25,000 STPY of CO_2e. "Active" projects are defined as all insurance contracts in force and all guaranty and direct loans with an outstanding principal balance at the end of OPIC/DFC's last fiscal year (*i.e.*, September 30, 2023). Excluded from the inventory boundary were direct biogenic emissions, refrigerant losses, process/chemical releases (*e.g.*, methane from wastewater treatment plants), indirect emissions related to purchased electricity or heat supply (including steam), and temporary emissions from a project's construction.

To maintain the original GHG inventory program objectives while addressing changing characteristics of new project sponsors, two criteria have been added to the inventory boundary. First, the reporting threshold of 25,000 STPY of CO_2e applies to those assets or investment platforms specified in the project clearance description as eligible for OPIC/DFC funding. Second, for project sponsors with assets located in various countries, the reporting threshold of 25,000 STPY of CO_2e is assessed for all assets sharing the same loan identification number.

INVENTORY STRUCTURE

The carbon-intensive projects included in the CY 2022 GHG inventory are organized into three tiers. *Tier A* projects are fossil fuel-fired, power generation projects that emit more than 100,000 STPY of CO_2e. *Tier B* projects are defined as projects in the oil and gas, mining, transportation, manufacturing, construction, or other sectors that have a PTE greater than 100,000 STPY of CO_2e. *Tier C* projects are those that emit between 25,000 and 100,000 STPY of CO_2e. Additionally, the CY 2022 GHG inventory includes an estimate of GHG emissions from projects determined to be below the threshold of 25,000 STPY of CO_2e denoted as *Buffer for Additional Sources* (see page 9).

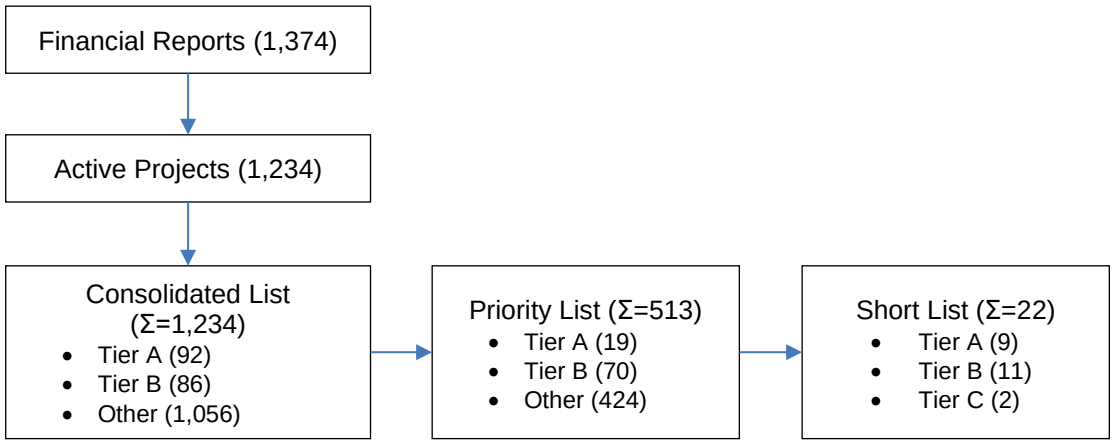
PROJECT SCREENING

SC&A evaluated financial and technical documentation provided by OPIC/DFC to identify the subset of projects meeting OPIC/DFC's reporting criteria. The review and analysis of this documentation was conducted in several steps, as shown in Figure 1.

The starting point for the CY 2022 GHG inventory was a set of financial reports that listed 1,690 projects receiving OPIC/DFC support in the form of direct investment and guarantees, insurance, frameworks, or funds. SC&A consolidated information from these financial reports by grouping entries sharing a common project identification number resulting in 1,374 entries. Then, SC&A extracted the set of projects that exhibited a financial exposure and disbursement status greater than zero. This first step resulted in a set of 1,234 entries that reflects the pool of **active projects** for consideration in the current inventory cycle. Active CY 2022 projects are listed in Appendix A. The second step consisted of developing a **consolidated list** of active projects by grouping entries into Tier A, Tier B, or "Other" according to their economic sector. Entries classified as

"Other" were projects in the agriculture, communications, finance, services, and tourism sectors. Third, SC&A developed a **priority list** of 513 projects by removing entries that were determined not to be carbon-intensive in the CY 2022 GHG Inventory based on professional judgement and institutional knowledge of a project's operations, as well as excluding projects in the finance, banking, insurance, and service sectors, because their emissions are the result of indirect energy purchases (*e.g.*, purchased electricity or steam) – activities that fall outside of OPIC/DFC's inventory scope. Finally, SC&A performed project-specific GHG assessments to ascertain which projects emitted or had a maximum PTE of at least 25,000 STPY of CO_2e. The outcome of this final step was a **short list** of 22 entries, which is presented in Table 1.

Figure 1. CY 2022 Project Screening Process



NOTE: the values in parentheses indicate the number of projects assessed in each step of the process for a given category.

DEVELOPMENT OF EMISSION ESTIMATES

SC&A reviewed relevant project-level quantification methodologies adopted in previous OPIC/DFC reports and verified that previous methodologies were consistent with OPIC/DFC's GHG reporting policy. SC&A applied emission quantification methodologies from prior GHG inventories for projects with a first year of reporting of CY 2011 or earlier. In other cases, SC&A conferred with OPIC/DFC on suitable emission methodologies that maintained continuity with past GHG assessments and could reasonably characterize a project's activities, scale, and complexity.

Table 1 shows the list of short-listed projects, inclusive of projects that were active in FY2022 but not yet operational during CY 2022 (*e.g.*, under construction). This list includes a separate section for projects which were initially screened for analysis but found to be below the 25,000 STPY threshold in CY 2022. For the record, a list of past short-listed projects is presented in Table 2.

Tier A – Power Generation Sources

SC&A and OPIC/DFC identified eight (8) Tier A projects that were both active and in operation in CY 2022. One (1) additional project was screened as active but still under construction and thus not subject to reporting in CY 2022. In general, the maximum PTE for Tier A projects is based on an operating capacity of 8,000 hours per year (unless otherwise noted), fuel consumption data (where available), the projects' power-generating capacity in megawatts (MW), and/or specific estimates of GHG emissions provided by the project sponsor (when available). The preferred method relied on emission estimates derived from fuel consumption data. Project-level activity data, as well as reference conversion and emission factors used in the assessments of annual GHG emissions, are detailed in Appendix B. CY 2022 Tier A emissions were **5,400,816** short tons of CO_2e.

Tier B – Oil & Gas and Other Large Sources

Tier B projects are projects in the oil and gas, mining, transportation, manufacturing, construction, or other sectors which have a PTE greater than 100,000 STPY of CO_2e. SC&A and OPIC/DFC identified eight (8) Tier B projects that were both active and in operation in CY 2022. Three (3) additional projects were screened as active but still under construction and thus this project was not subject to reporting in CY 2022. Project emissions were estimated based on production throughput, fuel consumption data, and/or GHG emissions data from similar facilities. All maximum PTE estimates assume an operating capacity of 8,000 hours per year, unless otherwise noted. Emission factors and other industry-relevant metrics were obtained from credible, published information sources. Activity data and calculation details are shown in Appendix B. Note that six of the eight active Tier B project had emissions that were below the 25,000 STPY reporting threshold, and therefore those emissions were not aggregated to the CY 2022 Tier B emission subtotal of **5,050,818** short tons of CO_2e.

Tier C – Smaller Sources

The initial screen for Tier C projects excluded projects already known to exceed 100,000 STPY of CO_2e and projects previously determined to be below the threshold of 25,000 STPY CO_2e. SC&A performed inventory calculations for shortlisted projects based on project descriptions and project sponsor-provided information, as well as published data and emissions factors. SC&A and OPIC/DFC identified two (2) Tier C projects that were both active and in operation in CY 2022. Activity data and calculation details are shown in Appendix B. CY 2022 Tier C emissions were **88,682** short tons of CO_2e.

Buffer for Additional Sources

The OPIC/DFC GHG inventory directly assesses emissions from projects that exceed the threshold of 25,000 STPY of CO_2e. It is plausible that several projects do not exceed 25,000 STPY of CO_2e annually but may still have a sizeable contribution to OPIC/DFC's carbon footprint. To maintain a conservative estimate of emissions from non-carbon-intensive projects, OPIC/DFC applies a buffer that is scaled to 5% of the emissions from carbon-intensive projects in a given year. The CY 2022 Buffer for Additional Sources was **527,016** short tons of CO_2e.

Table 1. CY 2022 Short List of Carbon-Intensive Projects

Tier	Project	Country	Sector	Reporting Year	
				First	Last
Operational, Above 25,000 STPY Threshold					
Tier A	AES Jordan	Jordan	Energy – Power	CY2008	CY2022
Tier A	AES Levant	Jordan	Energy – Power	CY2014	CY2022
Tier A	Amandi Energy Ltd.	Ghana	Energy – Power	CY2017	CY2022
Tier A	Azura-Edo Power Project – Senior Loan	Nigeria	Energy – Power	CY2017	CY2022
Tier A	Contour Global – Cap Des Biches	Senegal	Energy – Power	CY2016	CY2022
Tier A	Contour Global – Togo	Togo	Energy – Power	CY2010	CY2022
Tier A	Energia del Pacifico CV	El Salvador	Utilities	CY2021	CY2022
Tier A	Tè Power Company SASU	Guinea	Energy – Power	CY2017	CY2022
Tier B	Various Egypt Subsidiaries (Apache)	Egypt	Energy – Oil and Gas	CY2007	CY2022
Tier B	Compagnie des Bauxites de Guinee	Guinea	Energy – Power	CY2017	CY2022
Tier C	Aga Khan Hospital & Medical College	Pakistan	Health Care	CY2014	CY2022
Tier C	Qalaa Holdings (aka Citadel)	Egypt	Manufacturing	CY2012	CY2022
Under Construction / Not Operational					
Tier A	CECA SL Generation Ltd.	Sierra Leone	Utilities	CY2021	CY2022
Tier B	Pearl Petroleum Company Ltd.	Iraq	Manufacturing	CY2021	CY2022
Tier B	Twigg Exploration and Mining Ltd.	Mozambique	Mining, Quarrying, and Oil and Gas Extraction	CY2022	CY2022
Tier B	Yilport Terminal Operations S.A.	Ecuador	Transportation and Warehousing	CY2022	CY2022
Operational, Below 25,000 STPY Threshold					
Tier B	Alistair James Company	Tanzania	Transportation and Warehousing	CY2021	CY2022
Tier B	GESZ Mineral Port	Gabon	Transportation and Warehousing	CY2022	CY2022
Tier B	Nouakchott Container Terminal	Mauritania	Transportation and Warehousing	CY2021	CY2022
Tier B	Poti New Sea Port LLC	Georgia	Transportation and Warehousing	CY2021	CY2022
Tier B	Techmet Ltd.	Brazil	Mining, Quarrying, and Oil and Gas Extraction	CY2021	CY2022
Tier B	Tetra4 Propriatery Ltd.	South Africa	Mining, Quarrying, and Oil and Gas Extraction	CY2021	CY2022

Source: OPIC/DFC and SC&A, Inc.

Table 2. Short List of Past Carbon-Intensive Projects

Tier	Project	Country	Sector	Reporting Year	
				First	Last
Tier A	Acu Petroleo SA	Brazil	Transportation and Warehousing	CY2016	CY2020
Tier A	Adapazari Elektrik Uretim	Turkey	Energy – Power	CY2007	CY2012
Tier A	AES Nigeria	Nigeria	Energy – Power	CY2007	CY2012
Tier A	Arish-Ashkelon Pipeline	Egypt	Transportation and Warehousing	CY2019	CY2020
Tier A	Doga Enerji	Turkey	Energy – Power	CY2007	CY2010
Tier A	Gaza Private Generating PLC	Gaza	Energy – Power	CY2007	CY2017
Tier A	Gebze Elektrik Uretim	Turkey	Energy – Power	CY2007	CY2011
Tier A	Grenada Electricity Services (WRB)	Grenada	Energy – Power	CY2007	CY2013
Tier A	Habibullah Coastal Power	Pakistan	Energy – Power	CY2007	CY2008
Tier A	Izmir Elektrik Uretim	Turkey	Energy – Power	CY2007	CY2011
Tier A	Jorf Lasfar Energy	Morocco	Energy – Power	CY2007	CY2007
Tier A	NEPC Consortium Power	Bangladesh	Energy – Power	CY2007	CY2011
Tier A	Paiton Energy	Indonesia	Energy – Power	CY2007	CY2011
Tier A	Pakistan Water & Power Authority	Pakistan	Energy – Power	CY2007	CY2010
Tier A	Power Finance Trust Ltd. (aka Isagen SA)	Colombia	Energy – Power	CY2007	CY2016
Tier A	Termovalle SCA	Colombia	Energy – Power	CY2007	CY2012
Tier A	Trakya Elektrik Uretim	Turkey	Energy – Power	CY2007	CY2007
Tier B	Accroven SRL	Venezuela	Energy – Oil and Gas	CY2007	CY2008
Tier B	Baku-Tblisi-Ceyhan Pipeline	Azerbaijan	Energy – Oil and Gas	CY2007	CY2012
Tier B	E.P. Interoil	Papua New Guinea	Energy – Oil and Gas	CY2007	CY2011
Tier B	Equate Petrochemical	Kuwait	Energy – Oil and Gas	CY2007	CY2008
Tier B	Foxtrot International	Cote d'Ivoire	Energy – Oil and Gas	CY2007	CY2011
Tier B	Lukoil RPK Vysotsk	Russia	Energy – Oil and Gas	CY2007	CY2014
Tier B	Natural Gas Liquids II Financing	Nigeria	Energy – Oil and Gas	CY2007	CY2008
Tier B	Pannonia Ethanol	Hungary	Manufacturing	CY2007	CY2015
Tier B	West African Pipeline	Ghana	Energy – Oil and Gas	CY2007	CY2018
Tier B	Wilpro Energy Services (El Furrial)	Venezuela	Energy – Oil and Gas	CY2007	CY2008
Tier B	Wilpro Energy Services (Pigap)	Venezuela	Energy – Oil and Gas	CY2007	CY2008
Tier C	Central Asia University	Tajikistan	University	CY2017	CY2018
Tier C	CGLOB Astarta Zhadanivka Kyiv LLC	Ukraine	Agro-processing	CY2007	CY2015
Tier C	Dominica Electricity Services	Dominican Republic	Energy – Oil and Gas	CY2009	CY2011
Tier C	Jose Lindley	Peru	Manufacturing	CY2009	CY2010
Tier C	Joshi Technologies / Parko Services	Colombia	Energy – Oil and Gas	CY2009	CY2015
Tier C	Lebanese American University	Lebanon	University	CY2018	CY2019
Tier C	Negev Energy	Israel	Utilities	CY2016	CY2020

Source: OPIC/DFC and SC&A, Inc.

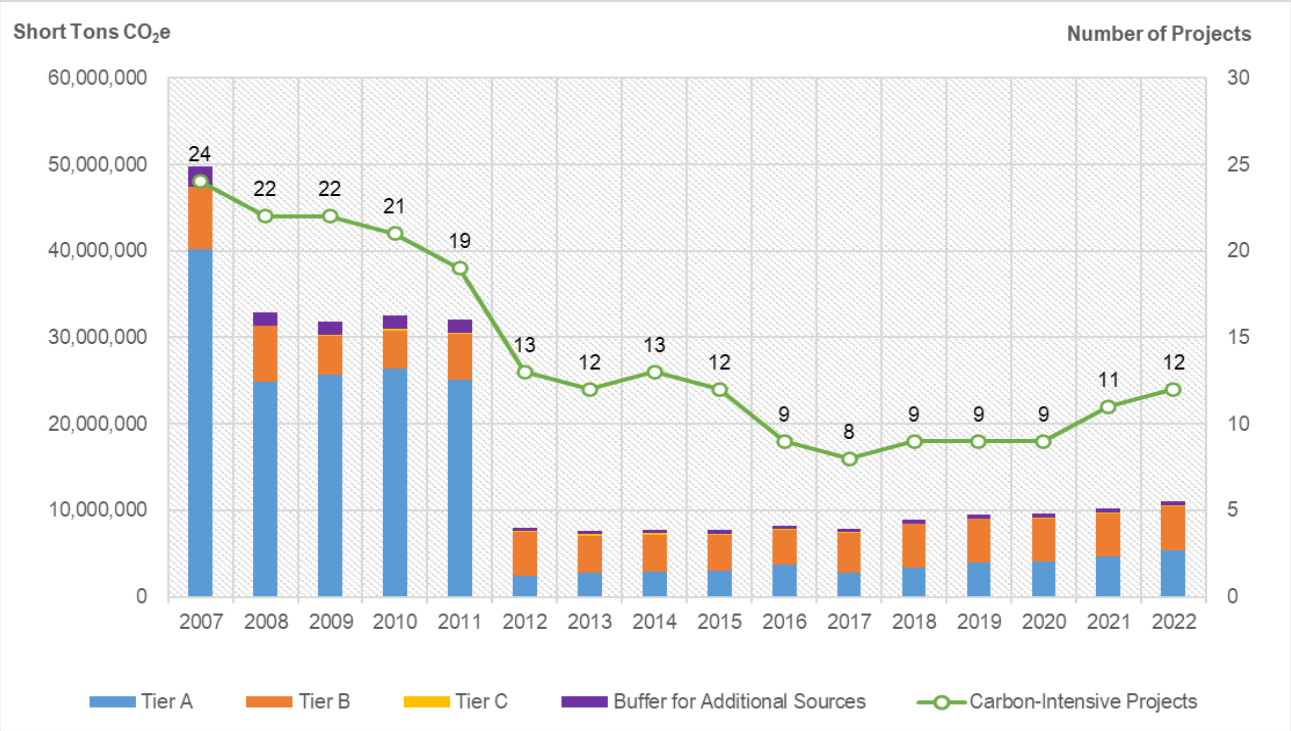
RESULTS

OPIC/DFC's total CY 2022 GHG inventory is an estimated **11,067,332** short tons of CO_2e. In CY 2022, four Tier B projects, GESZ Mineral Port, Nouakchott Container Terminal, Poti New Sea Port LLC, and Techmet Limited, came into operation in CY 2022, but fell below the 25,000 STPY threshold. One other project, Energia del Pacifico CV (Tier A), was added to the inventory in CY 2022. Total portfolio emissions increased by 8.0%, or 820,057 short tons CO_2e, relative to CY 2021.

Based on legislation in place at the time of commitment, three of the projects that OPIC/DFC has supported are exempt from counting towards OPIC/DFC's GHG reduction targets[9], with total emissions of 3,211,157 short tons of CO_2e. When the emissions from these projects are removed from the GHG inventory, along with their share of the 5% buffer for additional sources (160,558 tCO2e), OPIC/DFC's CY 2022 GHG inventory of non-exempt projects is an estimated **7,695,617** short tons of CO_2e.

Figure 2 presents the GHG emission and project count trend for OPIC/DFC's inventories from CY 2007 to CY 2022. For the project count, active and operational projects were accounted for, with the exclusion of active projects that are still under construction.

Figure 2. OPIC/DFC Active Portfolio GHG Emissions, CY 2007 – CY 2022



9 P.L. 111-117 Sec 7079(b)(12/16/2009) statutorily required OPIC/DFC to implement a revised climate change plan to reduce the GHG emissions associated with its projects by at least 30% over 10 years and 50% over 15 years.

The technical profile of projects deemed carbon-intensive since the inception of OPIC/DFC's GHG inventory is represented in Table 3. Emission inventory details starting with the CY 2007 Baseline Inventory and culminating with the CY 2022 GHG inventory are presented in Tables 4 through 6, which present historical emissions from Tier A, Tier B, and Tier C projects respectively. Table 7 summarizes GHG emissions of OPIC/DFC's entire portfolio, including emissions associated with potentially unaccounted sources (*i.e.*, Buffer for Additional Sources). Projects which are not yet operational or have never exceeded the 25,000 STPY threshold are not included in these tables.

Table 3. Technical Profile of Carbon-Intensive Projects (CY 2007 – CY 2022)

Project Name	Description	Capacity / Throughput	Fuel Type
Accroven SRL	NGL Facility	800 mmscf/day	Natural Gas
Adapazari Elektrik Uretim	Combined Cycle	777 MW	Natural Gas
Açu Petroleo S.A.	Oil & Petroleum Terminal	300 MW	Natural Gas
AES Jordan	Combined Cycle	370 MW	Natural Gas & Diesel
AES Levant	Engine-Based Power Generation	240 MW	Heavy Fuel Oil & Natural Gas
AES Nigeria	Engine-Based Power Generation	270 MW	Natural Gas
Aga Khan Hospital & Medical College	Power Plant, Boilers	4.8 MW	Natural Gas
Amandi Energy Limited	Combined Cycle	200 MW	Fuel Oil & Natural Gas
Azura-Edo Power Project- Senior Loan	Combined Cycle	450 MW	Natural Gas
Baku-Tblisi-Ceyhan Pipeline	Crude Oil Pipeline	1.2 million barrels/day	Natural Gas & Diesel
CGLOB Astarta Zhadanivka Kyiv LLC	Agro-processing	5.4 MW	Natural Gas & Coal
Compagnie des Bauxites de Guinee	Mining	28.3 MW	Fuel Oil & Diesel
Contour Global – Cap Des Blches	Power Plant	86 MW	Fuel Oil
Contour Global - Togo	Engine-Based Power Generation	100 MW	Fuel Oil & Natural Gas
Doga Enerji	Combined Cycle	180 MW	Natural Gas
Dominica Electric Services	Power Generation	7 MW	Diesel
Energia del Pacifico CV	Power Plant	378 MW	Natural Gas
E.P. Interoil	Crude Oil Refinery	32,500 barrels/day	Crude Oil Refinery
Equate Petrochemical	Petrochemical Facility	1540 MMBtu/hour	Natural Gas
Foxtrot International	Gas Extraction & Pipeline	100 mmscf/day	Natural Gas
Gaza Private Generating PLC	Combined Cycle	136.4 MW	Natural Gas
Gebze Elektrik Uretim	Combined Cycle	1554 MW	Natural Gas
Grenada Electricity Services (WRB)	Engine-Based Power Generation	18 MW	Diesel
Habibullah Coastal Power	Combined Cycle	140 MW	Natural Gas
Izmir Elektrik Uretim	Combined Cycle	1554 MW	Natural Gas
Jorf Lasfar Energy	Steam Boiler	1356 MW	Coal
Jose Lindley	Manufacturing	-	Natural Gas
Joshi Technologies / Parko Services	Oil & Gas	20 million cubic meters/year	Gas & Diesel
Lukoil RPK Vysotsk	Oil & Petroleum Export Terminal	6.8 million metric tons/year	Fuel Oil
Natural Gas Liquids II Financing	NGL Facility	19.5 mmscf/day	Natural Gas
Negev Energy	Solar Power Generation	110 MW	Solar & Natural Gas

NEPC Consortium Power	Engine-Based Power Generation	313,105 MMBtu	Natural Gas & Fuel Oil
Paiton Energy	Steam Boiler	1220 MW	Coal
Pakistan Water & Power Authority	Combined Cycle	150 MW	Natural Gas
Pannonia Ethanol	Ethanol Production	240 million liters/year	Natural Gas
Power Finance Trust (aka Isagen)	Combined Cycle	300 MW	Natural Gas
Qalaa Holdings (aka Citadel)	Manufacturing	24 million cubic meters /year	Natural Gas
Tè Power Company SASU	Thermal Power Production	50 MW	Thermal
Termovalle SCA	Combined Cycle	205 MW	Natural Gas
Trakya Elektrik Uretim	Combined Cycle	478 MW	Natural Gas
University of Central Asia	Diesel Boiler	230 liters/hour	Diesel
Various Egypt Subsidiaries (Apache)	Oil & Gas Extraction & Processing	29,934,702 bbl/year 89,910 mmscf/year	Oil & Natural Gas
West Africa Gas Pipeline	Gas Compression & Transmission	190 mmscf/day	Natural Gas
Wilpro Energy Services (El Furrial)	Gas Compression	60 MW	Natural Gas
Wilpro Energy Services (Pigap)	Gas Compression	100 MW	Natural Gas

Table 4. Tier A Historical Project Emissions (Short Tons CO_2e)

Project Name	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
	CY2007 Baseline	CY2008 Emissions	CY2009 Emissions	CY2010 Emissions	CY2011 Emissions	CY2012 Emissions	CY2013 Emissions	CY23014 Emissions	CY2015 Emissions	CY2016 Emissions	CY2017 Emissions	CY2018 Emissions	CY2019 Emissions	CY2020 Emissions	CY2021 Emissions	CY2022 Emissions
Adapazari Elektrik Uretim	2,106,754	2,106,754	2,441,657	2,426,053	2,309,241	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
AES Jordan [1]	N/A	590,940	1,318,130	1,434,569	1,184,010	936,400	1,514,054	1,203,945	949,925	1,588,326	1,401,138	1,401,138	1,472,387	1,344,371	1,282,021	1,150,236
AES Levant	N/A	N/A	N/A	N/A	N/A	N/A	N/A	467,262	685,110	228,994	345,980	345,980	394,784	189,237	218,165	299,399
AES Nigeria	1,166,398	1,341,157	988,271	949,754	949,754	949,754	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Amandi Energy Limited [4]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	286,282	635,797
Azura Edo Power Project [4]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	919,017	1,557,274	1,949,527	2,114,667	2,202,565
Contour Global Cap Des Biches [4]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	184,699	407,735	407,735	365,338	366,114	389,715	372,795
Contour Global - Togo	N/A	N/A	N/A	Below Threshold	46,561	126,192	161,830	55,467	210,901	496,564	329,875	329,875	215,349	258,811	289,087	257,805
Doga Enerji	740,762	740,762	672,014	655,981	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Gaza Private Generating PLC	293,804	303,535	325,926	228,627	405,262	Below Threshold	161,215	193,406	253,808	246,460	269,253	R/C	R/C	R/C	R/C	444,927
Gebze Elektrik Uretim	4,121,923	4,121,923	4,794,979	4,833,330	4,535,511	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Grenada Electricity Services	114,571	121,156	141,127	135,237	134,371	131,206	130,221	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Habibullah Coastal Power	447,880	447,880	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Izmir Elektrik Uretim	4,694,380	4,694,380	4,300,376	4,739,787	4,824,511	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Jorf Lasfar Energy	14,268,496	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
NEPC Consortium Power	245,795	343,581	255,734	297,068	297,068	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Paiton Energy	9,553,044	9,553,044	9,624,125	9,854,076	10,045,869	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Pakistan Water & Power Authority [2]	522,490	522,490	283,937	283,937	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Power Finance Trust (aka Isagen)	203,010	Below Threshold	300,706	305,181	305,181	305,181	775,357	980,011	963,992	963,992	R/C	R/C	R/C	R/C	R/C	R/C
Tè Power SASU	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	38,738	37,292
Termovalle SCA [3]	Below Threshold	Below Threshold	223,983	223,983	Below Threshold	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Trakya Elektrik Uretim	1,747,956	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C

NOTE: “N/A” indicates that a project was not yet active in the OPIC/DFC Portfolio during that year. “R/C” indicates that the project was either repayed (loan or guarantee) or cancelled (insurance) prior to the cutoff date for that year. Totals may not sum due to rounding.
[1] Sharp emission increase due to ramped-up energy production from 10,103,603 MMBtu in CY 2007 to 22,536,748 MMBtu in CY 2008.
[2] CY 2009 emissions are significantly lower due to fewer reported operating hours.
[3] CY 2009 emissions are significantly higher due to increased reported operating hours.
[4] These projects are exempt from counting towards OPIC/DFC’s GHG reduction targets because they are affordable power projects located in countries that were eligible for lending under the International Development Association (IDA) at the time of commitment.

Table 5. Tier B Historical Project Emissions (Short Tons CO_2e)

Project Name	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
	CY2007 Baseline	CY2008 Emissions	CY2009 Emissions	CY2010 Emissions	CY2011 Emissions	CY2012 Emissions	CY2013 Emissions	CY2014 Emissions	CY2015 Emissions	CY2016 Emissions	CY2017 Emissions	CY2018 Emissions	CY2019 Emissions	CY2020 Emissions	CY2021 Emissions	CY2022 Emissions
Accroven SRL	998,677	445,832	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Acu Petroleo S.A.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Below Threshold	126,143	Below Threshold	Below Threshold	Below Threshold	R/C	R/C
Alistair James Company	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Below Threshold	Below Threshold
Arish-Ashkelon Pipeline	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Below Threshold	R/C	R/C
Baku-Tblisi-Ceyhan Pipeline	707,672	707,672	787,577	723,214	671,605	584,200	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Compagnie Des Bauxites	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	386,151	412,131	341,627	434,287	434,287
E.P. Interoil [5]	392,296	103,247	79,709	75,928	74,985	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Equate Petrochemical	720,573	680,311	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Foxtrot International [2]	104,484	104,484	104,484	Below Threshold	27,746	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
GESZ Mineral Port	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Below Threshold
Lukoil RPK Vysotsk [3] [5]	70,767	70,767	76,339	97,117	91,143	92,696	95,070	99,423	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Natural Gas Liquids II Financing	244,048	244,048	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Nouakchott Container Terminal	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Below Threshold
Pannonia Ethanol	R/C	R/C	R/C	R/C	R/C	64,244	93,251	101,474	113,785	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Poti New Sea Port LLC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Below Threshold
Techmet Limited	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Below Threshold
Tetra4 Proprietary Limited	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Below Threshold	Below Threshold
Various Egypt Subsidiaries (Apache) [4]	3,071,932	3,244,189	3,294,654	3,465,842	4,438,554	4,178,447	4,056,437	4,012,346	3,891,093	4,007,937	4,539,735	4,600,146	4,600,146	4,640,970	4,616,530	4,616,530
West Africa Gas Pipeline	Not Operational	Not Operational	189,800	70,925	86,617	86,617	86,617	86,617	68,281	68,281	Below Threshold	Below Threshold	R/C	R/C	R/C	R/C
Wilpro Energy Services (El Furrial)	289,106	289,106	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Wilpro Energy Services (Pigap)	571,090	571,090	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C

NOTE: "N/A" indicates that a project was not yet active in the OPIC/DFC Portfolio during that year, and "R/C" indicates that the project was either repayed (loan or guarantee) or cancelled (insurance) prior to the cutoff date for that year. Totals may not sum due to rounding.

[1] Foxtrot maximum PTE corresponds to the peak emissions year when the project was active. In 2010, Foxtrot operated for a minimal period of time and thus had corresponding GHG emissions below the established threshold.
[2] Lukoil had the Potential-to-Emit over 100,000 tons CO_2 annually, although emissions were consistently reported below this level.
[3] In 2007 and 2008, Apache reported their emissions in relation to their equity share of the project (49%). OPIC/DFC accounts 100% of a project's emissions regardless of equity share. As a result, emissions data for 2007 and 2008 were revised up to conform to OPIC/DFC standards.

Table 6. Tier C Historical Project Emissions (Short Tons CO_2e)

Project Name	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
	CY2009 Emissions	CY2010 Emissions	CY2011 Emissions	CY2012 Emissions	CY2013 Emissions	CY2014 Emissions	CY2015 Emissions	CY2016 Emissions	CY2017 Emissions	CY2018 Emissions	CY2019 Emissions	CY2020 Emissions	CY2021 Emissions	CY2022 Emissions
Aga Khan Hospital and Medical College	N/A	N/A	N/A	N/A	N/A	25,064	28,653	29,093	28,306	28,367	30,632	32,112	30,264	29,129
CGLOB Astarta Zhadanivka Kyiv LLC	N/A	N/A	Below Threshold	36,886	25,470	38,404	32,202	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Dominica Electric Services	50,084	50,084	50,084	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Jose Lindley	25,000	25,000	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Joshi Technologies / Parko Services	30,398	57,826	43,564	52,894	73,685	91,861	91,224	R/C	R/C	R/C	R/C	R/C	R/C	R/C
Negev Energy	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Operational	Not Operational	Not Operational	Below Threshold	Below Threshold	R/C	R/C
Qalaa Holdings	N/A	N/A	N/A	46,707	52,169	47,437	34,279	Below Threshold	Below Threshold	45,919	47,615	54,695	59,553	59,553
Central Asia University	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Below Threshold	Below Threshold	R/C	R/C	R/C	R/C
Lebanese American University	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Below Threshold	Below Threshold	R/C	R/C	R/C

NOTE: "N/A" indicates that a project was not yet active in the OPIC/DFC Portfolio during that year, and "R/C" indicates that the project was either repayed (loan or guarantee) or cancelled (insurance) prior to the cutoff date for that year. Totals may not sum due to rounding.

Table 7. Summary of OPIC/DFC Historical Portfolio Emissions (Short Tons CO_2e)

	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Inventory Item	**CY2007 Baseline**	**CY2008 Emissions**	**CY2009 Emissions**	**CY2010 Emissions**	**CY2011 Emissions**	**CY2012 Emissions**	**CY2013 Emissions**	**CY2014 Emissions**	**CY2015 Emissions**	**CY2016 Emissions**	**CY2017 Emissions**	**CY2018 Emissions**	**CY2019 Emissions**	**CY2020 Emissions**	**CY2021 Emissions**	**CY 2022 Emissions**
Tier A	40,227,263	24,887,602	25,670,965	26,367,582	25,037,339	2,448,733	2,742,677	2,900,090	3,063,735	3,709,035	2,753,980	3,403,744	4,005,132	4,108,060	4,618,674	5,400,816
Tier B	7,170,645	6,460,746	4,532,563	4,433,027	5,390,650	5,006,203	4,331,375	4,299,859	4,073,160	4,076,218	4,665,895	4,986,296	5,012,276	4,982,597	5,050,818	5,050,818
Tier C	NQ [4]	NQ	105,482	132,910	93,648	136,486	151,325	202,766	186,358	29,093	28,312	74,286	78,246	86,807	89,817	88,682
Tier A, B, C Subtotal	47,397,908	31,348,348	30,309,010	30,933,519	30,521,637	7,591,422	7,225,377	7,402,715	7,323,253	7,814,346	7,448,187	8,464,326	9,095,654	9,177,464	9,759,309	10,540,316
Latin America Power III Fund [1]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5% Buffer for Additional Sources [2]	2,369,895	1,567,417	1,515,451	1,546,676	1,526,082	379,571	361,269	370,136	366,163	390,717	372,409	423,216	454,783	458,873	487,965	527,016
TOTAL:	**49,767,803**	**32,915,765**	**31,824,461**	**32,480,195**	**32,047,719**	**7,970,993**	**7,586,646**	**7,772,851**	**7,689,416**	**8,205,063**	**7,820,596**	**8,887,542**	**9,550,437**	**9,636,337**	**10,247,274**	**11,067,332**
Emissions from Exempt Projects [3]	0	0	0	0	0	0	0	0	0	0	0	1,393,089	2,018,743	2,431,423	2,930,197	3,371,714
Total (Non-Exempt Projects)	**49,767,803**	**32,915,765**	**31,824,461**	**32,480,195**	**32,047,719**	**7,970,993**	**7,586,646**	**7,772,851**	**7,689,416**	**8,205,063**	**7,820,573**	**7,494,453**	**7,531,694**	**7,204,914**	**7,317,078**	**7,695,617**

NOTE: Totals may not sum due to rounding.

[1] Per agreement between Latin American Power III and OPIC/DFC, the Fund agreed to "not make an investment in a Portfolio Company if, after such investment, the assets and operations of all Portfolio Companies then held by the Fund would emit (in the aggregate and on a calendar-year basis) in excess of 2,077,500 STPY CO_2e as calculated in accordance with the IPCC". In FY 2014, OPIC/DFC determined that the Fund would not invest in any power-generating projects; therefore, the allocation for the Latin American Power III Fund was not included in the FY 2014 inventory and subsequent inventories. To ensure the reported emissions are accurate, OPIC/DFC retroactively removed this allocation from the FY 2008-2013 inventories.

[2] For the CY 2007 Baseline and CY 2008 inventories, the buffer was calculated as 5% of all carbon-intensive projects (*i.e.*, those projects that emitted more than 100,000 STPY of CO_2e). For the original CY 2010, CY 2011, CY 2012, and CY 2013 emissions, (*i.e.*, after the threshold for a carbon-intensive project was reduced from 100,000 tpy to 25,000 tpy CO_2e), the buffer was calculated so that the buffer plus the Tier C projects that emitted between 25,000 and 100,000 STPY of CO_2e was equal to 5% of emissions from projects that emitted more than 100,000 STPY of CO_2e. Starting with the CY 2014 inventory, the buffer for additional sources was calculated as 5% of all carbon-intensive projects under the new threshold of 25,000 STPY CO_2e (*i.e.*, Tier A, B and C emissions combined). OPIC/DFC applied this calculation retroactively to the buffer for CY 2009 – CY 2013, which resulted in an increase in the buffer, and a subsequent increase in reported emissions of between 0.3% and 2.3%.

[3] Based on legislation in place at the time of commitment, several projects that OPIC/DFC has supported are exempt from counting towards OPIC/DFC's GHG reduction targets. This shows the emissions from those exempted projects, along with their share of the 5% buffer for additional sources.

[4] Not quantified during that year.

APPENDIX A – LIST OF ACTIVE PROJECTS

This table lists projects active as of September 30, 2023 that were screened as part of the CY 2022 GHG inventory development process.

PROJECT NAME	COUNTRY	SECTOR
1st Valley Bank	Philippines	Finance and Insurance
3 Bank Jsc Novi Sad	Serbia	Finance and Insurance
57 Stars Direct Impact	Kenya	Finance and Insurance
57 Stars Global Opportunity Fund 4	Worldwide	Finance and Insurance
57 Stars Global Opportunity Fund 4, L.P And GOF 4	Worldwide	Finance and Insurance
Ab Microfinance Bank Nigeria	Nigeria	Finance and Insurance
Abi Group Ltd.	Afghanistan	Manufacturing
Abound Capital Master Fund I Pte. Ltd.	Asia Regional	Finance and Insurance
Absa Bank Ghana Limited	Ghana	Finance and Insurance
Absa Bank Limited	South Africa	Finance and Insurance
Absa Bank Mozambique, Sa	Mozambique	Finance and Insurance
Absa Bank Zambia Plc	Zambia	Finance and Insurance
Absa Botswana	Botswana	Finance and Insurance
Accèsbanque Madagascar	Madagascar	Finance and Insurance
Access Africa Fund	Africa Regional	
Access Bank Plc	Nigeria	Finance and Insurance
Access Financial Services	Jamaica	Finance and Insurance
Accessbank Liberia Limited	Liberia	Finance and Insurance
Accessbank Liberia Limited	Liberia	Finance and Insurance
Accessbank Liberia Limited	Liberia	Finance and Insurance
Accial Capital Fund 1, Llc	Worldwide	Finance and Insurance
Acercasa SAS	Colombia	Finance and Insurance
Acord Capital	Colombia	Real Estate and Rental and Leasing
Addiko Bank A.D Beograd	Serbia	Finance and Insurance
Addiko Bank Ad Beograd	Serbia	Finance and Insurance
Addis International Bank S.C.	Ethiopia	Finance and Insurance
Adenia Capital V Lp	Africa Regional	
Adm Capital Somei Lending Platform Ltd. (Senior)	Asia Regional	Finance and Insurance
Adm Capital Somei Lending Platform Ltd. (Subordina	Asia Regional	Finance and Insurance
Adm Capital Sustainable Landscape	Indonesia	Finance and Insurance
Advans Tunisie	Tunisia	Finance and Insurance
Aes Jordan Psc	Jordan	Utilities
Aes Levant Holdings B.V/Jordan	Jordan	Utilities
Aes Levant Psc	Jordan	Utilities
Africa Data Centres	Africa Regional	Information
Africa Eye Foundation	Cameroon	Health Care and Social Assistance
Africa Finance Corporation	Africa Regional	Finance and Insurance
Africa Finance Corporation (Tier Ii)	Africa Regional	Finance and Insurance
Africa Healthcare Network	Africa Regional	Health Care and Social Assistance
Africa Renewable Energy Fund Ii ("Aref Ii")	Africa Regional	
African Banking Corporation Limited (Abc Bank Kenya)	Kenya	Finance and Insurance
African Banking Corporation Of Botswana Limited	Botswana	Finance and Insurance
African Banking Corporation Of Zambia Limited	Zambia	Finance and Insurance
African Hotel Infrastructure Fund Maseru (Pty) Ltd	Lesotho	Accommodation and Food Services
African Infrastructure Investment Fund 4	Africa Regional	
African Leadership Academy	South Africa	Educational Services
African Local Currency Bond Fund	Africa Regional	Finance and Insurance
Africell Holding Limited	Africa Regional	Information
Africinvest Fund IV LLC	Africa Regional	
Aga Khan Hospital And Medical College Founda	Pakistan	Health Care and Social Assistance

Agdevco	Africa Regional	Finance and Insurance
Agri Exim Global Philippines, Inc.	Philippines	Manufacturing
Akbank T.A.S.	Turkey	Finance and Insurance
Akbank T.A.S.	Turkey	Finance and Insurance
Al Tamweel Al Saree Llc	Iraq	Finance and Insurance
Alcazar Energy Partners II SLP (Scsp)	Middle East Regional	
Alistair James Company Ltd	Tanzania	Transportation and Warehousing
Almavest Ltd. - Trella Holding B.V.	Egypt	Professional, Scientific, and Technical Services
Al-Mirnaah Investment & Business Development Compa	Jordan	Information
Alsis Mexico Opportunities Fund	Mexico	Finance and Insurance
Althelia Biodiversity Fund Brazil Fundo De Investimento Em Participacoes Multiestrategia	Brazil	Finance and Insurance
Althelia Climate Fund	Worldwide	Finance and Insurance
Alto Maipo Spa	Chile	Utilities
Alto Maipo Spa	Chile	Utilities
Am Solar B.V./Jordan	Jordan	Utilities
Amana Bank Limited	Tanzania	Finance and Insurance
Amandi Energy Limited	Ghana	Utilities
Amandi Energy Limited	Ghana	Utilities
American International School Of Monrovia In	Liberia	Educational Services
American International School Systems, Inc.	Pakistan	Educational Services
American Intl. School Of Bamako	Mali	Educational Services
American Intl. School-Kingston	Jamaica	Educational Services
American Medical Investment Company Llc	Oman	Health Care and Social Assistance
Amicus Capital Partners Ifsc Fund Ii & Amicus Capital Partners Ii	Asia Regional	
Amk Microfinance Institution	Cambodia	Finance and Insurance
Ampersand Rwanda Ltd. And Ampersand E- Mobility Lt	Rwanda	Finance and Insurance
Ananya Finance For Inclusive Growth Private Limited	India	Finance and Insurance
Ankur Capital Fund Iii	Asia Regional	
Annapurna Finance Pvt. Ltd.	India	Finance and Insurance
Antigua And Barbuda	Antigua/Barbuda	
Antigua And Barbuda	Antigua/Barbuda	
Antigua And Barbuda	Antigua/Barbuda	
Antigua And Barbuda	Antigua/Barbuda	
Antigua And Barbuda	Antigua/Barbuda	
Apollo Agriculture, Inc.	Kenya	Finance and Insurance
Apollo Towers	Burma/Myanmar	Construction
Aqua Capital Fund Iii	Latin America Regional	
Arab Tunisian Bank Guaranty	Tunisia	Finance and Insurance
Arazindo LLC	Georgia	Accommodation and Food Services
Aristo Securities Private Limited (Revfin)	India	Finance and Insurance
Armenia Hotel Complex - 2	Armenia	Accommodation and Food Services
Aruna	Indonesia	
Aryadhan Financial Solutions Pvt Ltd	India	Finance and Insurance
Asa International Group	Worldwide	Finance and Insurance
Asa Microfinance Myanmar	Burma	Finance and Insurance
Ashmore Avenida Latam Energy Efficient Affordable Housing Fund III	Latin America Regional	
Asia Partners I Lp	Asia Regional	
Asia Partners Ii Lp	Asia Regional	
Aspen Finance Proprietary Ltd	South Africa	Manufacturing
Ast Telecom Solar Private Limited	India	Utilities
Atlantica Ventures Fund 1	Africa Regional	
Australis Aquaculture Vietnam Limited	Vietnam	Agriculture, Forestry, Fishing and Hunting
Av Ventures Ghana Llc	Ghana	Finance and Insurance
Avanti Finance Private Limited	India	Finance and Insurance
Avenida Colombia Real Estate Fund Ii, L.P.	Colombia	Finance and Insurance

Avenida Colombia Real Estate Fund Ii, L.P. - B	Colombia	Finance and Insurance
Averda Holdings International Limited	Africa Regional	Manufacturing
Awash International Bank	Ethiopia	Finance and Insurance
Ayc Colanta LPG	Colombia	Finance and Insurance
Ayeyarwady Bank Limited (Aya Bank)	Burma	Finance and Insurance
Azul Linhas Aereas Brasileiras S.A.	Brazil	Manufacturing
Azura Power West Africa Ltd	Nigeria	Utilities
Azura-Edo Power Project- Junior Loan	Nigeria	Utilities
Azura-Edo Power Project- Senior Loan	Nigeria	Utilities
Azure Source Capital	El Salvador	Finance and Insurance
Bac Guatemala- Lpg	Guatemala	Finance and Insurance
Bac San Jose Dpr Funding	Costa Rica	Finance and Insurance
Bai Tushum	Kyrgyzstan	Finance and Insurance
Bamboo Capital Partners Build Fund- Lpg	Worldwide	Finance and Insurance
Banca Intesa A.D. Beograd	Serbia	Finance and Insurance
Banca Intesa Ad Beograd	Serbia	Finance and Insurance
Bancamia	Colombia	Finance and Insurance
Banco Atlántida S.A.	Honduras	Finance and Insurance
Banco Azul	El Salvador	Finance and Insurance
Banco Azul De El Salvador	El Salvador	Finance and Insurance
Banco Bac San Jose, S.A.	Costa Rica	Finance and Insurance
Banco Bac San Jose, S.A. (Tranche A)	Costa Rica	Finance and Insurance
Banco Btg Pactual S.A.	Brazil	Finance and Insurance
Banco Caja Social, S.A.	Colombia	Finance and Insurance
Banco Centroamericano De Integracion	Honduras	
Banco Centroamericano De Integracion	Honduras	
Banco Centroamericano De Integración Económica	Latin America Region	Finance and Insurance
Banco Covalto S.A.	Mexico	Finance and Insurance
Banco Davivienda S.A.	Colombia	Finance and Insurance
Banco Davivienda S.A.	Colombia	Finance and Insurance
Banco Davivienda Sa	Colombia	Finance and Insurance
Banco Davivienda Salvadoreno (Formerly HSBC)	El Salvador	Finance and Insurance
Banco Davivienda Salvadoreño, S.A	El Salvador	Finance and Insurance
Banco De America Central	El Salvador	Finance and Insurance
Banco De America Central S.A.	Guatemala	Finance and Insurance
Banco De America Central S.A. Lpg	El Salvador	Finance and Insurance
Banco De América Central, S.A. (El Salvador)	El Salvador	Finance and Insurance
Banco De America Central, S.A. (Tranche A) *	Nicaragua	Finance and Insurance
Banco De Bogota S.A.	Colombia	Finance and Insurance
Banco De Credito Centroamericano, S.A.	Nicaragua	Finance and Insurance
Banco De Credito Centroamericano, S.A.	Nicaragua	Finance and Insurance
Banco De Credito Centroamericano, S.A.	Nicaragua	Finance and Insurance
Banco De La Producción S.A.	Ecuador	Finance and Insurance
Banco De Las Microfinanzas - Bancamía S.A	Colombia	Finance and Insurance
Banco Del Pais S.A.	Honduras	Finance and Insurance
Banco D-MIRO S.A.	Ecuador	Finance and Insurance
Banco G&T Continental	El Salvador	Finance and Insurance
Banco Guayaquil S.A.	Ecuador	Finance and Insurance
Banco Improsa, S.A.	Costa Rica	Finance and Insurance
Banco Internacional S.A.	Guatemala	Finance and Insurance
Banco Lafise Bancentro, S.A.	Nicaragua	Finance and Insurance
Banco Lafise Honduras 2x Lpg	Honduras	Finance and Insurance
Banco Mundo Mujer S.A.	Colombia	Finance and Insurance
Banco Pichincha C.A.	Ecuador	Finance and Insurance
Banco Pichincha Dpr	Ecuador	Finance and Insurance
Banco Pichincha Dpr 2022	Ecuador	Finance and Insurance
Banco Promerica S.A.	El Salvador	Finance and Insurance
Banco Promerica S.A. (Guatemala)	Guatemala	Finance and Insurance
Banco Promerica, S.A.	Guatemala	Finance and Insurance

Banco Regional S.A.E.C.A.	Paraguay	Finance and Insurance
Banco Sofisa, S.A.	Brazil	Finance and Insurance
Banco Unico	Mozambique	Finance and Insurance
Banco W S.A.	Colombia	Finance and Insurance
Bancompartir (Formerly Finamerica)	Colombia	Finance and Insurance
Bangweulu Power Company Limited	Zambia	Utilities
Bank Alfalah	Pakistan	Finance and Insurance
Bank Lviv	Ukraine	Finance and Insurance
Bank Lviv	Ukraine	Finance and Insurance
Bank Of Antigua Limited/Antigua And Barbuda	Antigua/Barbuda	
Banque Populaire Du Rwanda Limited	Rwanda	Finance and Insurance
Banyan Sustainable Waste Management Private Limite	India	Manufacturing
Bayport Colombia S.A.	Latin America Region	Finance and Insurance
Bboxx Capital Rdc Sarl	Congo-Dr	Utilities
Bc Moldova-Agroindbank S.A.	Moldova	Finance and Insurance
Be Well Hospitals Pvt Ltd.	India	Health Care and Social Assistance
Bfb -- Blue Star Diamonds Ltd	Botswana	Manufacturing
Bfb -- Kgk Diamonds Ltd.	Botswana	Manufacturing
Bfb - M Suresh Botswana (Pty) Ltd	Botswana	Manufacturing
Bfb -- Trau Bros (Pty) Ltd.	Botswana	Manufacturing
Bfb-Pluczenik Botswana (Pty) Ltd.	Botswana	Manufacturing
Bien Para Bien S.A., S.A.P.I. De C.V. SOFOM ENR	Mexico	Finance and Insurance
Big Tree Farms Inc.	Indonesia	Manufacturing
Big Tree Farms Inc.	Indonesia	Manufacturing
Biological E. Limited	India	Manufacturing
Biovea Energie Biomass	Cote D'ivoire	Utilities
Bix Capital B.V.	Worldwide	Finance and Insurance
Blue Bonds For Marine Conservation	Saint Lucia	Public Administration
Blue Bonds For Marine Conservation	Mongolia	Public Administration
Blue Bonds For Marine Conservation	Belize	Public Administration
Blue Bonds For Marine Conservation	Kenya	Public Administration
Blue Bonds For Marine Conservation	Gabon	Public Administration
Blueorchard COVID-19 Emerging And Frontier Markets	Worldwide	Finance and Insurance
Bluepeak Private Capital Fund, Scsp	Africa Regional	
Bogd Bank Llc	Mongolia	Finance and Insurance
Bosforo, Ltda. De C.V.	El Salvador	Utilities
Boshof Solar Power (Rf) (Pty) Ltd	South Africa	Utilities
Brac Myanmar	Burma/Myanmar	Finance and Insurance
Bravo Energy Mexico	Mexico	Manufacturing
Brighter Life Kenya	Kenya	Utilities
Brighter Life Kenya 2	Kenya	Utilities
Bsp Finance (Cambodia) Plc	Cambodia	Finance and Insurance
Build Fund S.A., Sicav-Raif	Worldwide	Finance and Insurance
Bukhara Malikhasi, Llc	Uzbekistan	Accommodation and Food Services
Butama Hydro Electricity Company	Uganda	Utilities
Buymed Pte Ltd.	Vietnam	
Cairo Amman Bank	Jordan	Finance and Insurance
Caisse Regionale De Refinancement Hypothecaire	Africa Regional	Finance and Insurance
Cal Bank Limited	Ghana	Finance and Insurance
Calgrom3	South Africa	Construction
Calvert Social Investment Foundation	Worldwide	Finance and Insurance
Capital Alliance Property Investment Company, L.P.	Nigeria	Finance and Insurance
Capplus Impact	Africa Regional	Finance and Insurance
Caribbean Financial Services Corp	Barbados	
Caribbean Food Corporation	Trinidad & Tobago	
Caspian Impact Investments	India	Finance and Insurance
Caspian Impact Investments	India	Finance and Insurance
Caspian Impact Investments	India	Finance and Insurance
Caspian Impact Investments	India	Finance and Insurance

Caspian Impact Investments Ii	India	Finance and Insurance
Ceca Sl Generation Limited	Sierra Leone	Utilities
Ceca Sl Generation Limited	Sierra Leone	Utilities
Ceniarth, Llc (Tanzania)	Tanzania	Finance and Insurance
Centenary Rural Development Bank Ltd.	Uganda	Finance and Insurance
Central Africa Building Society	Zimbabwe	Finance and Insurance
Central American Bank For Economic Integration	Honduras	
Central American Bank For Economic Integration	Honduras	
Central Termica De Temane	Mozambique	Utilities
Ceyhan Polipropilen Üretim Anonim Sirketi	Turkey	Manufacturing
Chf Lebanon Replacement Facility	Lebanon	Finance and Insurance
Chf Lebanon Replacement Facility 2	Lebanon	Finance and Insurance
Chf-Vitas Lebanon 3	Lebanon	Finance and Insurance
Chiratae Ventures International Fund Iv Llc	Asia Regional	
Cholamandalam Investment And Finance Co. Ltd.	India	Finance and Insurance
Citadel Capital Loan Facility	Egypt	Finance and Insurance
Citibank A.S. Turkey	Turkey	Finance and Insurance
Citibank Europe Plc (Hungarian Branch Office)	Hungary	Finance and Insurance
Citibank Europe Plc (Romania Branch)	Romania	Finance and Insurance
Citibank N.A. Pakistan Branch	Pakistan	Finance and Insurance
Citibank NA	Africa Regional	Finance and Insurance
Citibank Na Egypt Branch	Egypt	Finance and Insurance
Citibank, N.A. Jordan	Jordan	Finance and Insurance
Citizens Development Business Finance Plc	Sri Lanka	Finance and Insurance
Ckers Finance	India	Utilities
Cleb2a-Bank Audi Sal-Audi Saradar Group	Lebanon	Finance and Insurance
Cleb2a-Byblos Bank Sal	Lebanon	Finance and Insurance
Clime Finance Private Limited	India	Finance and Insurance
Co Capital I Trust	Mexico	Finance and Insurance
Colombo West International Terminal Private Limite	Sri Lanka	Transportation and Warehousing
Coltefinanciera S.A. Compañía De Financiamiento	Colombia	Finance and Insurance
Commercial Bank Of Ceylon PLC	Sri Lanka	Finance and Insurance
Compagnie Des Bauxites De Guinee	Guinea	Mining, Quarrying, and Oil and Gas Extraction
Compagnie Générale De Banque (Cogebanque)	Rwanda	Finance and Insurance
Conservation International Foundation	Mexico	Finance and Insurance
Construction Investment Company Tm Llc	Ukraine	Accommodation and Food Services
Content Solar Limited	Jamaica	Utilities
Contourglobal Cap Des Biches	Senegal	Utilities
Contourglobal Cap Des Biches Senegal	Senegal	Utilities
Contourglobal Cap Des Biches Senegal	Senegal	Utilities
Contourglobal Togo S.A.	Togo	Utilities
Contourglobal Togo S.A.	Togo	Utilities
Convergence Partners Digital Infrastructure Fund	Africa Regional	
Coöperatieve Rabobank U.A.	Worldwide	Finance and Insurance
Cooperativa De Ahorro Y Credito Abaco	Peru	Finance and Insurance
Cooperativa De Ahorro Y Credito Congente	Colombia	Finance and Insurance
Cooperativa De Ahorro Y Credito San Miguel (COOFISAM)	Colombia	Finance and Insurance
Co-Operative Bank Of Kenya	Kenya	Finance and Insurance
Copia Global (2022 Commitment)	Africa Regional	
Copia Global Inc	Africa Regional	
Coris Bank International Cote D'ivoire Sa	Cote D'ivoire	Finance and Insurance
Coris Bank International S.A	Burkina Faso	Finance and Insurance
Corporacion Interactuar	Colombia	Finance and Insurance
Corporacion Interactuar	Colombia	Finance and Insurance
Crdb Bank Plc	Tanzania	Finance and Insurance
Crecera (Latin America Export Finance Fund)	Latin America Region	Finance and Insurance
Crediq IV	El Salvador	Finance and Insurance
Crediq, S.A. De C.V.	Latin America Region	Finance and Insurance
Creditaccess Grameen Limited	India	Finance and Insurance

Credito Real, S.A.B. De C.V., SOFOM, E.N.R.	Mexico	Finance and Insurance
Credito Somalo As Trustee For	Somali Republic	
Crezcamos S.A.	Colombia	Finance and Insurance
Crezcamos S.A. Compañía De Financiamiento	Colombia	Finance and Insurance
Dagangan Pte Ltd	Indonesia	
Dai Global, Llc	Nigeria	Professional, Scientific, and Technical Services
Dai Global, Llc	Liberia	Professional, Scientific, and Technical Services
Dai Global, Llc	El Salvador	Professional, Scientific, and Technical Services
Dai Global, Llc	Guatemala	Professional, Scientific, and Technical Services
Dai Global, Llc	Kosovo	Professional, Scientific, and Technical Services
Dai Global, Llc	Tajikistan	Professional, Scientific, and Technical Services
Dai Global, Llc	South Africa	Professional, Scientific, and Technical Services
Dai Global, Llc	Kyrgystan	Professional, Scientific, and Technical Services
Dai Global, Llc	Tunisia	Professional, Scientific, and Technical Services
Dai Global, Llc	Kenya	Professional, Scientific, and Technical Services
Dai Global, Llc	Philippines	Professional, Scientific, and Technical Services
Dai Global, Llc	Tanzania	Professional, Scientific, and Technical Services
Dai Global, Llc	Pakistan	Professional, Scientific, and Technical Services
Dai Global, Llc	Sri Lanka	Professional, Scientific, and Technical Services
Dai Global, Llc	Mozambique	Professional, Scientific, and Technical Services
Dai Global, Llc	Honduras	Professional, Scientific, and Technical Services
Dai Global, Llc	Rwanda	Professional, Scientific, and Technical Services
Dai Global, Llc	Indonesia	Professional, Scientific, and Technical Services
Dai Global, Llc	Papua New Guinea	Professional, Scientific, and Technical Services
Dai Global, Llc	Malawi	Professional, Scientific, and Technical Services
Dai Global, Llc	Egypt	Professional, Scientific, and Technical Services
Dai Global, Llc	Iraq	Professional, Scientific, and Technical Services
Dai Global, Llc	Nepal	Professional, Scientific, and Technical Services
Dai Global, Llc	East Timor	Professional, Scientific, and Technical Services
Dai Global, Llc	Maldives	Professional, Scientific, and Technical Services
Dai Global, Llc	Uganda	Professional, Scientific, and Technical Services
Dai Global, Llc	Serbia	Professional, Scientific, and Technical Services
Dai Global, Llc	Mexico	Professional, Scientific, and Technical Services

Dai Global, Llc	Drc	Professional, Scientific, and Technical Services
Dai Global, Llc	Jordan	Professional, Scientific, and Technical Services
Dai Global, Llc	Equatorial Guinea	Professional, Scientific, and Technical Services
Dai Global, Llc	Azerbaijan	Professional, Scientific, and Technical Services
Dai Global, Llc	Cote D'ivoire	Professional, Scientific, and Technical Services
Dai Global, Llc	Cambodia	Professional, Scientific, and Technical Services
Dai Global, Llc	Albania	Professional, Scientific, and Technical Services
Dai Global, Llc	Senegal	Professional, Scientific, and Technical Services
Dai Global, Llc	Peru	Professional, Scientific, and Technical Services
Dai Global, Llc	India	Professional, Scientific, and Technical Services
Dai Global, Llc	Turkminister	Professional, Scientific, and Technical Services
Dai Global, Llc	Moldova	Professional, Scientific, and Technical Services
Dai Global, Llc	Vietnam	Professional, Scientific, and Technical Services
Dai Global, Llc	Georgia	Professional, Scientific, and Technical Services
Dai Global, Llc	Zambia	Professional, Scientific, and Technical Services
Dai Global, Llc	Colombia	Professional, Scientific, and Technical Services
Dai Global, Llc	Kazakhstan	Professional, Scientific, and Technical Services
Dai Global, Llc	Uzbekistan	Professional, Scientific, and Technical Services
Dai Global, Llc	West Bank	Professional, Scientific, and Technical Services
Dai Global, Llc	Dominican Republic	Professional, Scientific, and Technical Services
Dai Global, Llc	Fiji	Professional, Scientific, and Technical Services
Dalmia Polypro Industries Private Limited	India	Manufacturing
Dalus Capital Fund Iii, Lp	Latin America Regional	
Dataspace Partners, Llc	Russia	Information
Demir Kyrgyz International Bank	Kyrgyzstan	Finance and Insurance
Democratic Republic Of The Sudan	Sudan	
Democratic Republic Of The Sudan	Sudan	
Democratic Republic Of The Sudan	Sudan	
Democratic Republic Of The Sudan	Sudan	
Democratic Republic Of The Sudan	Sudan	
Democratic Republic Of The Sudan	Sudan	
Democratic Republic Of The Sudan	Sudan	
Democratic Republic Of The Sudan	Sudan	
Department Of External Resources	Sri Lanka	
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Department Of External Resources	Sri Lanka	
Department Of External Resources	Sri Lanka	
Destino Desarrollos Inmobilarios Compania Limitada	Guatemala	Construction
Dev Equity, Lp	Latin America Region	Finance and Insurance
Dfcc Bank Plc	Sri Lanka	Finance and Insurance
Dfc-Massif Covid-19 Response Co-Financing Facility	Worldwide	Finance and Insurance
Dfcu Bank Limited	Uganda	Finance and Insurance
Disi Water Psc	Jordan	Utilities
Dolma Impact Fund Ii	Nepal	
Dragon Capital New Ukraine Fund, Lp	Ukraine	Finance and Insurance
Ealgf - I & M Bank	Kenya	Finance and Insurance
EALGF -Ecobank Malawi	Malawi	Finance and Insurance
Early Dawn Microfinance Company Ltd.	Burma/Myanmar	Finance and Insurance
Eco Farm Mocambique Limitada	Mozambique	Manufacturing
Eco Spindles (Private) Limited	Sri Lanka	Manufacturing
Ecobank Burkina Faso	Burkina Faso	Finance and Insurance
Ecobank Ghana	Ghana	Finance and Insurance
Ecobank Ghana Limited	Africa Regional	Finance and Insurance
Ecobank Nigeria	Nigeria	Finance and Insurance
Ecobank Nigeria	Nigeria	Finance and Insurance
Ecobank Senegal	Senegal	Finance and Insurance
Economic Planning Board	Colombia	
Ecp Africa Fund Iv A Llc	Africa Regional	Finance and Insurance
Ed Partners Africa	Kenya	Educational Services
Edpyme Acceso Crediticio Sociedad Anonima	Peru	Finance and Insurance
Efa - Telstra Pm Pty Ltd	Papua New Guinea	Information
Egypt-Al Watany Bank*	Egypt	Finance and Insurance
Egypt-Commercial International Bank*	Egypt	Finance and Insurance
Electronica Finance Limited	India	Utilities
Enat Bank S.C.	Ethiopia	Finance and Insurance
Energia Del Pacifico CV	El Salvador	Utilities
Energo Pro A.S.	Europe Regional	Utilities

Energy Access Relief Fund B.V.	Worldwide	Finance and Insurance
Envirofit	Worldwide	Manufacturing
Environmental Enterprises	Worldwide	
Equity Bank Congo S.A. (Formerly Procredit Bank Congo)	Congo Democratic Republic Of	Finance and Insurance
Equity Bank Uganda Limited	Uganda	Finance and Insurance
Equity Banque Commerciale Du Congo SA (Equity BCDC)	Congo Democratic Republic Of	Finance and Insurance
Equity Capital Mining, Llc	Afghanistan	
Eru Trading Ooo	Ukraine	Transportation and Warehousing
Etg *	Mozambique	Professional, Scientific, and Technical Services
Eurocape Ukraine I Limited	Ukraine	Utilities
Eye-Q Vision Private Limited	India	Health Care and Social Assistance
Fairtrade Access Fund Sicav Fis	Worldwide	Finance and Insurance
Faitiere De Caisses Populaires De Burkina (FCPB)	Burkina Faso	Finance and Insurance
Farmfit Guarantee Facility B.V.	Worldwide	Finance and Insurance
Faysal Bank Ltd	Pakistan	Finance and Insurance
Fidelity Bank Plc	Nigeria	Finance and Insurance
Financia Credit	Latin America Region	Finance and Insurance
Finanzauto S.A. BIC	Colombia	Finance and Insurance
Finca International	Worldwide	Finance and Insurance
FINDECA S.A. De C.V. SOFOM ENR	Mexico	Finance and Insurance
Finlux Ellen Sarl	Chad	Utilities
First Capital Bank (F/K/A First Merchant Bank PLC/OIBM)	Malawi	Finance and Insurance
First City Monument Bank (Fcmb)	Nigeria	Finance and Insurance
First City Monument Bank Limited	Nigeria	Finance and Insurance
First Finance Plc	Cambodia	Finance and Insurance
First Housing Finance (Tanzania) Ltd	Tanzania	Finance and Insurance
First Mortgage Company Ii	Armenia	Finance and Insurance
First Mortgage Company Iii	Armenia	Finance and Insurance
Fmfb Pakistan	Pakistan	Finance and Insurance
Fmfc (Cjsc The First Microfinance Company)	Kyrgyzstan	Finance and Insurance
Fonds Dequipement Communal	Morocco	
Fonds Européen De Financement Solidaire II (FEFISOL II) S.A., SICAV-RAIF	Africa Regional	Finance and Insurance
Food Securities Fund, S. A., Sicav-Fis	Worldwide	Finance and Insurance
Forest First Colombia S.A.S.	Colombia	Agriculture, Forestry, Fishing and Hunting
Forest First Colombia S.A.S.	Colombia	Agriculture, Forestry, Fishing and Hunting
Four Rivers Real Estate Ltd.	Burma/Myanmar	Real Estate and Rental and Leasing
Franchise Impact Solutions Facility	Africa Regional	Finance and Insurance
Freshtohome	India	
Fs India Solar Ventures Private Limited	India	Manufacturing
Fulbright University Vietnam Corporation	Vietnam	Educational Services
Fulm	North Macedonia	Finance and Insurance
Fulm	North Macedonia	Finance and Insurance
Fundacion Amanecer	Colombia	Finance and Insurance
Fundacion De La Mujer	Colombia	Finance and Insurance
Fundacion Mario Santo Domingo	Colombia	Finance and Insurance
Fusion Micro Finance Limited	India	Finance and Insurance
Fy21 Crdb Bank - Tanzania Loan Portfolio Guarantee	Tanzania	Finance and Insurance
Gamma Knife Center Ecuador	Ecuador	Health Care and Social Assistance
Garanti Diversified Payment Rights Company	Turkey	Finance and Insurance
Gavi Alliance (Covax Accelerator)	Worldwide	Health Care and Social Assistance
Gazelle Fund L.P.	Europe Regional	Finance and Insurance
GEF Latam Climate Solutions Fund III	Latin America Regional	
Gef South Asia Growth Fund Iii	India	
General Trade Finance, Ltd	Somalia	Finance and Insurance
Genesys Biologics Private Limited	India	Manufacturing

Genus Power Infrastructures Limited	India	Manufacturing
Geotermica Platanares, S.A. De C.V.	Honduras	Utilities
Gesz Mineral Port	Gabon	Transportation and Warehousing
Ghazanfar Bank	Afghanistan	Finance and Insurance
Ghf/Evercare Health Fund	Africa Regional	Finance and Insurance
Giff-Incl-One Acre Fund	Kenya	Finance and Insurance
Giff-Incl-Victoria Foods Pvt Ltd.	India	Manufacturing
Giff-Mfi-Asa Philippines	Philippines	Finance and Insurance
GIFF-MFI-Banco De Ahorro Y Credito Adopem	Dominican Republic	Finance and Insurance
Giff-Mfi-Brac Uganda Bank Limited	Uganda	Finance and Insurance
Giff-Mfi-Compartamos Financiera, S.A.	Peru	Finance and Insurance
GIFF-MFI-Consejo De Asistencia Al Microemprendedor	Mexico	Finance and Insurance
Gigawatt Global Burundi S.A.	Burundi	Utilities
Gigawatt Global Burundi S.A.	Burundi	Utilities
Gip Medicina Diagnóstica S.A. (“Femme”)	Brazil	Health Care and Social Assistance
Global Access Fund Iv Lp	Worldwide	Finance and Insurance
Global Partnerships Impact First Growth Fund (Ifgf	Worldwide	Finance and Insurance
Global Partnerships Impact-First Development Fund	Worldwide	Finance and Insurance
Global Partnerships Social Investment Fund 6.0	Worldwide	Finance and Insurance
Global Partnerships Social Investment Fund 6.0	Latin America Region	Finance and Insurance
Gmt Hotels 3	Georgia	Accommodation and Food Services
Gmt Hotels, Llc	Georgia	Accommodation and Food Services
Gmt Hotels, Llc	Georgia	Accommodation and Food Services
Gmt Mtatsminda, Llc	Georgia	Accommodation and Food Services
Gn Beverages 2	Mongolia	Manufacturing
Gobi Finance Non-Bank Finance Institution	Mongolia	Finance and Insurance
Goldman Sachs Bank Europe Se	Poland	Finance and Insurance
Golomoti Jcm Solar Corporation Limited	Malawi	Utilities
Goodlife Rwanda	Rwanda	Health Care and Social Assistance
Gosolar Energy Efficiency S.R.L.	Costa Rica	Utilities
Government Of The Somali Republic	Somali Republic	
Government Of The Somali Republic	Somali Republic	
Government Of The Somali Republic	Somali Republic	
Government Of The Somali Republic	Somali Republic	
Government Of The Somali Republic	Somali Republic	
Government Of The Somali Republic	Somali Republic	
Government Of The Somali Republic	Somali Republic	
Government Of The Somali Republic	Somali Republic	
Goyol Cashmere, Llc	Mongolia	Manufacturing
Grameen Impact Investments India Pvt Ltd (Formerly Radaur Holdings Private Ltd)	India	Finance and Insurance
Greater Pacific Capital Private Investing India Lp	India	Finance and Insurance
Green Agrevolution Private Limited (Dehaat)	India	Wholesale Trade
Greenlight Planet Solar Home Systems	Nigeria	Utilities
Habitation Jouissant - Marriott Autograph Collecti	Haiti	Accommodation and Food Services
Hattha Bank Plc.	Cambodia	Finance and Insurance
Hatton National Bank	Sri Lanka	Finance and Insurance
Hawa Energy	Pakistan	Utilities
Hct Sun	India	Utilities
Hdfc-Mastercard W-Gdp Loan Portfolio Guaranty	India	Finance and Insurance
Healthvista India Private Limited (Portea Medical)	India	Health Care and Social Assistance
Heaven Holdings Ltd	Rwanda	Accommodation and Food Services
Hewa Tele Medical Oxygen	Kenya	Wholesale Trade
Home First Finance Company	India	Finance and Insurance
Horizon Capital Growth Fund Iv, Lp ("Hcgf Iv")	Europe	
Hospifuturo S.A.	Ecuador	Health Care and Social Assistance
Husk Power Systems Inc.	Nigeria	
Ifc Global Trade Finance Program (Gtfp)	Ukraine	Finance and Insurance
Ifria Cold Chain Development Company Agadir Sas	Morocco	Transportation and Warehousing

Ifria Cold Chain Development Company Senegal Suarl	Senegal	Transportation and Warehousing
Ignitia Ab	Kenya	Professional, Scientific, and Technical Services
Ihs Fund Ii Sa Pve	South Africa	Finance and Insurance
Iifl Home Finance Limited	India	Finance and Insurance
Ilu Investments Lp	Latin America Region	Finance and Insurance
Imperative Investment I	Mexico	Finance and Insurance
Ims Ecuadorian Mortgage Backed Securities (2019-1)	Ecuador	Finance and Insurance
India Shelter Finance Corporation Limited	India	Finance and Insurance
Indopacific Liquidity Facility PTE LTD	Asia Regional	Finance and Insurance
Indusind - Riviera Investors Pvt. Ltd. (Indifi Tec	India	Finance and Insurance
Indusind Bank Limited	India	Finance and Insurance
Indusind Bank Limited	India	Finance and Insurance
Indusind Bank Limited	India	Finance and Insurance
Indusind Bank Limited	India	Finance and Insurance
Indusind Bank Limited	India	Finance and Insurance
Indusind-Aviom India Housing Finance Private Ltd.	India	Finance and Insurance
Industrial Development Corporation Of South Africa Limited	South Africa	Finance and Insurance
Industrial Dpr Funding Ltd.	Guatemala	Finance and Insurance
Industrial Dpr Funding Ltd.	Guatemala	Finance and Insurance
Industrial Dpr Funding Ltd.	Guatemala	Finance and Insurance
Information Communications Systems Llc	Georgia	Transportation and Warehousing
Infraestructura Energética Nova S.A.P.I. De C.V.	Mexico	Utilities
INFRASTRUCTURE LEASING And FINANCIAL SERVICES LTD	India	
INFRASTRUCTURE LEASING And FINANCIAL SERVICES LTD	India	
Ini Farms Private Limited	India	Manufacturing
Innovida Haiti Ltd.	Haiti	
Insuresilience Investment Fund	Worldwide	Finance and Insurance
Integra Partners Fund Ii L.P.	Asia Regional	
International Bank (Liberia) Limited	Liberia	Finance and Insurance
International Community School	Ghana	Construction
International Institute Of Health Sciences (Pvt) L	Sri Lanka	Educational Services
International Rescue Committee	Tanzania	Health Care and Social Assistance
International Rescue Committee	Lebanon	Health Care and Social Assistance
International Rescue Committee	Myanmar	Health Care and Social Assistance
International Rescue Committee	Nigeria	Health Care and Social Assistance
International Rescue Committee	Yemen	Health Care and Social Assistance
International Rescue Committee	South Sudan	Health Care and Social Assistance
International Rescue Committee	Iraq	Health Care and Social Assistance
International Rescue Committee	Cote D'ivoire	Health Care and Social Assistance
International Rescue Committee	Somalia	Health Care and Social Assistance
International Rescue Committee	Zimbabwe	Health Care and Social Assistance
International Rescue Committee	Jordan	Health Care and Social Assistance
International Rescue Committee	Tunisia	Health Care and Social Assistance
International Rescue Committee	Central African Republic	Health Care and Social Assistance
International Rescue Committee	Niger	Health Care and Social Assistance
International Rescue Committee	Kenya	Health Care and Social Assistance
International Rescue Committee	Uganda	Health Care and Social Assistance
International Rescue Committee	Ethiopia	Health Care and Social Assistance
International Rescue Committee	Afghanistan	Health Care and Social Assistance
International Rescue Committee	Pakistan	Health Care and Social Assistance
International Rescue Committee	Thailand	Health Care and Social Assistance
International Rescue Committee	Chad	Health Care and Social Assistance
International Rescue Committee	Burundi	Health Care and Social Assistance
International Rescue Committee	Dem. Republic Of Congo	Health Care and Social Assistance
International Rescue Committee	Sierra Leone	Health Care and Social Assistance
International Rescue Committee	Liberia	Health Care and Social Assistance

International School Of Ulaanbaatar	Mongolia	Educational Services
Iraq Middle Market Development Foundation	Iraq	Finance and Insurance
Iron Pillar Fund I Ltd.	India	Finance and Insurance
Islamic Republic Of Pakistan	Pakistan	
Islamic Republic Of Pakistan	Pakistan	
Islamic Republic Of Pakistan	Pakistan	
Islamic Republic Of Pakistan	Pakistan	
Islamic Republic Of Pakistan	Pakistan	
Islamic Republic Of Pakistan	Pakistan	
ISQ III Climate Fund, L.P. And ISQ GMF Climate Fun	Worldwide	Finance and Insurance
Isq-Opic Asia Fund L.P.	Asia Regional	Finance and Insurance
Israel Electric Corporation Ltd.	Israel	Transportation and Warehousing
Itaú Unibanco S.A.	Brazil	Finance and Insurance
Iungo Capital B.V.	Africa Regional	Finance and Insurance
Izmir Bayrakli Hastane Yatirim Ve Saglik Hizmetler	Turkey	Health Care and Social Assistance
Jamaica	Jamaica	
Jamaica	Jamaica	
Jamaica Public Service Company Limited	Jamaica	Utilities
Janngo Capital Startup Fund Slp	Africa Regional	
Jhimpir Power (Private) Limited	Pakistan	Utilities
Jn Small Business Loan	Jamaica	Finance and Insurance
Joliba Capital Fund I	Africa Regional	
Jordan-Bank Al Etihad 2*	Jordan	Finance and Insurance
Jordan-Cairo Amman Bank	Jordan	Finance and Insurance
Jordan-Capital Bank 2*	Jordan	Finance and Insurance
Jordan-Capital Bank 3*	Jordan	Finance and Insurance
Jordan-Capital Bank Of Jordan*	Jordan	Finance and Insurance
Jordan-Housing Bank For Trade And Finance*	Jordan	Finance and Insurance
Jordan-Jordan Kuwait Bank	Jordan	Finance and Insurance
JPMC Strategic Investments I Corp (Fka J.P. Morgan Chase Funding Inc.)	Africa Regional	Finance and Insurance
Js Bank	Pakistan	Finance and Insurance
Js Bank	Pakistan	Finance and Insurance
JSC Bank Of Georgia	Georgia	Finance and Insurance
Jsc Liberty Bank	Georgia	Finance and Insurance
Jsc Mfo Crystal	Georgia	Finance and Insurance
Jsc Tbc Bank	Georgia	Finance and Insurance
Kabul Grand Residences Llc	Afghanistan	
Kaebauk Investimentu No Finansas, Sa	East Timor	Finance and Insurance
Kasha Global Inc	Kenya	
Kasha Global Inc	Kenya	
Kashf Foundation	Pakistan	Finance and Insurance
Kentegra Biotechnology Holding Llc	Kenya	Manufacturing
Kenya Commercial Bank Limited	Kenya	Finance and Insurance
Kenya Commercial Bank Limited	Kenya	Finance and Insurance
Khmer Water Supply Holding Co., Ltd.	Cambodia	Utilities
Khushhali Bank	Pakistan	Finance and Insurance
Khushhali Bank- MSME-KP-Nmds	Pakistan	Finance and Insurance
Khushhali Microfinance Bank_2X Msmes	Pakistan	Finance and Insurance
Kinara Capital Private Limited	India	Finance and Insurance
Kingdom Of Morocco	Morocco	
Kingdom Of Morocco	Morocco	
Kingdom Of Morocco	Morocco	
Kingdom Of Morocco	Morocco	
Kingdom Of Morocco	Morocco	
Kingson Accelerate Fund	South Africa	Finance and Insurance
Kipeto Wind Farm	Kenya	Utilities
Kipeto Wind Power Project	Kenya	Utilities
Kiva Refugee Investment Fund	Worldwide	Finance and Insurance

Kocaeli Hastane Yatirim Ve Saglik Hizmetleri A.S.	Turkey	Health Care and Social Assistance
Komercijalna Banka Ad Skopje	North Macedonia	Finance and Insurance
Koret Israel Economic Development Funds	Israel	Finance and Insurance
Kosovo Credit Guarantee Fund	Kosovo	Finance and Insurance
Kotak Bank COVID-19 2x Loan Portfolio Guarantee	India	Finance and Insurance
La Hipotecaria 14th Mortgage Trust 2018-1	Panama	Finance and Insurance
La Hipotecaria 15th Mortgage Trust 2018-1	El Salvador	Finance and Insurance
La Hipotecaria El Salvador	El Salvador	Finance and Insurance
La Hipotecaria El Salvadorian Mortgage Trust 2016-	El Salvador	Finance and Insurance
La Hipotecaria Panamanian Mortgage Trust 10	Panama	Finance and Insurance
La Hipotecaria Panamanian Mortgage Trust 201	Panama	Finance and Insurance
La Hipotecaria, S.A. De C.V.	El Salvador	Finance and Insurance
Laad Americas N.V. (Loan 2)	Latin America Region	Finance and Insurance
Laad Americas Nv	Colombia	Finance and Insurance
Lafise Group Panama - Tranche B Loan	Latin America Region	Finance and Insurance
Lapo Microfinance Bank Limited	Nigeria	Finance and Insurance
Laxmi Bank	Nepal	Finance and Insurance
Laxmi Bank	Nepal	Finance and Insurance
Laxmi Bank	Nepal	Finance and Insurance
Lcp Fund Ii	Egypt	
Leap Agri Logistics (Balurghat)	India	Transportation and Warehousing
Leap Agri Logistics (Baroda)	India	Transportation and Warehousing
Leap India Food & Logistics	India	Transportation and Warehousing
Leapfrog Emerging Consumer Fund Iii	Worldwide	Finance and Insurance
Leapfrog Emerging Consumer Fund IV	Worldwide	
Lekela Egypt Wind Power Boo S.A.E.	Egypt	Utilities
Lendable Inc.	Africa Regional	Finance and Insurance
Lending For African Farming (Lafco)	Africa Regional	Finance and Insurance
Lending For Education In Africa Partnership (Leap	Kenya	Finance and Insurance
Levered Alsis Mexico Housing Opportunities, L.P.	Mexico	Finance and Insurance
Levered Alsis Mexico Opportunities Fund Offshore,	Mexico	Finance and Insurance
Liberian Enterprise Development Finance Co.	Liberia	Finance and Insurance
Liberian Enterprise Development Finance Company	Liberia	Finance and Insurance
Livelihood Impact Fund, L.P.	Asia Regional	Finance and Insurance
Livelihoods Carbon Fund Sicav-Raif	Worldwide	Finance and Insurance
Liwwa, Inc.	Jordan	Finance and Insurance
Locafrique (Compagnie Ouest Africaine De Credit Bail)	Senegal	Finance and Insurance
Locafrique (Compagnie Ouest Africaine De Credit Bail)	Senegal	Finance and Insurance
Locfund Next L.P.	Latin America Region	Finance and Insurance
Lok Capital Iv Llc	Asia Regional	
Lolc (Cambodia)	Cambodia	Finance and Insurance
Lolc (Cambodia) Plc.	Cambodia	Finance and Insurance
Lolc Myanmar Microfinance	Burma	Finance and Insurance
Los Santos Solar I, S.A.P.I. De C.V.	Mexico	Utilities
Luccahealth Medical Specialty Center Ghana Limited	Ghana	Health Care and Social Assistance
Lvp Health Holding, Ltd.	Egypt	Finance and Insurance
Maanaveeya Development & Finance Private Limited	India	Finance and Insurance
Manibhavnam Home Finance India Pvt Ltd	India	Finance and Insurance
Marine Conservation In The Galapagos Islands	Ecuador	Finance and Insurance
Marou Chocolate Company Limited	Vietnam	Manufacturing
Ma's Tropical Food Processing (Pvt) Ltd.	Sri Lanka	Manufacturing
Master Wind Energy Limited	Pakistan	Utilities
Materiales Vista Bahia	Panama	Construction
Mawingu Networks	Kenya	Information
Mcb Bank Ltd	Pakistan	Finance and Insurance
Mce Empowering Sustainable Agriculture Fund Llc	Worldwide	Finance and Insurance
Mce Social Capital	Haiti	Finance and Insurance
Mce Social Capital & Mesa	Worldwide	Finance and Insurance
Mce Social Capital (Worldwide)	Worldwide	Finance and Insurance

Mce Social Capital Iii	Worldwide	Finance and Insurance
Medical Credit Fund Ii Cooperatief U.A.	Africa Regional	Finance and Insurance
Meezan Bank Ltd	Pakistan	Finance and Insurance
MEII 3 - Bank Of Jordan	West Bank	Finance and Insurance
MEII 3 - Bank Of Jordan 2	West Bank	Finance and Insurance
MEII 3 - Bank Of Palestine	West Bank	Finance and Insurance
Meii 3 - Cairo Amman Bank	West Bank	Finance and Insurance
Meii 3 - Faten	West Bank	Finance and Insurance
Meii 3 - Jordan Ahli Bank	West Bank	Finance and Insurance
Meii 3 - Jordan Ahli Bank 2	West Bank	Finance and Insurance
Meii 3 - National Bank	West Bank	Finance and Insurance
Meii 3 - Palestine Investment Bank	West Bank	Finance and Insurance
Meii 3 - Palestine Investment Bank 2	West Bank	Finance and Insurance
Meii 3 - Quds Bank	West Bank	Finance and Insurance
Meii 3 - Safa Bank	West Bank	Finance and Insurance
Meloy Fund (Rare)	Philippines	Finance and Insurance
Meridiam Infrastructure Africa Fund	Africa Regional	Finance and Insurance
Meridiam Senergy 30 Mw Solar	Senegal	Utilities
Mexarrend S.A.P.I. De C.V.	Mexico	Finance and Insurance
Mfx Solutions Ii	Worldwide	Finance and Insurance
Mfx Solutions Iii	Worldwide	Finance and Insurance
Mfx Solutions, Inc.	Worldwide	Finance and Insurance
Mhp Se	Ukraine	Manufacturing
Mhv Fund Iii	Asia Regional	
Mibanco - Banco De La Microempresa De Colombia S.A.	Colombia	Finance and Insurance
Microbuild Fund	Worldwide	Finance and Insurance
Microcred Banque Madagascar	Madagascar	Finance and Insurance
Microempresas De Colombia Cooperativa Ahorro Y Credito	Colombia	Finance and Insurance
Microempresas De Colombia Cooperativa De Ahorro Y Credito	Colombia	Finance and Insurance
Microfinance Organization "Kmf" Llc	Kazakhstan	Finance and Insurance
Microvest EDF Master Fund	Worldwide	Finance and Insurance
Microvest Edf Master Fund Ltd.	Worldwide	Finance and Insurance
Milk Mantra Dairy Private Limited	India	Agriculture, Forestry, Fishing and Hunting
Ministry Of Health Of Ghana	Ghana	Wholesale Trade
Miranda Falcon Realty Ltd	West Bank	Construction
Miro Forestry Developments Limited	Sierra Leone	
Mirova Gigaton Fund	Africa Regional	Finance and Insurance
Misif Llc	Worldwide	Finance and Insurance
Moldova Gas Supply For Energy Security	Moldova	Utilities
Moldova-Agroindbank	Moldova	Real Estate Rental and Leasing
Motilal Oswal Home Finance Limited	India	Finance and Insurance
Mountain Food Products, Inc	Tajikistan	Manufacturing
Moza Banco	Mozambique	Finance and Insurance
Moznosti	North Macedonia	Finance and Insurance
Moznosti	North Macedonia	Finance and Insurance
Mr Green Africa Trading Kenya Limited	Kenya	Manufacturing
Msm Group Llc	Mongolia	Wholesale Trade
Musoni Microfinance Limited	Kenya	Finance and Insurance
Mvuvi Holdings	Mozambique	Agriculture, Forestry, Fishing and Hunting
Myanmar Development Partners (Mdp)	Burma	Finance and Insurance
Mybucks Bank Mozambique (F/K/A Banco Oportunidade De Mocambique)	Mozambique	Finance and Insurance
N/A	Ukraine	Construction
Nabil Bank Limited	Nepal	Finance and Insurance
National Bank Of Iraq	Iraq	Finance and Insurance
National Commercial Bank Jamaica Limited (Regional)	Latin America Regional	Finance and Insurance
National Development Bank Plc	Sri Lanka	Finance and Insurance
National Investment And Infrastructure Fund Ltd.	India	

National Investment And Infrastructure Master Fund (NIIF)	India	
Nationwide Microbank Limited ("Mibank")	Papua New Guinea	Finance and Insurance
Navis Asia Fund Viii, L.P.	Asia Regional	Finance and Insurance
Nbs Bank	Malawi	Finance and Insurance
Ndugutu Power Company Uganda Limited	Uganda	Utilities
Near East Foundation Uk	Middle East Regional	Finance and Insurance
Nedbank Limited (South Africa)	Uganda	Transportation and Warehousing
Negev Energy - Ashalim Thermo-Solar Ltd.	Israel	Utilities
Neogrowth Credit Private Limited	India	Finance and Insurance
Neumann Gruppe Gmbh	Worldwide	Finance and Insurance
New Amalfi Technology Repair And Training (Pty) Ltd And Inyosi Capital (Pty) Ltd	South Africa	Finance and Insurance
Nithio FI B.V.	Africa Regional	Finance and Insurance
Nmb Bank Ltd.	Nepal	Finance and Insurance
Norrsken22 Fund	Africa Regional	
Northern Arc Capital Limited	India	Finance and Insurance
Nouakchott Container Terminal	Mauritania	Transportation and Warehousing
Nova Banka	Bosnia And Herzegovina	Finance and Insurance
Novastar Africa People + Planet	Africa Regional	
Ocean Fund Holdings Pte. Ltd	Worldwide	Finance and Insurance
Ocn Prime Capital Srl	Moldova	Finance and Insurance
Oikocredit (Africa Regional)	Africa Regional	Finance and Insurance
Oikocredit (West Africa)	Africa Regional	Finance and Insurance
Oikocredit, Ecumenical Development Cooperative Society U.A.	Worldwide	Finance and Insurance
Olympus Capital Asia Catalyst Fund, L.P.	Asia Regional	Finance and Insurance
Omnivore Agritech & Climate Sustainability Fund 3	Asia Regional	
One Acre Fund	Tanzania	Finance and Insurance
One Acre Fund	Africa Regional	Finance and Insurance
One Acre Fund	Africa Regional	Finance and Insurance
One Global Medical Technology Limited	Nigeria	Finance and Insurance
ONEX Elefsis Shipyards And Industries S.A.	Greece	Manufacturing
Openspace Ventures Plus, L.P. (“Osv+”)	Asia Regional	
Operadora Para La Mejores Opticas De Mexico SA De	Mexico	Health Care and Social Assistance
Opportunity Bank Uganda Limited (Obul)	Uganda	Finance and Insurance
Opportunity International Savings And Loan Limited (OISL)	Ghana	Finance and Insurance
Opportunity International Savings And Loans	Ghana	Finance and Insurance
Orabank Benin	Benin	Finance and Insurance
Orabank Benin	Benin	Finance and Insurance
Orabank Niger Loan Portfolio Guaranty	Niger	Finance and Insurance
Orb Energy	India	Utilities
Orb Energy Ii	India	Utilities
Origo Commodities India Pvt Ltd	India	Finance and Insurance
Orpower 4 Geothermal	Kenya	Utilities
Pacific Collection Company/Tribal Loom	Afghanistan	Manufacturing
Pact Global Microfinance Fund	Burma	Finance and Insurance
Pahal Financial Services Private Limited	India	Finance and Insurance
Paladin Realty Latin America Investors Iii	Latin America Region	Finance and Insurance
Paladin Realty Latin America Investors Iv-Ci, Lp	Latin America Region	Finance and Insurance
Parc Eolien Taiba Ndiaye S.A. (Direct Loan)	Senegal	Utilities
Parc Eolien Taiba Ndiaye S.A. (Swap IG)	Senegal	Utilities
Parc Eolien Taiba Ndiaye S.A. (Swap IG)	Senegal	Utilities
Parko Services S.A.	Colombia	Mining, Quarrying, and Oil and Gas Extraction
Partners For Micro Credit (Vitas Jordan)	Jordan	Finance and Insurance
Paryapt Solar Energy Private Limited	India	Utilities
Patamar Beacon Pte. Ltd.	Vietnam	Finance and Insurance
Patamar II	Asia Regional	Finance and Insurance
Pearl Petroleum Company Limited	Iraq	Manufacturing
Pembani Remgro Infrastructure Fund Ii	Africa Regional	

Peninsula Iii Levered - O Lp	Latin America Region	Finance and Insurance
Peninsula Investments Group Iv, L.P.	Latin America Region	Finance and Insurance
Petrotel Oman Energy Block 17	Oman	Mining, Quarrying, and Oil and Gas Extraction
Petrotel Oman LLC	Oman	Mining, Quarrying, and Oil and Gas Extraction
Pg Impact Credit Strategies 2020 S.C.A., Sicav Raif	Worldwide	
Phanes Energy Renewables Nkhotakota Limited (Phase	Malawi	Utilities
Phanes Energy Renewables Nkhotakota Limited (Phase	Malawi	Utilities
Phanes Energy Renewables Nkhotakota Limited (Phase	Malawi	Utilities
Phatisa Food Fund 2 L.L.C.	Africa Regional	Finance and Insurance
Philippine Business Bank (Pbb)	Philippines	Finance and Insurance
Pjsc Jsb Lviv	Ukraine	Finance and Insurance
Pjsc Jsb Lviv	Ukraine	Finance and Insurance
Plantform Agribusiness S.A.E.	Egypt	Manufacturing
Plaza Logistica S.R.L.	Argentina	Transportation and Warehousing
Poa Internet Kenya Limited	Kenya	Information
Pomona Impact Fund Ii Lp	Latin America Regional	
Poti New Sea Port Llc	Georgia	Transportation and Warehousing
Prime Capital	Moldova	Finance and Insurance
Prime Capital	Moldova	Finance and Insurance
Procredit Bank	Ukraine	Finance and Insurance
Procredit Bank A.D Beograd	Serbia	Finance and Insurance
Procredit Bank A.D. Beograd	Serbia	Finance and Insurance
Procredit Bank AD Skopje	North Macedonia	Finance and Insurance
Procredit Bank AD Skopje	North Macedonia	Finance and Insurance
Procredit Bank Bih	Bosnia And Herzegovina	Finance and Insurance
Procredit Bank Dd Sarajevo	Bosnia And Herzegovina	Finance and Insurance
Procredit Bank Sarajevo	Bosnia And Herzegovina	Finance and Insurance
Procredit Bank Sarajevo	Bosnia And Herzegovina	Finance and Insurance
Procredit Bank Sarajevo	Bosnia And Herzegovina	Finance and Insurance
Prodigy Finance Limited	Worldwide	Finance and Insurance
Prodigy Finance Limited 2020	Worldwide	Finance and Insurance
Promotora De Infraestructura Registral, S.A.	Mexico	Finance and Insurance
Proximity Finance	Burma/Myanmar	Finance and Insurance
Proximity Finance (Proximity Designs)	Burma	Finance and Insurance
Proyecto La Trinidad, Ltda. De C.V.	El Salvador	Utilities
Pt Amartha Nusantara Raya	Indonesia	Finance and Insurance
Pt Bank Sahabat Sampoerna	Indonesia	Finance and Insurance
Pt Resilience Covid Indonesia	Indonesia	Finance and Insurance
Public Joint Stock Company "Citibank"	Ukraine	Finance and Insurance
Punjab Renewable Energy Systems	India	Other Services (except Public Administration)
Pv Salvador	Chile	Utilities
Quadria Capital Fund Ii L.P.	Asia Regional	Finance and Insurance
Quadria Capital Fund Iii L.P.	Asia Regional	
Raiffeisen Bank Jsc	Ukraine	Finance and Insurance
Raiffeisen Banka A.D. Beograd	Serbia	Finance and Insurance
Raino Tech4impact Limited	Kenya	Transportation and Warehousing
Rbl Bank	India	Finance and Insurance
Rbl Bank Ltd	India	Finance and Insurance
Renew Solar Power Private Limited	India	Utilities
RENEW2 - Renew Sun Bright Private Limited	India	Utilities
RENEW2 - Renew Sun Energy Pvt Ltd (RSEPL)	India	Utilities
Republic Of Argentina	Argentina	
Republic Of Argentina	Argentina	
Republic Of Bosnia-Herzegovina	Bosnia-Herzegovina	
Republic Of Ecuador	Ecuador	
Republic Of Ecuador	Ecuador	
Republic Of Ecuador	Ecuador	
Republic Of Ecuador	Ecuador	
Republic Of Guatemala	Guatemala	

Republic Of India	India	
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Republic Of Kenya	Kenya	
Republic Of Montenegro	Montenegro	
Republic Of Serbia	Serbia	
Republic Of The Philippines	Philippines	
Republic Of The Philippines	Philippines	
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Republic Of The Philippines	Philippines	
Republic Of The Philippines	Philippines	
Republic Of Tunisia	Tunisia	
Republic Of Yemen	Yemen Arab Republic	
Republic Of Yemen	Yemen Arab Republic	
Republic Of Yemen	Yemen Arab Republic	
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Republic Of Zimbabwe	Zimbabwe	
Responsability Climate-Smart Agriculture And Food Systems Fund SICAV RAIF	Worldwide	Finance and Insurance
Responsability Financial Inclusion Investments 202	Worldwide	Finance and Insurance
Ritz Leasing	West Bank	Real Estate and Rental and Leasing

Rlj Liberia, Llc	Liberia	Accommodation and Food Services
Roam Electric Limited	Kenya	Manufacturing
Root Capital	Worldwide	Finance and Insurance
Root Capital - Ghana	Ghana	Finance and Insurance
Root Capital Inc.-Latin America	Latin America Regional	Finance and Insurance
Root Capital, Inc.	Worldwide	Finance and Insurance
Rovuma Lng Phase I	Mozambique	Mining, Quarrying, and Oil and Gas Extraction
Russia Partners Ii	Nis Regional	Finance and Insurance
Rwanda Trading Company, Limited	Tanzania	Agriculture, Forestry, Fishing and Hunting
Rwanda Trading Company, Limited	Kenya	Agriculture, Forestry, Fishing and Hunting
Rwanda Trading Company, Limited	Rwanda	Agriculture, Forestry, Fishing and Hunting
Rwanda Trading Company, Limited	Uganda	Agriculture, Forestry, Fishing and Hunting
Sa Taxi Impact Fund (Rf) Proprietary Limited Ii ("	South Africa	Finance and Insurance
Sa Taxi Impact Fund Rf (Pty) Ltd.	South Africa	Real Estate and Rental and Leasing
Sabre Partners Fund - Sp Fund 2019	India	Finance and Insurance
Sael Industries Limited	India	
Samunnati Financial Intermediation & Services Priv	India	Finance and Insurance
Samunnati Financial Intermediation & Services Private Limited	India	Finance and Insurance
Samunnati Financial Intermediation And Services Private Limited	India	Finance and Insurance
Sanasa Development Bank	Sri Lanka	Finance and Insurance
Sanergy	Kenya	Administrative and Support and Waste Management and Remediation Services
Sanima Bank Ltd	Nepal	Finance and Insurance
Sapphire Wind Power	Pakistan	Utilities
Sarona Frontier Markets Fund Ii Lp	Worldwide	Finance and Insurance
Sarona Global Growth Markets Pe Fund 2-B Lp	Worldwide	Finance and Insurance
Sarsang Production Expansion	Iraq	Mining, Quarrying, and Oil and Gas Extraction
Sayali Ltd	Georgia	Health Care and Social Assistance
Scale-Msme- Gradian Health Systems, Inc.	Africa Regional	Finance and Insurance
Scale-Msme-Babban Gona Farmer Services Nigeria Lim	Nigeria	Finance and Insurance
SCALE-MSME-Iprocure Ltd.	Kenya	Professional, Scientific, and Technical Services
Scale-MSME-Mpharma Data Inc.	Africa Regional	Finance and Insurance
SCALE-MSME-Myagro Farms	Africa Regional	Finance and Insurance
SCALE-MSME-Red Amigo Dal, S.A.P.I. De C.V., SOFOM,	Mexico	Finance and Insurance
SCALE-Nonmsme- D. Light Limited	Kenya	Utilities
SCALE-Nonmsme- SEMPLI S.A.S.	Colombia	Finance and Insurance
Schulze Global Finance Facility Mongolia	Mongolia	Finance and Insurance
Science For Society Techno Services Private Limite	India	Manufacturing
Sdg Investment Fund S.A., Sicav-Raif (Junior)	Africa Regional	Finance and Insurance
Sdg Investment Fund S.A., Sicav-Raif (Senior)	Africa Regional	Finance and Insurance
SDG Outcomes Fund Scsp, SICAV-RAIF	Worldwide	
Seaf Covid-19 Global Gender Lens Emergency Loan Fi	Worldwide	Finance and Insurance
Security Bank Corporation	Philippines	Finance and Insurance
Sef International Uco Llc	Armenia	Finance and Insurance
Seker Mortgage Finansman A.S.	Turkey	Finance and Insurance
Sekerbank T.A.S.	Turkey	Finance and Insurance
Sep Energy India Pvt. Ltd.	India	Utilities
Sep Energy India Pvt. Ltd.	India	Utilities
Sep Energy India Pvt. Ltd.	India	Utilities
Sewa Grih Rin Limited	India	Finance and Insurance
Sfc Finance Limited	Africa Regional	Finance and Insurance
Shriram Transport Finance Company	India	Finance and Insurance
Siddhartha Bank Limited	Nepal	Finance and Insurance
Sidian Bank (F/K/A K-Rep Bank)	Kenya	Finance and Insurance
Sidian Bank Limited	Kenya	Finance and Insurance
Sigmableyzer Southeast European Fund IV, CV	Ukraine	Finance and Insurance

Silverlands Fund	Africa Regional	Finance and Insurance
Sitara Solar Energy Private Limited	India	Utilities
Smart Rj Concessionaria	Brazil	Construction
Socialalpha Investment Fund (SAIF)	Worldwide	Finance and Insurance
Sociedad Concesionaria Vial Montes De Maria S.A.S	Colombia	Construction
Societe Generale Haitienne De Banque S.A. (Sogebank)	Haiti	Finance and Insurance
SOCREMO Banco De Microfinancas	Mozambique	Finance and Insurance
Solar Energy Transformation Fund Llc (Senior)	Worldwide	Finance and Insurance
Solar Energy Transformation Fund Llc (Subordinated	Worldwide	Finance and Insurance
Solararomo S.A.	Ecuador	Utilities
Solararomo S.A. Political Risk Insurance	Ecuador	Utilities
Somerset Indus Healthcare Fund Ii	India	Finance and Insurance
Soothe Healthcare	India	Manufacturing
Sorwathe S.A.R.L.	Rwanda	Agriculture, Forestry, Fishing and Hunting
South Asia Growth Fund Ii, L.P.	India	
Southeast Asia Commercial Joint Stock Bank	Vietnam	Finance and Insurance
Spark+ Africa Fund	Africa Regional	Finance and Insurance
Sparkasse Bank	Bosnia And Herzegovina	Finance and Insurance
Sparkasse Bank	Bosnia And Herzegovina	Finance and Insurance
Spe Aif I, Lp	Africa Regional	
St. Kitts	St. Christopher-Nevis	
St. Kitts	St. Christopher-Nevis	
St. Vincent	St. Vincent	
Stanbic Ibtc Trustees Limited	Nigeria	Utilities
Standard Chartered Bank	Africa Regional	Finance and Insurance
Star Land Enterprises Sa	Panama	Construction
State Enterprise National Nuclear Energy Generating Company "Energoatom"	Ukraine	Administrative and Support and Waste Management and Remediation Services
Steward Bank	Zimbabwe	Finance and Insurance
Stichting Cordaid	Mali	Finance and Insurance
Stichting Cordaid	Africa Regional	Finance and Insurance
Stone Instituicao De Pagamento S.A.	Brazil	Finance and Insurance
Stopanska Banka Ad Bitola	North Macedonia	Finance and Insurance
Sudameris Bank S.A.E.C.A	Paraguay	Finance and Insurance
Sudameris Bank S.A.E.C.A. (COVID-Response Facility	Paraguay	Finance and Insurance
Summa Airports (Sl) Limited	Sierra Leone	Construction
Sunfunder Solar Energy Transformation Fund	Central African Republic	Utilities
Sunshine Business Plc	Ethiopia	Accommodation and Food Services
Sustainable Ocean Fund (Sof)	Worldwide	Finance and Insurance
Svakarma Finance	India	Finance and Insurance
Syrian Arab Republic	Syria	
Syrian Arab Republic	Syria	
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Syrian Arab Republic	Syria	
Taiba Wind Senegal	Senegal	Utilities
Tè Power Company	Guinea	Utilities
Te Power Company Sasu	Guinea	Utilities
Techmet (2022)	Brazil	
Techmet Limited	Brazil	Mining, Quarrying, and Oil and Gas Extraction
Tembici	Brazil	
Ten Merina Ndakhar Suarl	Senegal	Utilities
Tenaga Wind Power Project	Pakistan	Utilities
Terra Payment Services (Mauritius)	Worldwide	Finance and Insurance
Tetra4 Proprietary Limited	South Africa	Manufacturing
Tetra4 Proprietary Limited	South Africa	Mining, Quarrying, and Oil and Gas Extraction
The Atlantic	Iraq	Construction
The Urban Resilience Fund	Africa Regional	Finance and Insurance
The Water Access Acceleration Fund (In Formation)	Kenya	
Thirumeni Finance Private Limited D/B/A Varthana	India	Finance and Insurance
Three Seas Initiative Investment Fund	Europe Regional	Finance and Insurance
Tib Diversified Payment Rights Finance Compa	Turkey	Finance and Insurance
Tien Phong Commercial Joint Stock Bank	Vietnam	Finance and Insurance
Touchstone Colombia Gold Mine	Colombia	Mining, Quarrying, and Oil and Gas Extraction
Tp Solar Limited	India	Manufacturing
Trans Pacific Networks Cayman Co	Singapore	Construction
Transform Health Fund	Africa Regional	
Tres Mesas	Mexico	Utilities
Tres Mesas - 2	Mexico	Utilities
Trine AB	Worldwide	Utilities
Triple Jump Financial Inclusion Resilience Fund B.	Netherlands	Finance and Insurance
Tugende Limited	Uganda	Real Estate and Rental and Leasing
Tunisia-Amen Bank	Tunisia	Finance and Insurance
Tunisia-Arab Tunisia Bank	Tunisia	Finance and Insurance
Tunisia-Attijari Bank	Tunisia	Finance and Insurance
Tunisia-Attijari Bank 2	Tunisia	Finance and Insurance
Twiga Foods Ltd.	Kenya	Transportation and Warehousing
Twigg Exploration And Mining Ltda.	Mozambique	Mining, Quarrying, and Oil and Gas Extraction
Txtlight Power Solutions Limited (Lumos)	Nigeria	Utilities
Txtlight Power Solutions Limited Ii	Nigeria	Utilities
Uc Inclusive Credit Private Limited	India	Finance and Insurance
Uccms Senegal Loan Portfolio Guaranty	Senegal	Finance and Insurance
Uhuru Growth Fund I-A, Scsp	Africa Regional	
Ukrainian Catholic University	Ukraine	Educational Services
Ummeed Housing Finance Private Limited	India	Finance and Insurance
Unallocated Portion - Fy13 Philippines Mp Guarantee	Philippines	Finance and Insurance
Unallocated Portion - Fy14 Pakistan Mp Guarantee	Pakistan	Finance and Insurance
Unallocated Portion - Fy15 Zimbabwe Mp Guarantee	Zimbabwe	Finance and Insurance
Unallocated Portion - Fy16 Central Asian Republics Regional Mp Guarantee	Kazakhstan	Finance and Insurance
Unallocated Portion - Fy16 Kenya Mp Guarantee	Kenya	Finance and Insurance
Unallocated Portion - Fy16 Macedonia Mp Guarantee	North Macedonia	Finance and Insurance
Unallocated Portion - Fy16 Mexico Mp Guarantee	Mexico	Finance and Insurance
Unallocated Portion -- Fy16 Pakistan Mp Guarantee	Pakistan	Finance and Insurance
Unallocated Portion - Fy18 India Mp Guarantee	India	Finance and Insurance
Unallocated Portion - Fy18 Kyrgyz Republic Mp Guarantee	Kyrgyzstan	Finance and Insurance
Unallocated Portion - Fy18 Sri Lanka Mp Guarantee	Sri Lanka	Finance and Insurance
Unallocated Portion - Fy19 India Mp Guarantee	India	Finance and Insurance
Unallocated Portion - Fy19 Nigeria Mp Guarantee	Nigeria	Finance and Insurance
Unallocated Portion - Fy19 Worldwide Mp Guarantee	Worldwide	Finance and Insurance
Union Bank Of Nigeria	Nigeria	Finance and Insurance
University Of Central Asia	Tajikistan	Educational Services
Unreasonable Capital Fund I	Worldwide	Finance and Insurance

Upgrid Electrilease Private Limited	India	Wholesale Trade
Usplus Limited	South Africa	Finance and Insurance
Various Apache Egypt Concession Subsidiaries	Egypt	Mining, Quarrying, and Oil and Gas Extraction
Velifin	Mexico	Finance and Insurance
Verida Credit Ifn S.A.	Romania	Finance and Insurance
Verida Credit Ifn S.A. Ii	Romania	Finance and Insurance
Vietnam Prosperity Joint Stock Commercial Bank	Vietnam	Finance and Insurance
Virtuo Finance Sarl	Egypt	Finance and Insurance
Vistaar Financial Services Private Limited	India	Finance and Insurance
Wade Rain De Mexico, S. De R.L. De C.V.	Mexico	Manufacturing
Wananchi Group Holdings Ltd	Africa Regional	Information
Water Credit Investment Fund 3	Asia Regional	Finance and Insurance
Water Equity - Global Access Fund	Worldwide	Finance and Insurance
Waterhealth India Private Limited	India	Manufacturing
Wavemaker Impact	Asia Regional	
Waycool Foods And Products Private Limited	India	Agriculture, Forestry, Fishing and Hunting
Wbc - Akme Fintrade India Limited	India	Finance and Insurance
WBC - Alternativa 19 Del Sur S.A. De C.V. SOFOM E.	Mexico	Finance and Insurance
Wbc - Asirvad Microfinance Limited	India	Finance and Insurance
Wbc - Avanse Financial Services Limited	India	Finance and Insurance
Wbc - Bank Vostok	Ukraine	Finance and Insurance
Wbc - Capri Global Capital Limited	India	Finance and Insurance
WBC - Cooperativa De Ahorro Y Credito Alianza Del	Ecuador	Finance and Insurance
WBC - Cooperativa De Ahorro Y Crédito Pacífico	Peru	Finance and Insurance
WBC - Corporacion Financiera De Occidente	Mexico	Finance and Insurance
Wbc - Ess Kay Fincorp Private Limited	India	Finance and Insurance
Wbc - Exitus Capital	Mexico	Finance and Insurance
Wbc - Fedecredito	El Salvador	Finance and Insurance
WBC - Financiera Realidad, S.A. De C.V., SOFOM, E.	Mexico	Finance and Insurance
Wbc - Golomt Bank Llc	Mongolia	Finance and Insurance
Wbc - Ion Financiera	Mexico	Finance and Insurance
WBC - Kapitalmujer, S.A. De C.V.	Mexico	Finance and Insurance
Wbc - Lolc Finance Plc	Sri Lanka	Finance and Insurance
Wbc - Ocn Microinvest S.R.L	Moldova	Finance and Insurance
WBC - Operadora De Servicios Mega, S.A. De C.V. SO	Mexico	Finance and Insurance
Wbc - Pjsc Bank Vostok	Ukraine	Finance and Insurance
Wbc - Satin Creditcare Network Limited	India	Finance and Insurance
WBC -- Siempre Creciendo, S.A. De C.V., SOFOM, ENR	Mexico	Finance and Insurance
WBC - Sociedad De Ahorro Y Credito Apoyo Integral,	El Salvador	Finance and Insurance
WBC - Sociedad Financiera Equipate, S.A. De C.V. S	Mexico	Finance and Insurance
Wbc - Sonata Finance Private Limited	India	Finance and Insurance
Wbc - Victoria Commercial Bank Ltd	Kenya	Finance and Insurance
Wbc Financiera Desyfin S.A. Ii	Costa Rica	Finance and Insurance
WBC- Mercader Financial, S.A. De C.V., SOFOM, E.R.	Mexico	Finance and Insurance
WBC -Multi Inversiones Banco Cooperativo De Los Tr	El Salvador	Finance and Insurance
Wbc-Asirvad Microfinance Limited	India	Finance and Insurance
Wbc-Atlantic Group Limited	Ukraine	Professional, Scientific, and Technical Services
Wbc-Atlantic Group Limited ("Agl")	Ukraine	Professional, Scientific, and Technical Services
Wbc-Comercial Laeisz, S.A. De C.V.	Honduras	Real Estate and Rental and Leasing
WBC-Cooperativa De Ahorro Y Credito Fernando Daqui	Ecuador	Finance and Insurance
WBC-Cooperativa De Ahorro Y Credito Jardin Azuayo	Ecuador	Finance and Insurance
WBC-Financiamiento Progresemos SA De CV SOFO	Mexico	Finance and Insurance
WBC-Financiamiento Progresemos, S.A. De C.V.	Mexico	Finance and Insurance
Wbc-Financiera Fama, S.A.	Nicaragua	Finance and Insurance
Wbc-Financiera Finexpar S.A.E.C.A.	Paraguay	Finance and Insurance
Wbc-Nurolbank (Subordinated)*	Turkey	Finance and Insurance
Wbc-Vallarta Vision Y Mision A.C.	Mexico	Educational Services

Weof Acleda Bank	Cambodia	Finance and Insurance
West Africa Bright Future Fund C.V.	Africa Regional	Finance and Insurance
Wlb Asset Ii B Pte. Ltd.	Indonesia	Finance and Insurance
Wlb Asset Ii C Pte. Ltd.	Indonesia	Finance and Insurance
Wlb Asset Ii D Pte. Ltd.	Indonesia	Finance and Insurance
Wlb Asset Ii Pte. Ltd.	Indonesia	Finance and Insurance
Women's Catalyst Fund	Singapore	Finance and Insurance
Wrb Serra Partners Fund I	Latin America Region	Finance and Insurance
Wwb Capital Partners Ii (Non-Ssa)	Worldwide	Finance and Insurance
Wwb Capital Partners Ii (Ssa)	Worldwide	Finance and Insurance
Yes Bank	India	Finance and Insurance
Yes Bank Ii	India	Finance and Insurance
Yilport Terminal Operations S.A.	Ecuador	Transportation and Warehousing
Yulu Bikes Pvt Ltd	India	Real Estate and Rental and Leasing
Zambia National Commercial Bank Plc (Zanaco)	Zambia	Finance and Insurance
Zamuka Future Of Work Fund PLC	Africa Regional	Finance and Insurance
Zao Star Networks	Russia	Information

APPENDIX B – PROJECT EMISSIONS CALCULATIONS

This appendix contains the inputs, data sources, and calculations used to estimate the emissions for each of the projects in OPIC/DFC's CY 2022 GHG inventory. If project sponsor feedback was submitted in the years from 2007–2021, emissions estimates from those years are also presented.

TIER A PROJECTS

AES Jordan

Maximum Potential-to-Emit Estimate

AES Jordan's initial maximum PTE estimate of **1,545,173 STPY of CO_2e** was calculated using the information below. However, in 2016 the emissions exceeded the maximum PTE estimate. Therefore, in this inventory and subsequent inventories, the maximum PTE was set to the peak emissions year. For AES Jordan, emissions peaked at **1,588,326 short tons of CO_2e** in CY 2016.

Data	Value	Source
Fuel Type	Natural Gas	Project Description
Capacity	370 MW	Project Description
Emission Factor	390 g CO_2/kWh	IFC 2006
Load Adjustment Factor	85/70	Engineering adjustment to align maximum PTE with operational data supplied by project sponsor for inventory years 2009 through 2012.

Maximum Potential-to-Emit = 1,545,173 STPY of CO_2e =

$$370\text{MW} * \frac{1000\text{kW}}{\text{MW}} * \frac{8000\text{hr}}{\text{yr}} * \frac{85}{70} * \frac{390\text{ g } CO_2}{\text{kWh}} * \frac{0.0000011023\text{ short tons}}{\text{g}}$$

2007 Emissions Estimate

AES Jordan was under construction and not operational during 2007. Since emissions from construction would be below the 100,000 short ton threshold, this project was omitted from the 2007 inventory.

2008 Emissions Estimate

AES Jordan's emissions estimate of **590,940 short tons of CO_2e** for 2008 was calculated using the following information:

Data	Value	Source
Fuel Type	Natural Gas	Project Sponsor
Net Energy Generated	10,103,603 MMBtu	Project Sponsor
Emission Factor	53.06 kg CO_2/MMBtu	TCR, Table 12.1

Emissions = 590,940 short tons of CO_2e =

$$10{,}103{,}603 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2009 Emissions Estimate

AES Jordan's emissions estimate of **1,318,130 short tons of CO_2e** for 2009 was calculated using the following information:

Data	Value	Source
Fuel Type	Natural Gas	Project Sponsor
Net Energy Generated	22,536,748 MMBtu	Project Sponsor
Emission Factor	53.06 kg CO_2/MMBtu	TCR, Table 12.1

Emissions = 1,318,130 short tons CO_2e =

$$22{,}536{,}748 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2010 Emissions Estimate

AES Jordan's emissions estimate of **1,434,569 short tons of CO_2e** for 2010 was calculated using the following information:

Data	Value	Source
Unit 1 Emissions	678,706,541 kg CO_2	Project Sponsor
Unit 2 Emissions	622,726,311 kg CO_2	Project Sponsor

Emissions = 1,434,569 short tons of CO_2e =

$$(678{,}706{,}541 \text{ kg } CO_2 + 622{,}726{,}311 \text{ kg } CO_2) * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2011 Emissions Estimate

AES Jordan's emissions estimate of **1,184,010 short tons of CO_2e** for 2011 was calculated using the following information:

Data	Value	Source
Fuel Type	Natural Gas & Diesel	Project Sponsor
Total Natural Gas Consumption	11,618,556 MMBtu	Project Sponsor
Total Diesel Consumption	6,256,271 MMBtu	Project Sponsor
Emission Factor Natural Gas	53.06 kg CO_2/MMBtu	TCR, Table 12.1
Emissions Factor Diesel	73.15 kg CO2/MMBtu	The Climate Registry, Table 12-1

Emissions = 1,184,010 short tons CO_2e =

$$11{,}618{,}556 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$6{,}256{,}271 \text{ MMBtu} * \frac{73.15 \text{ kg CO2}}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2012 Emissions Estimate

AES Jordan's emissions estimate of **936,400 short tons of CO_2e** for 2012 was calculated using the following information:

Data	Value	Source
Fuel Type	Natural Gas & Diesel	Project Sponsor
Total Natural Gas Consumption	5,069,853 MMBtu	Project Sponsor
Total Diesel Consumption	7,851,448 MMBtu	Project Sponsor
Emission Factor Natural Gas	53.02 kg CO_2/MMBtu	TCR 2013
Emissions Factor Diesel	73.96 kg CO2/MMBtu	TCR 2013

Emissions = 936,400 short tons CO_2e =

$$5{,}069{,}853 \text{ MMBtu} * \frac{53.02 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$7{,}851{,}448 \text{ MMBtu} * \frac{73.96 \text{ kg CO2}}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2013 Emissions Estimate

AES Jordan's emissions estimate of **1,514,054 short tons of CO_2e** for 2013 was calculated using the following information:

Data	Value	Source
Fuel Type	Natural Gas & Diesel	Project Sponsor
Natural Gas Consumption (Lower Heating Value)	12,225,754.91 MMBtu	Project Sponsor
Diesel Consumption (Lower Heating Value)	8,284,455.54 MMBtu	Project Sponsor
Natural Gas - Conversion Factor to Higher Heating Value	1.10786	GREET
Diesel - Conversion Factor to Higher Heating Value	1.069685	GREET
Emission Factor Natural Gas	53.02 kg CO_2/MMBtu	TCR 2013
Emissions Factor Diesel	73.96 kg CO_2/MMBtu	TCR 2013

Emissions = 1,514,054 short tons CO_2e =

12,225,754.91 MMBtu * $\frac{53.02 \text{ kg } CO_2}{\text{MMBtu}}$ * $\frac{0.0011023 \text{ short tons}}{\text{kg}}$ * 1.10786 +

8,284,455.54 MMBtu * $\frac{73.96 \text{ kg CO2}}{\text{MMBtu}}$ * $\frac{0.0011023 \text{ short tons}}{\text{kg}}$ * 1.069685

2014 Emissions Estimate

AES Jordan's emissions estimate of **1,203,945 short tons of CO_2e** for 2014 was calculated using the following information:

Data	Value	Source
Fuel Type	Natural Gas & Diesel	Project Sponsor
Natural Gas Consumption (Lower Heating Value)	4,415,255.552 MMBtu	Project Sponsor
Diesel Consumption (Lower Heating Value)	10,527,411.68 MMBtu	Project Sponsor
Natural Gas - Conversion Factor to Higher Heating Value	1.1079	GREET
Diesel - Conversion Factor to Higher Heating Value	1.069685	GREET
Emission Factor Natural Gas	53.02 kg CO_2/MMBtu	TCR 2014
Emissions Factor Diesel	73.96 kg CO_2/MMBtu	TCR 2014

Emissions = 1,203,945 short tons CO_2e =

4,415,255.552 MMBtu * $\frac{53.02 \text{ kg } CO_2}{\text{MMBtu}}$ * $\frac{0.0011023 \text{ short tons}}{\text{kg}}$ * 1.1079 +

10,527,411.68 MMBtu * $\frac{73.96 \text{ kg CO2}}{\text{MMBtu}}$ * $\frac{0.0011023 \text{ short tons}}{\text{kg}}$ * 1.069685

2015 Emissions Estimate

AES Jordan's emissions estimate of **949,925 short tons of CO_2e** for 2015 was calculated using the following information:

Data	Value	Source
Fuel Type	Natural Gas & Diesel	Project Sponsor
Natural Gas Consumption (Lower Heating Value)	13,065,796 MMBtu	Project Sponsor
Diesel Consumption (Lower Heating Value)	1,184,608 MMBtu	Project Sponsor
Natural Gas - Conversion Factor to Higher Heating Value	1.10786	GREET
Diesel - Conversion Factor to Higher Heating Value	1.069685	GREET
Emission Factor Natural Gas	53.06 kg CO_2/MMBtu	TCR 2015
Emissions Factor Diesel	73.96 kg CO_2/MMBtu	TCR 2014

Emissions = 949,925 short tons CO_2e =

$$13{,}065{,}796 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} * 1.10786 +$$

$$1{,}184{,}608 \text{ MMBtu} * \frac{73.96 \text{ kg CO2}}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} * 1.069685$$

2016 Emissions Estimate

AES Jordan's emissions estimate of **1,588,326 short tons of CO_2e** for 2016 was calculated using the following information:

Data	Value	Source
Fuel Type	Natural Gas & Diesel	Project Sponsor
Natural Gas Consumption (Lower Heating Value)	24,509,059.97 MMBtu	Project Sponsor
Diesel Consumption (Lower Heating Value)	2,555.967 MMBtu	Project Sponsor
Natural Gas - Conversion Factor to Higher Heating Value	1.10786	GREET
Diesel - Conversion Factor to Higher Heating Value	1.069685	GREET
Emission Factor Natural Gas	53.06 kg CO_2/MMBtu	TCR 2017
Emissions Factor Diesel	73.96 kg CO_2/MMBtu	TCR 2017

Emissions = 1,588,326 short tons CO_2e =

$$24{,}509{,}059.97 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} * 1.10786 +$$

$$2{,}555.967 \text{ MMBtu} * \frac{73.96 \text{ kg CO2}}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} * 1.069685$$

2017 Emissions Estimate

AES Jordan's emissions estimate of **1,401,138 short tons of CO_2e** for 2017 was calculated using the following information:

Data	Value	Source
Fuel Type	Natural Gas & Diesel	Project Sponsor
Natural Gas Consumption (Lower Heating Value)	21,623,642.74 MMBtu	Project Sponsor
Natural Gas - Conversion Factor to Higher Heating Value	1.10786	GREET
Emission Factor Natural Gas	53.06 kg CO_2/MMBtu	TCR 2017

Emissions = 1,401,138 short tons CO_2e =

$$21{,}623{,}642.74 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} * 1.10786$$

Note: Due to significant operational changes, there was no diesel fuel consumption at AES Jordan in 2017.

2018 Emissions Estimate

AES Jordan's emissions estimate of **1,401,138 short tons of CO_2e** for 2017 was calculated using the following information:

Data	Value	Source
Fuel Type	Natural Gas & Diesel	Project Sponsor
Natural Gas Consumption (Lower Heating Value)	21,623,642.74 MMBtu	Project Sponsor
Natural Gas – Conversion Factor to Higher Heating Value	1.10786	GREET
Emission Factor Natural Gas	53.06 kg CO_2/MMBtu	TCR 2017

Emissions = 1,401,138 short tons CO_2e =

$$21{,}623{,}642.74 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} * 1.10786$$

Note: The project sponsor provided the same data as was provided for CY 2018.

2019 Emissions Estimate

AES Jordan's emissions estimate of **1,472,387 short tons of CO_2e** for 2019 was calculated using the following information:

Data	Value	Source
Fuel Type	Natural Gas & Diesel	Project Sponsor
Natural Gas Consumption (Lower Heating Value)	22,723,223 MMBtu	Project Sponsor
Natural Gas - Conversion Factor to Higher Heating Value	1.10786	GREET
Emission Factor Natural Gas	53.06 kg CO_2/MMBtu	TCR 2020

Emissions = 1,472,387 short tons CO_2e =

$$22{,}723{,}223 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} * 1.10786$$

2020 Emissions Estimate

AES Jordan's emissions estimate of **1,344,371 short tons of CO_2e** for 2020 was calculated using the following information:

Data	Value	Source
Fuel Type	Natural Gas & Diesel	Project Sponsor
Natural Gas Consumption (Lower Heating Value)	20,747,569 MMBtu	Project Sponsor
Natural Gas - Conversion Factor to Higher Heating Value	1.10786	GREET
Emission Factor Natural Gas	53.06 kg CO_2/MMBtu	TCR 2020

Emissions = 1,344,371 short tons CO_2e =

$$20{,}747{,}569 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} * 1.10786$$

2021 Emissions Estimate

AES Jordan's emissions estimate of **1,282,021 short tons of CO_2e** for 2021 was calculated using the following information:

Data	Value	Source
Fuel Type	Natural Gas & Diesel	Project Sponsor
Natural Gas Consumption (Lower Heating Value)	19,785,317 MMBtu	Project Sponsor
Diesel Consumption	0 MMBtu	Project Sponsor
Natural Gas - Conversion Factor to Higher Heating Value	1.10786	GREET
Emission Factor Natural Gas	53.06 kg CO_2/MMBtu	TCR 2020
Conversion Factor	0.0011023 short tons/kg	TCR 2020

Emissions = 1,282,021 short tons CO_2e =

$$19{,}785{,}317 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} * 1.10786$$

2022 Emissions Estimate

AES Jordan's emissions estimate of **1,150,236 short tons of CO_2e** for 2022 was calculated using the following information:

Data	Value	Source
Fuel Type	Natural Gas & Diesel	Project Sponsor
Natural Gas Consumption (Lower Heating Value)	17,751,503 MMBtu	Project Sponsor
Diesel Consumption	0 MMBtu	Project Sponsor
Natural Gas - Conversion Factor to Higher Heating Value	1.10786	GREET
Emission Factor Natural Gas	53.06 kg CO_2/MMBtu	TCR 2022
Conversion Factor	0.0011023 short tons/kg	TCR 2022

Emissions = 1,150,236 short tons CO_2e =

$$17{,}751{,}503 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} * 1.10786$$

Maximum Potential-to-Emit Estimate

AES Levant's maximum PTE estimate of **1,409,533 STPY of CO_2e** was calculated using the following information:

Data	Value	Source
Fuel Type	Heavy Fuel Oil	Project Description
Capacity	240 MW	Project Description
Emission Factor	666 gCO_2/kWh	IFC 2012
Conversion Factor	1000 kWh/MWh	
Conservative Operating Assumption	8000 hr/yr	EIA Form 923 data, 2007

Maximum Potential-to-Emit = 1,409,533 STPY of CO_2e =

$$240\text{MW} * \frac{666\text{ g } CO_2}{\text{kWh}} * \frac{1000\text{ kWh}}{\text{MWh}} * \frac{8000\text{ hr}}{\text{yr}} * \frac{1.1023 \times 10^{-6}\text{ short tons}}{\text{g}}$$

2014 Emissions Estimate

AES Levant's 2014 emissions estimate of **467,262 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Consumption Heavy Fuel Oil	5,600,812.08MMBtu	Project Sponsor
Residual Fuel Oil Emission Factor	75.1 kg CO_2/MMBtu	TCR 2014
Consumption Distillate Fuel	44,293.51 MMBtu	Project Sponsor
Distillate Fuel Oil Emission Factor	73.96 kg CO_2/MMBtu	TCR 2014
Conversion Factor	0.0011023 short tons/kg	TCR 2008

Emissions = 467,262 short tons of CO_2e =

$$5{,}600{,}812.08\text{ MMBtu} * \frac{75.1\text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023\text{ short tons}}{\text{kg}} +$$

$$44{,}293.51\text{ MMBtu} * \frac{73.96\text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023\text{ short tons}}{\text{kg}}$$

2015 Emissions Estimate

AES Levant's 2015 emissions estimate of **685,110 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Consumption Heavy Fuel Oil	7,738,256.34 MMBtu	Project Sponsor
Residual Fuel Oil Emission Factor	75.1 kg CO_2/MMBtu	TCR 2014
Consumption Distillate Fuel	48,223.72 MMBtu	Project Sponsor
Distillate Fuel Oil Emission Factor	73.96 kg CO_2/MMBtu	TCR 2014
Consumption Natural Gas	693,890 MMBtu	Project Sponsor
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2015
Conversion Factor	0.0011023 short tons/kg	TCR 2008

Emissions = 685,110 short tons of CO_2e =

$$7{,}738{,}256.34 \text{ MMBtu} * \frac{75.1 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$48{,}223.72 \text{ MMBtu} * \frac{73.96 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$693{,}890 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2016 Emissions Estimate

AES Levant's 2016 emissions estimate of **228,994 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Consumption Heavy Fuel Oil	1,082.91 MMBtu	Project Sponsor
Residual Fuel Oil Emission Factor	75.1 kg CO_2/MMBtu	TCR 2017
Consumption Distillate Fuel	45,507.53 MMBtu	Project Sponsor
Distillate Fuel Oil Emission Factor	73.96 kg CO_2/MMBtu	TCR 2017
Consumption Natural Gas	3,850,261 MMBtu	Project Sponsor
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2017
Conversion Factor	0.0011023 short tons/kg	TCR 2017

Emissions = 228,994 short tons of CO_2e =

$$1{,}082.91 \text{ MMBtu} * \frac{75.1 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$45{,}507.53 \text{ MMBtu} * \frac{73.96 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$3{,}850{,}261 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2017 Emissions Estimate

AES Levant's 2017 emissions estimate of **345,980 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Consumption Heavy Fuel Oil	37,782.79 MMBtu	Project Sponsor
Residual Fuel Oil Emission Factor	75.1 kg CO_2/MMBtu	TCR 2017
Consumption Distillate Fuel	73,912.50 MMBtu	Project Sponsor
Distillate Fuel Oil Emission Factor	73.96 kg CO_2/MMBtu	TCR 2017
Consumption Natural Gas	5,758,890.06 MMBtu	Project Sponsor
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2017
Conversion Factor	0.0011023 short tons/kg	TCR 2017

Emissions = 345,980 short tons of CO_2e =

$$37{,}782.79 \text{ MMBtu} * \frac{75.1 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$73{,}912.50 \text{ MMBtu} * \frac{73.96 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$5{,}758{,}890.06 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2018 Emissions Estimate

AES Levant's 2018 emissions estimate of **345,980 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Consumption Heavy Fuel Oil	37,782.79 MMBtu	Project Sponsor
Residual Fuel Oil Emission Factor	75.1 kg CO_2/MMBtu	TCR 2017
Consumption Distillate Fuel	73,912.50 MMBtu	Project Sponsor
Distillate Fuel Oil Emission Factor	73.96 kg CO_2/MMBtu	TCR 2017
Consumption Natural Gas	5,758,890.06 MMBtu	Project Sponsor
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2017
Conversion Factor	0.0011023 short tons/kg	TCR 2017

Emissions = 345,980 short tons of CO_2e =

$$37{,}782.79 \text{ MMBtu} * \frac{75.1 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$73{,}912.50 \text{ MMBtu} * \frac{73.96 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

5,758,890.06 MMBtu * $\frac{53.06 \text{ kg } CO_2}{\text{MMBtu}}$ * $\frac{0.0011023 \text{ short tons}}{\text{kg}}$

2019 Emissions Estimate

AES Levant's 2019 emissions estimate of **394,784 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Consumption Heavy Fuel Oil	4,768,922.356 MMBtu	Project Sponsor
Residual Fuel Oil Emission Factor	75.1 kg CO_2/MMBtu	TCR 2020
Consumption Distillate Fuel	0 MMBtu	Project Sponsor
Distillate Fuel Oil Emission Factor	73.96 kg CO_2/MMBtu	TCR 2020
Consumption Natural Gas	0 MMBtu	Project Sponsor
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2020
Conversion Factor	0.0011023 short tons/kg	TCR 2020

Emissions = 394,784 short tons of CO_2e =

4,768,922.356 * $\frac{75.1 \text{ kg } CO_2}{\text{MMBtu}}$ * $\frac{0.0011023 \text{ short tons}}{\text{kg}}$

2020 Emissions Estimate

AES Levant's 2020 emissions estimate of **189,237 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Consumption Heavy Fuel Oil	1,149.83 MMBtu	Project Sponsor
Residual Fuel Oil Emission Factor	75.1 kg CO_2/MMBtu	TCR 2020
Consumption Distillate Fuel	60,545.98 MMBtu	Project Sponsor
Distillate Fuel Oil Emission Factor	73.96 kg CO_2/MMBtu	TCR 2020
Consumption Natural Gas	3,149,454 MMBtu	Project Sponsor
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2020
Conversion Factor	0.0011023 short tons/kg	TCR 2020

Emissions = 189,237 short tons of CO_2e =

1,149.83 * $\frac{75.1 \text{ kg } CO_2}{\text{MMBtu}}$ * $\frac{0.0011023 \text{ short tons}}{\text{kg}}$ +

60,545.98 * $\frac{73.96 \text{ kg } CO_2}{\text{MMBtu}}$ * $\frac{0.0011023 \text{ short tons}}{\text{kg}}$ +

3,149,454 * $\frac{53.06 \text{ kg } CO_2}{\text{MMBtu}}$ * $\frac{0.0011023 \text{ short tons}}{\text{kg}}$

2021 Emissions Estimate

AES Levant's 2021 emissions estimate of **218,165 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Consumption Heavy Fuel Oil	28,602.64 MMBtu	Project Sponsor
Residual Fuel Oil Emission Factor	75.1 kg CO_2/MMBtu	TCR 2020
Consumption Distillate Fuel	63,596.27 MMBtu	Project Sponsor
Distillate Fuel Oil Emission Factor	73.96 kg CO_2/MMBtu	TCR 2020
Consumption Natural Gas	3,600,956 MMBtu	Project Sponsor
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2020
Conversion Factor	0.0011023 short tons/kg	TCR 2020

Emissions = 218,165 short tons of CO_2e =

$$28{,}602.64 * \frac{75.1 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$63{,}596.27 * \frac{73.96 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$3{,}600{,}956 * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2022 Emissions Estimate

AES Levant's 2022 emissions estimate of **299,399 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Consumption Heavy Fuel Oil	6,015.00 MMBtu	Project Sponsor
Residual Fuel Oil Emission Factor	75.1 kg CO_2/MMBtu	TCR 2022
Consumption Distillate Fuel	66,475.85 MMBtu	Project Sponsor
Distillate Fuel Oil Emission Factor	73.96 kg CO_2/MMBtu	TCR 2022
Consumption Natural Gas	5,017,809 MMBtu	Project Sponsor
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2022
Conversion Factor	0.0011023 short tons/kg	TCR 2022

Emissions = 299,399 short tons of CO_2e =

$$6{,}015.00 * \frac{75.1 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$66{,}475.85 * \frac{73.96 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$5{,}017{,}809 * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

Maximum Potential-to-Emit Estimate

Amandi Energy Limited's project description provided an estimate of the expected emissions, which was used to calculate the project's maximum PTE of 110,230 short tons CO_2e.

Data	Value	Source
Expected Emissions	100,000 metric tons CO_2e	Project Description
Conversion Factor	1.1023 short tons/metric ton	

Maximum Potential-to-Emit = 110,230 short tons CO_2e =

$$100{,}000 \text{ mt}CO_2e * \frac{1.1023 \text{ short tons}}{\text{metric ton}}$$

2021 Emissions Estimate

Amandi Energy Limited's 2021 emissions estimate of **286,282 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Natural gas consumption	131,630,741 m^3	Project Sponsor
Conversion Factor	0.02832 m^3/scf	TCR 2020
Natural Gas Emission Factor	0.05444 kg CO_2/scf	TCR 2020
Distillate fuel oil consumption	291.64 m^3	Project Sponsor
Conversion Factor	6.28981 barrels/m^3	
Conversion Factor	42 gallons/barrel	TCR 2020
Conversion Factor	0.138 MMBtu/gallon of distillate fuel oil	TCR 2020
Distillate Fuel Oil Emission Factor	73.96 kg CO_2/MMBtu	TCR 2020
Light crude oil consumption	2,166.24 m^3	Project Sponsor
Crude Oil Heat Content	5.8 MMBtu/barrel of crude oil	TCR 2020
Crude Oil Emission Factor	74.54 kg/MMBtu	TCR 2020
Conversion Factor	0.0011023 short tons/kg	TCR 2020

Emissions = 286,282 short tons of CO_2e =

$$131{,}630{,}741 \text{ m}^3 * \frac{1 \text{ scf}}{0.02832 \text{ m}^3} * \frac{0.05444 \text{ kg } CO_2}{\text{scf}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$291.64 \text{ m}^3 * \frac{6.28981 \text{ bbl}}{1 \text{ m}^3} * \frac{42 \text{ gal}}{1 \text{ bbl}} * \frac{0.138 \text{ MMBtu}}{1 \text{ gal}} * \frac{73.96 \text{ kg } CO_2}{1 \text{ MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$2{,}166.24 \text{ m}^3 * \frac{6.2891 \text{ bbl}}{1 \text{ m}^3} * \frac{5.8 \text{ MMBtu}}{1 \text{ bbl}} * \frac{74.54 \text{ kg } CO_2}{1 \text{ MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2022 Emissions Estimate

Amandi Energy Limited's 2022 emissions estimate of **635,797 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Natural gas consumption	289,795,714 m^3	Project Sponsor
Conversion Factor	0.02832 m^3/scf	TCR 2022
Natural Gas Emission Factor	0.05444 kg CO_2/scf	TCR 2022
Light crude oil consumption	6,992,550 L	Project Sponsor
Conversion Factor	0.264 gal/L	
Conversion Factor	0.023809 barrel/gal	
Crude Oil Heat Content	5.796 MMBtu/barrel of crude oil	TCR 2022
Crude Oil Emission Factor	74.54 kg/MMBtu	TCR 2022
Diesel consumption	268,419 L	Project Sponsor
Diesel Heat Content	0.138 MMBtu/gal	TCR 2022
Diesel Emission Factor	73.96 kg/MMBtu	TCR 2022
Conversion Factor	0.0011023 short tons/kg	TCR 2022

Emissions = 635,797 short tons of CO_2e =

$$289{,}795{,}714\ m^3 * \frac{1\ scf}{0.02832\ m^3} * \frac{0.05444\ kg\ CO_2}{scf} * \frac{0.0011023\ short\ tons}{kg} +$$

$$6{,}992{,}550\ L * \frac{0.264\ gal}{1\ L} * \frac{0.023809\ gal}{1\ barrel} * \frac{5.796\ MMBtu}{1\ barrel} * \frac{74.54\ kg\ CO_2}{1\ MMBtu} * \frac{0.0011023\ short\ tons}{kg} +$$

$$268{,}419\ L * \frac{0.264\ gal}{1L} * \frac{0.138\ MMBtu}{1\ gal} * \frac{73.96\ kg\ CO_2}{1\ MMBtu} * \frac{0.0011023\ short\ tons}{kg}$$

Maximum Potential-to-Emit Estimate

Azura Edo Power Project's maximum PTE estimate of **2,695,732 STPY of CO_2e** was calculated using the following information:

Data	Value	Source
Capacity	459 MW	Project Description
Emission Factor	666 gCO_2/kWh	IFC 2012
Conversion Factor	1000 kWh/MWh	
Conservative Operating Assumption	8000 hr/yr	EIA Form 923 data, 2007

Maximum Potential-to-Emit = 2,695,732 STPY of CO_2e =

$$459\ MW * \frac{666\ g\ CO_2}{kWh} * \frac{1000\ kWh}{MWh} * \frac{8000\ hr}{yr} * \frac{1.1023 \times 10^{-6}\ short\ tons}{g}$$

2018 Emissions Estimate

Azura Edo Power Project's 2018 emissions estimate of **919,017 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Consumption Natural Gas	15,712,906 MMBtu	Project Sponsor
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2017
Conversion Factor	0.0011023 short tons/kg	TCR 2017

Emissions = 919,017 short tons of CO_2e =

$$15{,}712{,}906\ MMBtu * \frac{53.06\ kg\ CO_2}{MMBtu} * \frac{0.0011023\ short\ tons}{kg}$$

2019 Emissions Estimate

Azura Edo Power Project's 2019 emissions estimate of **1,557,274 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Consumption Natural Gas	26,625,510 MMBtu	Project Sponsor
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2020
Conversion Factor	0.0011023 short tons/kg	TCR 2020

Emissions = 1,557,274 short tons of CO_2e =

$$26{,}625{,}510\ MMBtu * \frac{53.06\ kg\ CO_2}{MMBtu} * \frac{0.0011023\ short\ tons}{kg}$$

2020 Emissions Estimate

Azura Edo Power Project's 2020 emissions estimate of **1,949,527 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	33,329,984.66 MMBtu	Project Sponsor
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2020
Conversion Factor	0.0011023 short tons/kg	TCR 2020
Diesel Consumption	41,000 liters	Project Sponsor
Conversion Factor	0.264 gallons per liter	
Conversion Factor	0.0238 barrels per gallon	TCR 2020
Conversion Factor	5.8 MMBtu per barrel	TCR 2020
Diesel Emission Factor	73.96 kg CO_2/MMBtu	TCR 2020

Emissions = 1,949,527 short tons of CO_2e =

$$33{,}329{,}984.66 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$41{,}000 \text{ L} * \frac{0.264 \text{ gal}}{\text{L}} * \frac{0.0238 \text{ barrels}}{\text{gal}} * \frac{5.8 \text{ MMBtu}}{\text{barrel}} * \frac{73.96 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2021 Emissions Estimate

Azura Edo Power Project's 2021 emissions estimate of **2,114,667 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	36,154,343.02 MMBtu	Project Sponsor
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2020
Conversion Factor	0.0011023 short tons/kg	TCR 2020
Diesel Consumption	23,556 liters	Project Sponsor
Conversion Factor	0.264 gallons per liter	
Conversion Factor	0.0238 barrels per gallon	TCR 2020
Conversion Factor	5.8 MMBtu per barrel	TCR 2020
Diesel Emission Factor	73.96 kg CO_2/MMBtu	TCR 2020

Emissions = 2,114,667 short tons of CO_2e =

$$36{,}154{,}343.02 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$23{,}556 \text{ L} * \frac{0.264 \text{ gal}}{\text{L}} * \frac{0.0238 \text{ barrels}}{\text{gal}} * \frac{5.8 \text{ MMBtu}}{\text{barrel}} * \frac{73.96 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2022 Emissions Estimate

Azura Edo Power Project's 2022 emissions estimate of **2,202,565 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	37,655,209.16 MMBtu	Project Sponsor
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2022
Conversion Factor	0.0011023 short tons/kg	TCR 2022
Diesel Consumption	40,840 liters	Project Sponsor
Conversion Factor	0.264 gallons per liter	
Conversion Factor	0.0238 barrels per gallon	TCR 2022
Conversion Factor	5.8 MMBtu per barrel	TCR 2022
Diesel Emission Factor	73.96 kg CO_2/MMBtu	TCR 2022
Motor Gasoline Consumption	25,018.46 L	Project Sponsor
Gasoline Emission Factor	8.78 kg CO_2/gallon	TCR 2022

Emissions = 2,202,565 short tons of CO_2e =

$$37{,}655{,}209.16 \text{ MMBtu} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$40{,}840 \text{ L} * \frac{0.264 \text{ gal}}{\text{L}} * \frac{0.0238 \text{ barrels}}{\text{gal}} * \frac{5.8 \text{ MMBtu}}{\text{barrel}} * \frac{73.96 \text{ kg } CO_2}{\text{MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$25{,}018.46 \text{ L} * \frac{0.264 \text{ gal}}{\text{L}} * \frac{8.78 \text{ kg } CO_2}{\text{gal}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

Maximum Potential-to-Emit Estimate

Contour Global Togo's maximum PTE estimate of **587,305 STPY of CO_2e** was calculated using the following information:

Data	Value	Source
Fuel Type	Fuel Oil	Project Description
Capacity	100 MW	Project Description
Emission Factor for Electricity Generation from Fuel Oil Combustion	666 g CO_2/kWh	IFC 2012

Maximum Potential-to-Emit = 587,305 STPY of CO_2e =

$$100MW * \frac{1000kW}{MW} * \frac{8000\ hr}{yr} * \frac{666\ gCO_2}{kWh} * \frac{0.0000011023\ short\ tons}{g}$$

2011 Emissions Estimate

Contour Global Togo's 2011 emissions estimate of **46,561 short tons CO_2e** was calculated using the following information:

Data	Value	Source
2011 Emissions	42,239,975 kg	Project Sponsor
Conversion Factor	0.0011023 short tons/kg	TCR 2008

Emissions = 46,561 short tons of CO_2e =

$$42{,}239{,}975\ kg * \frac{0.0011023\ short\ tons}{kg}$$

2012 Emissions Estimate

Contour Global Togo's 2012 emissions estimate of **126,192 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	16,746,179 m^3	Project Sponsor
Conversion Factor	35.314 scf/m^3	
Natural Gas Calorific Value	1,028 MMBtu/mmscf	TCR 2013
Natural Gas Emission Factor	53.02 kg CO_2/MMBtu	TCR 2013
Heavy Fuel Oil (HFO) Consumption	25,417,990 kg	Project Sponsor
HFO Net Calorific Value	40.4 TJ/Gg	IPCC 2006. Vol. 2, Chap. 1
HFO Emission Factor	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light Fuel Oil (LFO) Consumption	868,358 kg	Project Sponsor
LFO Net Calorific Value	43.0 TJ/Gg	IPCC 2006. Vol. 2, Chap. 1
LFO Emissions Factor	74,100 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Conversion Factor	0.0011023 short tons/kg	

Emissions = 126,192 short tons of CO_2e =

$$16{,}746{,}179\ m^3 * \frac{35.314\ ft^3}{m^3} * \frac{10^{-6}\ mmscf}{scf} * \frac{1{,}028\ MMBtu}{mmscf} * \frac{53.02\ kg\ CO_2}{MMBtu} * \frac{0.0011023\ short\ tons}{kg} +$$

$$25{,}417{,}990\ kg * \frac{10^{-6}\ Gg}{kg} * \frac{40.4\ TJ}{Gg} * \frac{77{,}400\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg} +$$

$$868{,}358\ kg * \frac{10^{-6}\ Gg}{kg} * \frac{43.0\ TJ}{Gg} * \frac{74{,}100\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg}$$

2013 Emissions Estimate

Contour Global Togo's 2013 emissions estimate of **161,830 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	16,370,416 m^3	Project Sponsor
Natural Gas Higher Heating Value	1,028 MMBtu/mmscf	TCR 2013
Natural Gas Emission Factor	53.02 kg CO_2/MMBtu	TCR 2013
Heavy Fuel Oil (HFO) Consumption	34,190,245 kg	Project Sponsor
HFO Gross Calorific Value	43 TJ/Gg	National Physical Laboratory, 2015
HFO Emission Factor	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light Fuel Oil (LFO) Consumption	463,096 kg	Project Sponsor
LFO Gross Calorific Value	44 TJ/Gg	National Physical Laboratory, 2015
LFO Emissions Factor	74,100 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Conversion Factor	35.314 scf/m^3	
Conversion Factor	0.0011023 short tons/kg	

Emissions = 161,830 short tons of CO_2e =

$$16{,}370{,}416\ m^3 * \frac{35.314\ ft^3}{m^3} * \frac{10^{-6}\ mmscf}{scf} * \frac{1{,}028\ MMBtu}{mmscf} * \frac{53.02\ kg\ CO_2}{MMBtu} * \frac{0.0011023\ short\ tons}{kg} +$$

$$34{,}190{,}245\ kg * \frac{10^{-6}\ Gg}{kg} * \frac{43\ TJ}{Gg} * \frac{77{,}400\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg} +$$

$$463{,}096\ kg * \frac{10^{-6}\ Gg}{kg} * \frac{44\ TJ}{Gg} * \frac{74{,}100\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg}$$

2014 Emissions Estimate

Contour Global Togo's 2014 emissions estimate of **55,467 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	383,164 m^3	Project Sponsor
Natural Gas Higher Heating Value	1,028 MMBtu/mmscf	TCR 2014
Natural Gas Emission Factor	53.02 kg CO_2/MMBtu	TCR 2014
Heavy Fuel Oil (HFO) Consumption	14,827,389 kg	Project Sponsor
HFO Gross Calorific Value	43 TJ/Gg	National Physical Laboratory, 2015
HFO Emission Factor	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light Fuel Oil (LFO) Consumption	71,442 kg	Project Sponsor
LFO Gross Calorific Value	44 TJ/Gg	National Physical Laboratory, 2015
LFO Emissions Factor	74,100 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Conversion Factor	0.0011023 short tons/kg	
Conversion Factor	35.314 scf/m^3	

Emissions = 55,467 short tons of CO_2e =

$$383{,}164\ m^3 * \frac{35.314\ ft^3}{m^3} * \frac{10^{-6}\ mmscf}{scf} * \frac{1{,}028\ MMBtu}{mmscf} * \frac{53.02\ kg\ CO_2}{MMBtu} * \frac{0.0011023\ short\ tons}{kg} +$$

$$14{,}827{,}389\ kg * \frac{10^{-6}\ Gg}{kg} * \frac{43\ TJ}{Gg} * \frac{77{,}400\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg} +$$

$$71{,}442\ kg * \frac{10^{-6}\ Gg}{kg} * \frac{44\ TJ}{Gg} * \frac{74{,}100\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg} +$$

2015 Emissions Estimate

Contour Global Togo's 2015 emissions estimate of **210,901 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	37,671,209 m^3	Project Sponsor
Natural Gas Higher Heating Value	1,028 MMBtu/mmscf	TCR 2014
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2015
Heavy Fuel Oil (HFO) Consumption	34,704,085 kg	Project Sponsor
HFO Gross Calorific Value	43 TJ/Gg	National Physical Laboratory, 2015
HFO Emission Factor	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light Fuel Oil (LFO) Consumption	1,000,688 kg	Project Sponsor
LFO Gross Calorific Value	44 TJ/Gg	National Physical Laboratory, 2015
LFO Emissions Factor	74,100 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Conversion Factor	0.0011023 short tons/kg	
Conversion Factor	35.314 scf/m^3	

Emissions = 210,901 short tons of CO_2e =

$$37{,}671{,}209\ m^3 * \frac{35.314\ ft^3}{m^3} * \frac{10^{-6}\ mmscf}{scf} * \frac{1{,}028\ MMBtu}{mmscf} * \frac{53.06\ kg\ CO_2}{MMBtu} * \frac{0.0011023\ short\ tons}{kg} +$$

$$34{,}704{,}085\ kg * \frac{10^{-6}\ Gg}{kg} * \frac{43\ TJ}{Gg} * \frac{77{,}400\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg} +$$

$$1{,}000{,}688\ kg * \frac{10^{-6}\ Gg}{kg} * \frac{44\ TJ}{Gg} * \frac{74{,}100\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg} +$$

2016 Emissions Estimate

Contour Global Togo's 2016 emissions estimate of **496,564 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	6,772,234 m^3	Project Sponsor
Natural Gas Higher Heating Value	1,028 MMBtu/mmscf	TCR 2017
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2017
Heavy Fuel Oil (HFO) Consumption	130,571,129 kg	Project Sponsor
HFO Gross Calorific Value	43 TJ/Gg	National Physical Laboratory, 2015
HFO Emission Factor	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light Fuel Oil (LFO) Consumption	879,764 kg	Project Sponsor
LFO Gross Calorific Value	44 TJ/Gg	National Physical Laboratory, 2015
LFO Emissions Factor	74,100 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Conversion Factor	0.0011023 short tons/kg	
Conversion Factor	35.314 scf/m^3	

Emissions = 496,564 short tons of CO_2e =

$$6{,}772{,}234\ m^3 * \frac{35.314\ ft^3}{m^3} * \frac{10^{-6}\ mmscf}{scf} * \frac{1{,}028\ MMBtu}{mmscf} * \frac{53.06\ kg\ CO_2}{MMBtu} * \frac{0.0011023\ short\ tons}{kg} +$$

$$130{,}571{,}129\ kg * \frac{10^{-6}\ Gg}{kg} * \frac{43\ TJ}{Gg} * \frac{77{,}400\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg} +$$

$$879{,}764\ kg * \frac{10^{-6}\ Gg}{kg} * \frac{44\ TJ}{Gg} * \frac{74{,}100\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg}$$

2017 Emissions Estimate

Contour Global Togo's 2017 emissions estimate of **329,875 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Heavy Fuel Oil (HFO) Consumption	89,643,850 kg	Project Sponsor
HFO Gross Calorific Value	43 TJ/Gg	National Physical Laboratory, 2015
HFO Emission Factor	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light Fuel Oil (LFO) Consumption	278,480 kg	Project Sponsor
LFO Gross Calorific Value	44 TJ/Gg	National Physical Laboratory, 2015
LFO Emissions Factor	74,100 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Conversion Factor	0.0011023 short tons/kg	

Emissions = 329,875 short tons of CO_2e =

$$89{,}643{,}850 \text{ kg} * \frac{10^{-6} \text{ Gg}}{\text{kg}} * \frac{43 \text{ TJ}}{\text{Gg}} * \frac{77{,}400 \text{ kg } CO_2}{\text{TJ}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$278{,}480 \text{ kg} * \frac{10^{-6} \text{ Gg}}{\text{kg}} * \frac{44 \text{ TJ}}{\text{Gg}} * \frac{74{,}100 \text{ kg } CO_2}{\text{TJ}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2018 Emissions Estimate

No additional data were available for 2018; therefore, emissions estimate defaulted to the 2017 emissions estimate of **329,875 short tons CO_2e**.

2019 Emissions Estimate

Contour Global Togo's 2019 emissions estimate of **215,349 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	99,335,859 m^3	Project Sponsor
Conversion Factor	0.02832 m^3/scf	
Heat Content	1028 Btu/scf	TCR 2020
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2020
Heavy Fuel Oil (HFO) Consumption	351,392 kg	Project Sponsor
HFO Gross Calorific Value	43 TJ/Gg	National Physical Laboratory, 2015
HFO Emission Factor	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light Fuel Oil (LFO) Consumption	879,961 kg	Project Sponsor
LFO Gross Calorific Value	44 TJ/Gg	National Physical Laboratory, 2015
LFO Emissions Factor	74,100 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Conversion Factor	0.0011023 short tons/kg	

Emissions = 215,349 short tons of CO_2e =

$$\frac{99{,}335{,}859 \text{ m}^3}{} * \frac{1 \text{ scf}}{0.02832 \text{ m}^3} * \frac{1028 \text{ Btu}}{\text{scf}} * \frac{1 \text{ MMBtu}}{10^6 \text{ Btu}} * \frac{53.06 \text{ kg } CO_2}{\text{MMBtu}} * 0.0011023 \frac{\text{short tons}}{\text{kg}} +$$

$$351{,}392 \text{ kg} * \frac{10^{-6} \text{ Gg}}{\text{kg}} * \frac{43 \text{ TJ}}{\text{Gg}} * \frac{77{,}400 \text{ kg } CO_2}{\text{TJ}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$879{,}961 \text{ kg} * \frac{10^{-6} \text{ Gg}}{\text{kg}} * \frac{44 \text{ TJ}}{\text{Gg}} * \frac{74{,}100 \text{ kg } CO_2}{\text{TJ}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2020 Emissions Estimate

Contour Global Togo's 2020 emissions estimate of **258,811 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	100,486,387 m^3	Project Sponsor
Conversion Factor	0.02832 m^3/scf	
Heat Content	1028 Btu/scf	TCR 2020
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2020
Heavy Fuel Oil (HFO) Consumption	10,875,948 kg	Project Sponsor
HFO Gross Calorific Value	43 TJ/Gg	National Physical Laboratory, 2015
HFO Emission Factor	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light Fuel Oil (LFO) Consumption	1,549,819 kg	Project Sponsor
LFO Gross Calorific Value	44 TJ/Gg	National Physical Laboratory, 2015
LFO Emissions Factor	74,100 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Conversion Factor	0.0011023 short tons/kg	

Emissions = 258,811 short tons of CO_2e =

$$100{,}486{,}387\ m^3 * \frac{1\ scf}{0.02832\ m^3} * \frac{1028\ Btu}{scf} * \frac{1\ MMBtu}{10^6\ Btu} * \frac{53.06\ kg\ CO_2}{MMBtu} * \frac{0.0011023\ short\ tons}{kg} +$$

$$10{,}875{,}948\ kg * \frac{1\ Gg}{10^6\ kg} * \frac{43\ TJ}{Gg} * \frac{77{,}400\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg} +$$

$$1{,}549{,}819\ kg * \frac{1\ Gg}{10^6\ kg} * \frac{44\ TJ}{Gg} * \frac{74{,}100\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg}$$

2021 Emissions Estimate

Contour Global Togo's 2021 emissions estimate of **289,087 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	133,294,987 m^3	Project Sponsor
Conversion Factor	0.02832 m^3/scf	
Heat Content	1026 Btu/scf	TCR 2020
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2020
Heavy Fuel Oil (HFO) Consumption	7,906 kg	Project Sponsor
HFO Gross Calorific Value	43 TJ/Gg	National Physical Laboratory, 2015
HFO Emission Factor	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light Fuel Oil (LFO) Consumption	1,839,916 kg	Project Sponsor
LFO Gross Calorific Value	44 TJ/Gg	National Physical Laboratory, 2015
LFO Emissions Factor	74,100 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Conversion Factor	0.0011023 short tons/kg	

Emissions = 289,087 short tons of CO_2e =

$$133{,}294{,}987\ m^3 * \frac{1\ scf}{0.02832\ m^3} * \frac{1026\ Btu}{scf} * \frac{1\ MMBtu}{10^6\ Btu} * \frac{53.06\ kg\ CO_2}{MMBtu} * \frac{0.0011023\ short\ tons}{kg} +$$

$$7{,}906\ kg * \frac{1\ Gg}{10^6\ kg} * \frac{43\ TJ}{Gg} * \frac{77{,}400\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg} +$$

$$1{,}839{,}916\ kg * \frac{1\ Gg}{10^6\ kg} * \frac{44\ TJ}{Gg} * \frac{74{,}100\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg}$$

2022 Emissions Estimate

Contour Global Togo's 2022 emissions estimate of **257,805 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	117,897,772 m^3	Project Sponsor
Conversion Factor	0.02832 m^3/scf	TCR 2022
Heat Content	1026 Btu/scf	TCR 2020
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2022
Heavy Fuel Oil (HFO) Consumption	0 kg	Project Sponsor
HFO Gross Calorific Value	43 TJ/Gg	National Physical Laboratory, 2015
HFO Emission Factor	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light Fuel Oil (LFO) Consumption	2,221,905 kg	Project Sponsor
LFO Gross Calorific Value	44 TJ/Gg	National Physical Laboratory, 2015
LFO Emissions Factor	74,100 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Conversion Factor	0.0011023 short tons/kg	TCR 2022

Emissions = 257,805 short tons of CO_2e =

$$117{,}897{,}772\ m^3 * \frac{1\ scf}{0.02832\ m^3} * \frac{1026\ Btu}{scf} * \frac{1\ MMBtu}{10^6\ Btu} * \frac{53.06\ kg\ CO_2}{MMBtu} * \frac{0.0011023\ short\ tons}{kg} +$$

$$0\ kg * \frac{1\ Gg}{10^6\ kg} * \frac{43\ TJ}{Gg} * \frac{77{,}400\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg} +$$

$$2{,}221{,}905\ kg * \frac{1\ Gg}{10^6\ kg} * \frac{44\ TJ}{Gg} * \frac{74{,}100\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg}$$

Contour Global – Cap Des Biches

Maximum Potential-to-Emit Estimate

Contour Global Cap Des Biches's maximum PTE estimate of **505,083 STPY of CO_2e** was calculated using the following information:

Data	Value	Source
Fuel Type	Fuel Oil	Project Description
Capacity	86 MW	Project Description
Emission Factor for Electricity Generation from Fuel Oil Combustion	666 g CO_2/kWh	IFC 2012

Maximum Potential-to-Emit = 505,083 STPY of CO_2e =

$$86MW * \frac{1000kW}{MW} * \frac{8000hr}{yr} * \frac{666\ gCO_2}{kWh} * \frac{0.0000011023\ short\ tons}{g}$$

2016 Emissions Estimate

Contour Global Cap Des Biches's 2016 emissions estimate of **184,699 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Heavy Fuel Oil (HFO) Consumption	50,309,812 kg	Project Sponsor
HFO Gross Calorific Value	43 TJ/Gg	National Physical Laboratory, 2015
HFO Emission Factor	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light Fuel Oil (LFO) Consumption	35,743 kg	Project Sponsor
LFO Gross Calorific Value	44 TJ/Gg	National Physical Laboratory, 2015
LFO Emissions Factor	74,100 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Conversion Factor	0.0011023 short tons/kg	

Emissions = 184,699 short tons of CO_2e =

$$50{,}309{,}812\ kg * \frac{10^{-6}\ Gg}{kg} * \frac{43\ TJ}{Gg} * \frac{77{,}400\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg} +$$

$$35{,}743\ kg * \frac{10^{-6}\ Gg}{kg} * \frac{44\ TJ}{Gg} * \frac{74{,}100\ kg\ CO_2}{TJ} * \frac{0.0011023\ short\ tons}{kg}$$

2017 Emissions Estimate

Contour Global Cap Des Biches's 2017 emissions estimate of **407,735 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Heavy Fuel Oil (HFO) Consumption	110,983,151 kg	Project Sponsor
HFO Gross Calorific Value	43 TJ/Gg	National Physical Laboratory, 2015
HFO Emission Factor	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light Fuel Oil (LFO) Consumption	159,573 kg	Project Sponsor
LFO Gross Calorific Value	44 TJ/Gg	National Physical Laboratory, 2015
LFO Emissions Factor	74,100 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Conversion Factor	0.0011023 short tons/kg	

Emissions = 407,735 short tons of CO_2e =

$$110{,}983{,}151 \text{ kg} * \frac{10^{-6} \text{ Gg}}{\text{kg}} * \frac{43 \text{ TJ}}{\text{Gg}} * \frac{77{,}400 \text{ kg } CO_2}{\text{TJ}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$159{,}573 \text{ kg} * \frac{10^{-6} \text{ Gg}}{\text{kg}} * \frac{44 \text{ TJ}}{\text{Gg}} * \frac{74{,}100 \text{ kg } CO_2}{\text{TJ}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2018 Emissions Estimate

No additional data were available for 2018; therefore, emissions estimate defaulted to the 2017 emissions estimate of **407,735 short tons CO_2e**.

2019 Emissions Estimate

Contour Global Cap Des Biches's 2019 emissions estimate of **365,338 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Heavy Fuel Oil (HFO) Consumption	99,422,866 kg	Project Sponsor
HFO Gross Calorific Value	43 TJ/Gg	National Physical Laboratory, 2015
HFO Emission Factor	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light Fuel Oil (LFO) Consumption	163,648 kg	Project Sponsor
LFO Gross Calorific Value	44 TJ/Gg	National Physical Laboratory, 2015
LFO Emissions Factor	74,100 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Conversion Factor	0.0011023 short tons/kg	

Emissions = 365,338 short tons of CO_2e =

$$99{,}422{,}866 \text{ kg} * \frac{10^{-6} \text{ Gg}}{\text{kg}} * \frac{43 \text{ TJ}}{\text{Gg}} * \frac{77{,}400 \text{ kg } CO_2}{\text{TJ}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$163{,}648 \text{ kg} * \frac{10^{-6} \text{ Gg}}{\text{kg}} * \frac{44 \text{ TJ}}{\text{Gg}} * \frac{74{,}100 \text{ kg } CO_2}{\text{TJ}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2020 Emissions Estimate

Contour Global Cap Des Biches's 2020 emissions estimate of **366,114 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Heavy Fuel Oil (HFO) Consumption	99,662,648 kg	Project Sponsor
HFO Gross Calorific Value	43 TJ/Gg	National Physical Laboratory, 2015
HFO Emission Factor	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light Fuel Oil (LFO) Consumption	134,695 kg	Project Sponsor
LFO Gross Calorific Value	44 TJ/Gg	National Physical Laboratory, 2015
LFO Emissions Factor	74,100 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Conversion Factor	0.0011023 short tons/kg	

Emissions = 366,114 short tons of CO_2e =

$$99{,}662{,}648 \text{ kg} * \frac{10^{-6} \text{ Gg}}{\text{kg}} * \frac{43 \text{ TJ}}{\text{Gg}} * \frac{77{,}400 \text{ kg } CO_2}{\text{TJ}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$134{,}695 \text{ kg} * \frac{10^{-6} \text{ Gg}}{\text{kg}} * \frac{44 \text{ TJ}}{\text{Gg}} * \frac{74{,}100 \text{ kg } CO_2}{\text{TJ}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2021 Emissions Estimate

Contour Global Cap Des Biches's 2021 emissions estimate of **389,715 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Heavy Fuel Oil (HFO) Consumption	106,098,888 kg	Project Sponsor
HFO Gross Calorific Value	43 TJ/Gg	National Physical Laboratory, 2015
HFO Emission Factor	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light Fuel Oil (LFO) Consumption	131,583 kg	Project Sponsor
LFO Gross Calorific Value	44 TJ/Gg	National Physical Laboratory, 2015
LFO Emissions Factor	74,100 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Conversion Factor	0.0011023 short tons/kg	

Emissions = 389,715 short tons of CO_2e =

$$106{,}098{,}888 \text{ kg} * \frac{10^{-6} \text{ Gg}}{\text{kg}} * \frac{43 \text{ TJ}}{\text{Gg}} * \frac{77{,}400 \text{ kg } CO_2}{\text{TJ}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$131{,}583 \text{ kg} * \frac{10^{-6} \text{ Gg}}{\text{kg}} * \frac{44 \text{ TJ}}{\text{Gg}} * \frac{74{,}100 \text{ kg } CO_2}{\text{TJ}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2022 Estimate

Contour Global Cap Des Biches's 2022 emissions estimate of **372,795 short tons CO_2e** was calculated using the following information:

Data	Value	Source
Heavy Fuel Oil (HFO) Consumption	101,459,256kg	Project Sponsor
HFO Gross Calorific Value	43 TJ/Gg	National Physical Laboratory, 2015
HFO Emission Factor	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light Fuel Oil (LFO) Consumption	159,622 kg	Project Sponsor
LFO Gross Calorific Value	44 TJ/Gg	National Physical Laboratory, 2015
LFO Emissions Factor	74,100 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Conversion Factor	0.0011023 short tons/kg	TCR 2022

Emissions = 372,795 short tons of CO_2e =

$$101{,}459{,}256 \text{ kg} * \frac{10^{-6} \text{ Gg}}{\text{kg}} * \frac{43 \text{ TJ}}{\text{Gg}} * \frac{77{,}400 \text{ kg } CO_2}{\text{TJ}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$159{,}622\ \text{kg} * \frac{10^{-6}\ \text{Gg}}{\text{kg}} * \frac{44\ \text{TJ}}{\text{Gg}} * \frac{74{,}100\ \text{kg}\ CO_2}{\text{TJ}} * \frac{0.0011023\ \text{short tons}}{\text{kg}}$$

Maximum Potential-to-Emit

Energia del Pacifico CV's maximum PTE estimate of **1,300,009 STPY of CO2e** was calculated using the following information:

Data	Value	Source
Plant Capacity	378 MW	Project Description
Gas-Fired Power Generation Emission Factor	390 gCO2/kWh	IFC Guidance Note 3, Annex A
Conservative Operating Assumption	8,000 hrs/yr	EIA Form 923 data, 2007
Conversion Factor	0.0000011023 short tons/g	TCR 2022

Maximum PTE = 1,300,009 short tons of CO2e per year =

$$378\ \text{MW} * \frac{1000\ \text{kWh}}{\text{MW}} * \frac{8000\ \text{hrs}}{\text{yr}} * \frac{390\ \text{g CO2}}{\text{kWh}} * \frac{0.0000011023\ \text{short tons}}{\text{g}}$$

2022 Emissions Estimate

Energia del Pacifico CV's 2022 emissions estimate of **444,927 short tons CO2e** was calculated using the following information:

Data	Value	Source
Natural gas consumption (power plant)	7,298,951 mmBtu	Project Sponsor
Natural gas consumption (FSRU)	5,244.8 tons	Project Sponsor
CNG Heat Content	0.048376 mmBtu/kg	USDOE 2020
Natural Gas Emission Factor	53.06 kg CO_2/MMBtu	TCR 2022
Distillate Fuel Oil No. 2 (power plant)	510.0 mmBTU	Project Sponsor
Distillate Fuel Oil No. 2 (FSRU)	915.31 tons	Project Sponsor
Conversion Factor	1.099 m^3/metric ton	UN Energy Statistics Yearbook
Conversion Factor	6.2897 barrels/m^3	
Conversion Factor	5.796 MMBtu/barrel	TCR 2022
Distilliate Fuel Emission Factor	73.96 kg CO_2/MMBtu	TCR 2022
Natural gas leak	271.54 MMBtu	Project Sponsor
Conversion Factor	20.672 kg/MMBtu CNG	USDOE 2020
Natural Gas GWP	25	IPCC Fifth Assessment Report

Conversion Factor	0.0011023 short tons/kg	TCR 2022

Emissions = 444,927 short tons of CO_2e =

$$\left(7{,}298{,}951\ MMBtu + 5{,}244.8\ tons * \frac{1{,}000\ kg}{1\ ton} * \frac{0.048376\ MMBtu}{1\ kg}\right) * \frac{53.06\ kg\ CO2}{1\ MMBtu} * \frac{0.0011023\ short\ tons}{1\ kg}$$

$$+ \left(510\ MMBtu + 915.31\ tons * \frac{1.099\ m3}{1\ metric\ ton} * \frac{6.2897\ barrels}{1\ m3} * \frac{5.796\ MMBtu}{1\ barrel}\right) * \frac{73.96\ kg\ CO2}{1\ MMBtu} * \frac{0.0011023\ short\ tons}{1\ kg} +$$

$$271.54\ MMBtu * \frac{20.672\ kg}{1\ MMBtu} * 25 * \frac{0.0011023\ short\ tons}{1\ kg}$$

Tè Power SASU

Maximum Potential-to-Emit

Tè Power SASU's project description provided an estimate of the expected emissions, which was used to calculate the project's maximum PTE of **110,230 short tons CO_2e**.

Data	Value	Source
Expected Emissions	100,000 metric tons CO_2e	Project Description
Conversion Factor	1.1023 short tons/metric ton	

Maximum Potential-to-Emit = 110,230 short tons CO_2e =

$$100{,}000 \text{ metric tons } CO_2e * \frac{1.1023 \text{ short tons}}{\text{metric tons}}$$

2021 Emissions Estimate

Tè Power SASU's 2021 emissions estimate of **38,738 short tons CO2e** was calculated using the following information:

Data	Value	Source
Heavy fuel oil consumption	10,977.4 m^3	Project Sponsor
Conversion Factor for Petroleum	1.099 m^3/metric ton	UN Energy Statistics Yearbook
Heat Content, Heavy Fuel Oil	43 TJ/Gg	National Physical Laboratory, 2015
Emission Factor for Heavy Fuel Oil	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Light fuel oil consumption	640 m^3	Project Sponsor
Heat Content, Light Fuel Oil	44 TJ/Gg	UN Energy Statistics Yearbook
Emission Factor for Light Fuel Oil	74,100 kg CO_2/TJ	IPCC 2006, Vol. 1, Chap. 1
Conversion Factor	0.0011023 short tons/kg	

Emissions = 38,738 short tons of CO_2e =

$$10{,}977.4 \text{ m}^3 * \frac{1 \text{ tonne}}{1.099 \text{ m}^3} * \frac{1 \text{ Gg}}{1{,}000 \text{ tonnes}} * \frac{43 \text{ TJ}}{1 \text{ Gg}} * \frac{77{,}400 \text{ kg } CO_2}{1 \text{ TJ}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$640 \text{ m}^3 * \frac{1 \text{ tonne}}{1.099 \text{ m}^3} * \frac{1 \text{ Gg}}{1{,}000 \text{ tonnes}} * \frac{44 \text{ TJ}}{1 \text{ Gg}} * \frac{74{,}100 \text{ kg } CO_2}{1 \text{ TJ}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2022 Emissions Estimate

Tè Power SASU's 2022 emissions estimate of **37,292 short tons CO2e** was calculated using the following information:

Data	Value	Source
Heavy fuel oil consumption	10,815,366 L	Project Sponsor
Conversion Factor	0.001 m^3/L	TCR 2022
Conversion Factor for Petroleum	1.099 m^3/metric ton	UN Energy Statistics Yearbook
Heat Content, Heavy Fuel Oil	43 TJ/Gg	National Physical Laboratory, 2015
Emission Factor for Heavy Fuel Oil	77,400 kg CO_2/TJ	IPCC 2006. Vol. 2, Chap. 1
Gasoline consumption	14,741 L	Project Sponsor
Motor Gasoline Emission Factor	8.78 kg CO_2/gallon	TCR 2022
Diesel consumption	387,426 L	Project Sponsor
Heat content, Distilliate Fuel	0.138 MMBtu/gal	TCR 2022
Distilliate Fuel Emission Factor	73.96 kg CO_2/MMBtu	TCR 2022
Conversion Factor	0.264 gal/L	
Conversion Factor	0.0011023 short tons/kg	TCR 2022

Emissions = 37,292 short tons of CO_2e =

$$10{,}815{,}366\ L * \frac{0.001\ m^3}{1L} * \frac{1\ tonne}{1.099\ m^3} * \frac{1\ Gg}{1{,}000\ tonnes} * \frac{43\ TJ}{1\ Gg} * \frac{77{,}400\ kg\ CO_2}{1\ TJ} * \frac{0.0011023\ short\ tons}{kg} +$$

$$14{,}741\ L * \frac{0.264\ gal}{1\ L} * \frac{8.78\ kg\ CO_2}{1\ gal} * \frac{0.0011023\ short\ tons}{kg} +$$

$$387{,}426\ L * \frac{0.264\ gal}{1\ L} * \frac{0.138\ MMBTu}{1\ gal} * \frac{73.96\ kg\ CO_2}{1\ MMBtu} * \frac{0.0011023\ short\ tons}{kg}$$

TIER B PROJECTS

Alistair James Company

Maximum Potential-to-Emit

Alistair James Company's project description provided an estimate of the expected emissions, which was used to calculate the project's maximum PTE of **72,751.8 short tons CO_2e**.

Data	Value	Source
Expected Emissions	66,000 metric tons CO_2e	Project Description
Conversion Factor	1.1023 short tons/metric ton	

Maximum Potential-to-Emit = 72,751.8 short tons CO_2e =

$$66{,}000 \text{ metric tons } CO_2e * \frac{1.1023 \text{ short tons}}{\text{metric tons}}$$

2021 Emissions Estimate

Alistair James Company's 2021 emissions estimate of **21,392 short tons of CO_2e**, which does not exceed the minimum 25,000 stpy threshold to be included in the inventory, was calculated using the following information:

Data	Value	Source
Diesel fuel consumption	7,197,307 L	Project Sponsor
Conversion Factor	0.264 gallons/L	
Conversion Factor	42 gallons/barrel	TCR 2020
Heat Content, Diesel Fuel	5.8 MMBtu/barrel	TCR 2020
Emission Factor for Diesel Fuel	73.96 kg CO_2/MMBtu	TCR 2020
Conversion Factor	0.0011023 short tons/kg	

Emissions = 21,392 short tons of CO_2e =

$$7{,}197{,}307 \text{ L} * \frac{0.264 \text{ gal}}{1 \text{ L}} * \frac{1 \text{ barrel}}{42 \text{ gal}} * \frac{5.8 \text{ MMBtu}}{1 \text{ barrel}} * \frac{73.96 \text{ kg } CO_2}{1 \text{ MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2022 Emissions Estimate

Alistair James Company's 2022 emissions estimate of **18,620 short tons of CO_2e**, which does not exceed the minimum 25,000 stpy threshold to be included in the inventory, was calculated using the following information:

Data	Value	Source
Diesel fuel consumption	6,269,004 L	Project Sponsor
Conversion Factor	0.264 gallons/L	
Conversion Factor	42 gallons/barrel	TCR 2022
Heat Content, Diesel Fuel	5.796 MMBtu/barrel	TCR 2022

Emission Factor for Diesel Fuel	73.96 kg CO_2/MMBtu	TCR 2022
Conversion Factor	0.0011023 short tons/kg	

Emissions = 18,620 short tons of CO_2e =

$$6{,}269{,}004\ \text{L} * \frac{0.264\ \text{gal}}{1\ \text{L}} * \frac{1\ \text{barrel}}{42\ \text{gal}} * \frac{5.796\ \text{MMBtu}}{1\ \text{barrel}} * \frac{73.96\ \text{kg}\ CO_2}{1\ \text{MMBtu}} * \frac{0.0011023\ \text{short tons}}{\text{kg}}$$

Various Egypt Subsidiaries (Apache)

Maximum Potential-to-Emit Estimate

Various Egypt Subsidiaries (Apache)'s initial maximum PTE estimate of 2,429,543 STPY of CO_2e was originally calculated for the CY 2007 GHG inventory using an example from API for a similar oil and gas extraction and processing facility. The API example produced 6,100 barrels of oil per day and 30 mmscf natural gas per day for annual emissions of 108,000 metric tons of CO_2, approximately one-tenth the size of Apache's estimated footprint. In subsequent GHG inventories, it became evident that Apache's maximum potential-to-emit is commensurate to added production capacity, so the maximum PTE was set to the peak emissions year. Various Egypt Subsidiaries' emissions peaked at **4,600,146 short tons of CO_2e** in CY 2018.

2007 Emissions Estimate

Various Egypt Subsidiaries (Apache)'s 2007 emissions estimate of **3,071,932 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
2007 Emissions	1,365,560 metric tons	Project Sponsor
Operating Capacity Adjustment	49%	Project Sponsor

Emissions = 3,071,932 short tons of CO_2e =

$$1{,}365{,}560 \text{ metric tons} * \frac{\text{short ton}}{0.9072 \text{ metric tons}} * \frac{1}{0.49}$$

2008 Emissions Estimate

Various Egypt Subsidiaries (Apache)'s 2008 emissions estimate of **3,244,189 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Net Emissions	1,464,566 metric tons	Project Sponsor
Operating Capacity Adjustment	49%	Project Sponsor

Emissions = 3,244,189 short tons of CO_2e =

$$1{,}464{,}566 \text{ metric tons} * \frac{\text{short tons}}{0.9072 \text{ metric tons}} * \frac{1}{0.49}$$

2009 Emissions Estimate

Various Egypt Subsidiaries (Apache)'s 2009 operational emissions of **3,294,654 short tons of CO_2e** were calculated using the following information:

Data	Value	Source
Net Emissions	1,464,566 metric tons	Project Sponsor
Operating Capacity Adjustment	49%	Project Sponsor

Emissions = 3,294,654 short tons of CO_2e =

$$1{,}464{,}566 \text{ metric tons} * \frac{1 \text{ short ton}}{0.9072 \text{ metric ton}} * \frac{1}{0.49}$$

2010 Emissions Estimate

Various Egypt Subsidiaries (Apache)'s 2010 emissions estimate of **3,465,842 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Net Emissions	1,540,664 metric tons	Project Sponsor
Operating Capacity	49%	Project Sponsor

Emissions = 3,465,842 short tons of CO_2e =

$$1{,}540{,}664 \text{ metric tons} * \frac{1 \text{ short ton}}{0.9072 \text{ metric ton}} * \frac{1}{0.49}$$

2011 Emissions Estimate

Various Egypt Subsidiaries (Apache)'s 2011 gross emissions estimate of **4,438,554 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Gross Emissions	4,026,656 metric tons	Project Sponsor

Emissions = 4,438,554 short tons of CO_2e =

$$4{,}026{,}656 \text{ metric tons} * \frac{1 \text{ short ton}}{0.9072 \text{ metric ton}}$$

2012 Emissions Estimate

Various Egypt Subsidiaries (Apache)'s 2012 gross emissions estimate of **4,178,447 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Gross Emissions	3,790,687 metric tons	Project Sponsor

Emissions = 4,178,447 short tons of CO_2e =

$$3{,}790{,}687 \text{ metric tons} * \frac{1 \text{ short ton}}{0.9072 \text{ metric ton}}$$

2013 Emissions Estimate

Various Egypt Subsidiaries (Apache)'s 2013 gross emissions estimate of **4,056,437 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Gross Emissions	3,680,000 metric tons	Project Sponsor

Emissions = 4,056,437 short tons of CO_2e =

$$3{,}680{,}000 \text{ metric tons} * \frac{1 \text{ short ton}}{0.9072 \text{ metric ton}}$$

2014 Emissions Estimate

Various Egypt Subsidiaries (Apache)'s 2014 gross emissions estimate of **4,012,346 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Gross Emissions	3,640,000 metric tons	Project Sponsor

Emissions = 4,012,346 short tons of CO_2e =

$$3{,}640{,}000 \text{ metric tons} * \frac{1 \text{ short ton}}{0.9072 \text{ metric ton}}$$

2015 Emissions Estimate

Various Egypt Subsidiaries (Apache)'s 2015 gross emissions estimate of **3,891,093 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Gross Emissions	3,530,000 metric tons	Project Sponsor

Emissions = 3,891,093 short tons of CO_2e =

$$3{,}530{,}000 \text{ metric tons} * \frac{1 \text{ short ton}}{0.9072 \text{ metric ton}}$$

2016 Emissions Estimate

Various Egypt Subsidiaries (Apache)'s 2016 gross emissions estimate of **4,007,936.51 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Gross Emissions	3,636,000 metric tons	Project Sponsor

Emissions = 4,007,936.51 short tons of CO_2e =

$$3{,}636{,}000 \text{ metric tons} * \frac{1 \text{ short ton}}{0.9072 \text{ metric ton}}$$

2017 Emissions Estimate

Various Egypt Subsidiaries (Apache)'s 2017 gross emissions estimate of **4,539,735.45 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Gross Emissions	4,118,448 metric tons	Project Sponsor

Emissions = 4,539,735.45 short tons of CO_2e =

$$4{,}118{,}448 \text{ metric tons} * \frac{1 \text{ short ton}}{0.9072 \text{ metric ton}}$$

2018 Emissions Estimate

Various Egypt Subsidiaries (Apache)'s 2018 gross emissions estimate of **4,600,146 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Gross Emissions	4,173,252 metric tons	Project Sponsor

Emissions = 4,600,146 short tons of CO_2e =

$$4{,}173{,}252 \text{ metric tons} * \frac{1 \text{ short ton}}{0.9072 \text{ metric ton}}$$

2019 Emissions Estimate

No additional data were available for 2019; therefore, emissions estimate defaulted to the 2018 emissions estimate of **4,600,146 short tons CO_2e**.

2020 Emissions Estimate

Various Egypt Subsidiaries (Apache)'s 2020 gross emissions estimate of **4,640,970 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Gross Emissions	4,210,288 metric tons	Project Sponsor

Emissions = 4,640,970 short tons of CO_2e =

$$4{,}210{,}288 \text{ metric tons} * \frac{1 \text{ short ton}}{0.9072 \text{ metric ton}}$$

2021 Emissions Estimate

Various Egypt Subsidiaries (Apache)'s 2021 gross emissions estimate of **4,616,530.07 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Gross Emissions	4,188,116 metric tons	Project Sponsor

Emissions = 4,616,530.07 short tons of CO_2e =

$$4{,}188{,}116 \text{ metric tons} * \frac{1 \text{ short ton}}{0.9072 \text{ metric ton}}$$

2022 Emissions Estimate

Various Egypt Subsidiaries (Apache)'s 2022 gross emissions estimate of **4,616,530.07 short tons of CO_2e** was calculated using the following information from 2021:

Data	Value	Source
Gross Emissions	4,188,116 metric tons	Project Sponsor

Emissions = 4,616,530.07 short tons of CO_2e =

$$4{,}188{,}116 \text{ metric tons} * \frac{1 \text{ short ton}}{0.9072 \text{ metric ton}}$$

Maximum Potential-to-Emit Estimate

Compagnie des Bauxites de Guinee's maximum PTE estimate of 369,279 STPY of CO_2e comes from the project description. However, emissions for year 2021 exceeded that estimate of Max PTE and thus we estimate emissions peaked at **434,287 short tons of CO_2e** in CY 2021.

2018 Emissions Estimate

Compagnie des Bauxites de Guinee's 2018 emissions estimate of **386,151 short tons CO_2e** was calculated using the following information:

Data	Value	Source
2018 Production Emissions	284,084 $mtCO_2e$	Project Sponsor
2018 Transportation Emissions	64,148 $mtCO_2e$	Project Sponsor
2018 Generator Emissions	2,084 $mtCO_2e$	Project Sponsor
Conversion Factor	0.9072 metric tons/short ton	

Emissions = 386,151 short tons of CO_2e =

$$(284{,}084\ mtCO_2e + 64{,}148\ mtCO_2e + 2{,}084\ mtCO_2e) * \frac{1\ \text{short ton}}{0.9072\ \text{metric ton}}$$

2019 Emissions Estimate

Compagnie des Bauxites de Guinee's 2019 emissions estimate of **412,131 short tons CO_2e** was calculated using the following information:

Data	Value	Source
2019 Production Emissions	305,735 $mtCO_2e$	Project Sponsor
2019 Transportation Emissions	66,039 $mtCO_2e$	Project Sponsor
2019 Generator Emissions	2,111 $mtCO_2e$	Project Sponsor
Conversion Factor	0.9072 metric tons/short ton	

Emissions = 412,131 short tons of CO_2e =

$$(305{,}735\ mtCO_2e + 66{,}039\ mtCO_2e + 2{,}111\ mtCO_2e) * \frac{1\ \text{short ton}}{0.9072\ \text{metric ton}}$$

2020 Emissions Estimate

Compagnie des Bauxites de Guinee's 2020 emissions estimate of **341,627 short tons CO_2e** was calculated using the following information:

Data	Value	Source
2020 Production Emissions	304,963 $mtCO_2e$	Project Sponsor
2020 Transportation Emissions	4,961 $mtCO_2e$	Project Sponsor
2020 Generator Emissions	0 $mtCO_2e$	Project Sponsor
Conversion Factor	0.9072 metric tons/short ton	

Emissions = 341,627 short tons of CO_2e =

$$(304{,}963\ mtCO_2e + 4{,}961\ mtCO_2e) * \frac{1\ short\ ton}{0.9072\ metric\ ton}$$

2021 Emissions Estimate

Compagnie des Bauxites de Guinee's 2021 emissions estimate of **434,287 short tons CO_2e** was calculated using the following information:

Data	Value	Source
2021 Production Emissions	345,245.68 $mtCO_2e$	Project Sponsor
2021 Transportation Emissions	48,739.88 $mtCO_2e$	Project Sponsor
2021 Generator Emissions	0 $mtCO_2e$	Project Sponsor
Conversion Factor	0.9072 metric tons/short ton	

Emissions = 434,287.43 short tons of CO_2e =

$$(345{,}245.68\ mtCO_2e + 48{,}739.88\ mtCO_2e) * \frac{1\ short\ ton}{0.9072\ metric\ ton}$$

2022 Emissions Estimate

Compagnie des Bauxites de Guinee's 2022 emissions estimate of **434,287 short tons CO_2e** was calculated using the following information from 2021:

Data	Value	Source
2021 Production Emissions	345,245.68 $mtCO_2e$	Project Sponsor
2021 Transportation Emissions	48,739.88 $mtCO_2e$	Project Sponsor
2021 Generator Emissions	0 $mtCO_2e$	Project Sponsor
Conversion Factor	0.9072 metric tons/short ton	

Emissions = 434,287.43 short tons of CO_2e =

$$(345{,}245.68\ mtCO_2e + 48{,}739.88\ mtCO_2e) * \frac{1\ short\ ton}{0.9072\ metric\ ton}$$

Maximum Potential-to-Emit

It is difficult to make a maximum PTE estimate for GESZ Mineral Port based on limited information available. GESZ Mineral Port's maximum PTE estimate of **166,902 STPY of CO2e** was calculated using the following information:

Data	Value	Source
Port Shipping Per Year	6,200,000 metric tons	Meridiam 2024
TEU per Metric Ton of Shipping	0.0714285	MPC Container Ships 2024
2022 Emission Factor, Eastern Europe	341.9 kg CO2e/TEU	VesselBot 2024
Conversion Factor	0.0011023 short tons/kg	TCR 2022

Maximum PTE = 166,902 short tons of CO2e per year =

$$6{,}200{,}000 \text{ tons} * \frac{0.0714285 \text{ TEU}}{\text{ton shipping}} * \frac{341.9 \text{ kg CO2e}}{\text{TEU}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

However, this is likely an overestimate, because the 341.9 kg CO2e/TEU is for the full TEU trip, rather than the emissions that occur exclusively within the port. An alternative estimate of emissions per TEU is for 18.12 tons CO2e per TEU, which would result in emissions of 8,845 short tons of CO2. Given the significant uncertainty in estimating emissions from ports, this project was included on the short list. If it is below the reporting threshold in 2022, it can be removed in future inventories.

2022 Emissions Estimate

GESZ Mineral Port's 2022 emissions estimate of **17,152 short tons of CO_2e**[10], which does not exceed the minimum 25,000 stpy threshold to be included in the inventory, was calculated using the following information:

Data	Value	Source
Scope 1 Emissions	7,536 tCO_2e	Project Sponsor
Freight Transported	6,200,000 metric tons	Project Sponsor
Average TEU weight	0.071429 TEU/metric ton	MPC Container Ships 2024
Port Emissions	18.12 kg CO_2e/TEU	Geerlings & van Duin 2011, Huzaifi et al. 2020, Budiyanto et al. 2021, Okşaş 2023
Conversion Factor	1.1023 short tons/metric ton	TCR 2022
Conversion Factor	0.0011023 short tons/kg	TCR 2022

Emissions = 17,152 short tons of CO_2e =

[10] Combining the port's Scope 1 emissions with estimated emissions for freight handled will include double counting. However, the emissions are still below the threshold, so this is not further addressed.

7,536 metric tons CO_2e * $\frac{1.1023 \text{ short tons}}{\text{metric ton}}$ +

6,200,000 metric tons * $\frac{0.071429 \text{ TEU}}{1 \text{ metric ton}}$ * $\frac{18.12\text{kg } CO_2e}{1 \text{ TEU}}$ * $\frac{0.0011023 \text{ short tons}}{\text{kg}}$

Nouakchott Carrier Terminal

Maximum Potential-to-Emit

It is difficult to make a maximum PTE estimate for Nouakchott Carrier Terminal based on limited information available. Nouakchott Carrier Terminal's maximum PTE estimate of **226,126 STPY of CO2e** was calculated using the following information:

Data	Value	Source
Planned TEU Capacity	1 million TEU	Project Sponsor
2022 Emission Factor, Eastern Europe	341.9 kg CO2e/TEU	VesselBot 2024
Conversion Factor	0.0011023 short tons/kg	TCR 2022

Maximum PTE = 226,126 short tons of CO2e per year =

$$600{,}000 \text{ TEU} * \frac{341.9 \text{ kg CO2e}}{\text{TEU}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

However, this is likely an overestimate, because the 341.9 kg CO2e/TEU is for the full TEU trip, rather than the emissions that occur exclusively within the port. An alternative estimate of emissions per TEU is for 18.12 tons CO2e per TEU, which would result in emissions of 19,974 short tons of CO2. Given the significant uncertainty in estimating emissions from ports, this project was included on the short list. If it is below the reporting threshold in 2022, it can be removed in future inventories.

2022 Emissions Estimate

Nouakchott Carrier Terminal's 2022 emissions estimate of **3,745 short tons of CO_2e**, which does not exceed the minimum 25,000 STPY threshold to be included in the inventory, was calculated using the following information:

Data	Value	Source
Port Capacity	250,000 TEU	Project Sponsor
Proportion of year in operation	9/12 months	Project Sponsor
Port Emissions	18.12 kg CO_2e/TEU	Geerlings & van Duin 2011, Huzaifi et al. 2020, Budiyanto et al. 2021, Okşaş 2023
Conversion Factor	0.0011023 short tons/kg	TCR 2022

Emissions = 3,745 short tons of CO_2e =

$$250{,}000 \text{ TEU} * \frac{18.12 \text{kg } CO_2e}{1 \text{ TEU}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} * \frac{9 \text{ months}}{12 \text{ months}}$$

Poti New Sea Port LLC

Maximum Potential-to-Emit

It is difficult to make a maximum PTE estimate for Poti New Sea Port LLC based on limited information available. Poti New Sea Port's maximum PTE estimate of **376,876 STPY of CO2e** was calculated using the following information:

Data	Value	Source
Planned TEU Capacity	1 million TEU	Project Sponsor
2022 Emission Factor, Eastern Europe	341.9 kg CO2e/TEU	VesselBot, 2024
Conversion Factor	0.0011023 short tons/kg	TCR 2022

Maximum PTE = 376,876 short tons of CO2e per year =

$$1{,}000{,}000 \text{ TEU} * \frac{341.9 \text{ kg CO2e}}{\text{TEU}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

However, this is likely an overestimate, because the 341.9 kg CO2e/TEU is for the full TEU trip, rather than the emissions that occur exclusively within the port. An alternative estimate of emissions per TEU is for 18.12 tons CO2e per TEU, which would result in emissions of 19,974 short tons of CO2. Given the significant uncertainty in estimating emissions from ports, this project was included on the short list. If it is below the reporting threshold in 2022, it can be removed in future inventories.

2022 Emissions Estimate

Poti New Sea Port's 2022 emissions estimate of **1,514 short tons of CO_2e**, which does not exceed the minimum 25,000 STPY threshold to be included in the inventory, was calculated using the following information:

Data	Value	Source
Diesel fuel consumption	487,297 L	Project Sponsor
Conversion Factor	0.264 gal/L	
Conversion Factor	42 gal/barrel	TCR 2022
Heat Content of Diesel Fuel	5.796 MMBtu/barrel	TCR 2022
Emission Factor for Diesel Fuel	73.96 kg CO_2/MMBtu	TCR 2022
Natural gas consumption	31,426 m^3	Project Sponsor
Conversion Factor	0.02832 m^3/scf	TCR 2022
Emission Factor for CNG	0.05444 kg CO_2/scf	TCR 2022
Conversion Factor	0.0011023 short tons/kg	TCR 2022

Emissions = 1,514 short tons of CO_2e =

$$487{,}297\ \text{L} * \frac{0.264\ \text{gal}}{1\ \text{L}} * \frac{1\ \text{barrel}}{42\ \text{gal}} * \frac{5.796\ \text{MMBtu}}{1\ \text{barrel}} * \frac{73.96\ \text{kg}\ CO_2}{1\ \text{MMBtu}} * \frac{0.0011023\ \text{short tons}}{\text{kg}} +$$

$$31{,}426\ \text{m}^3 * \frac{1\ \text{scf}}{0.02832\ \text{m}^3} * \frac{0.05444\ \text{kg}\ CO_2}{1\ \text{scf}} * \frac{0.0011023\ \text{short tons}}{\text{kg}}$$

Maximum Potential-to-Emit

Techmet's maximum PTE estimate of **538,474 STPY of CO2e** was calculated using the following information:

Data	Value	Source
Planned annual nickel production	25,000 metric tons	Techmet 2024
2019 global emissions from nickel mining	51 million metric tons CO2e	Statista 2020
2019 global nickel production	2.61 million metric tons	Statista 2023
Emission factor	19.54 mtCO2e/mt nickel	Calculated
Conversion Factor	1.1023 short tons/metric ton	

Maximum PTE = 538,473.55 short tons of CO2e per year =

$$25{,}000 \text{ mt nickel} * \frac{19.54 \text{ mtCO2e}}{\text{mt nickel}} * \frac{1.1023 \text{ short tons}}{\text{metric ton}}$$

2022 Emissions Estimate

Techmet's 2022 emissions estimate of **1,553 short tons of CO_2e**, which does not exceed the minimum 25,000 STPY threshold to be included in the inventory, was calculated using the following information:

Data	Value	Source
Diesel fuel consumption	522,758 L	Project Sponsor
Conversion Factor	0.264 gal/L	
Heat Content of Diesel Fuel	0.138 MMBtu/gal	TCR 2022
Emission Factor for Diesel Fuel	73.96 kg CO_2/MMBtu	TCR 2022
Conversion Factor	0.0011023 short tons/kg	TCR 2022

Emissions = 1,553 short tons of CO_2e =

$$522{,}758 \text{ L} * \frac{0.264 \text{ gal}}{1 \text{ L}} * \frac{0.138 \text{ MMBtu}}{1 \text{ gal}} * \frac{73.96 \text{ kg } CO_2}{1 \text{ MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

Maximum Potential-to-Emit

Tetra4's project description provided an estimate of the expected emissions, which was used to calculate the project's maximum PTE of **38,580.5 short tons CO_2e**.

Data	Value	Source
Expected Maximum Emissions	35,000 metric tons CO_2e	Project Description
Conversion Factor	1.1023 short tons/metric ton	

Maximum Potential-to-Emit = 38,580.5 short tons CO_2e =

$$35{,}000 \text{ metric tons } CO_2e * \frac{1.1023 \text{ short tons}}{\text{metric tons}}$$

2021 Emissions Estimate

Tetra4's 2021 emissions estimate of **1,993.4 short tons of CO_2e**, which does not exceed the minimum 25,000 stpy threshold to be included in the inventory, was calculated using the following information:

Data	Value	Source
Fugitive emissions from wells	1,704.54 metric tons CO_2e	Project Sponsor
Diesel fuel consumption	38,550 L	Project Sponsor
Conversion Factor	0.264 gal/L	
Heat Content of Diesel Fuel	0.138 MMBtu/gal	TCR 2020
Emission Factor for Diesel Fuel	73.96 kg CO_2/MMBtu	TCR 2020
CNG consumption	1,019 kg	Project Sponsor
Conversion Factor	0.0078 m^3/kg CNG	DOE 2020
Conversion Factor	0.02832 m^3/scf	TCR 2020
Emission Factor for CNG	0.05444 kg CO_2/scf	TCR 2020
Conversion Factor	1.1023 short tons/metric ton	
Conversion Factor	0.0011023 short tons/kg	

Emissions = 1,933.4 short tons of CO_2e =

$$1{,}704.54 \text{ metric tons } CO_2e * \frac{1.1023 \text{ short tons}}{\text{metric ton}} +$$

$$38{,}550 \text{ L} * \frac{0.264 \text{ gal}}{1 \text{ L}} * \frac{0.138 \text{ MMBtu}}{1 \text{ gal}} * \frac{73.96 \text{ kg } CO_2}{1 \text{ MMBtu}} * \frac{0.0011023 \text{ short tons}}{\text{kg}} +$$

$$1{,}019 \text{ kg} * \frac{0.0078 \text{ m}^3}{\text{kg}} * \frac{1 \text{ scf}}{0.02832 \text{ m}^3} * \frac{0.05444 \text{ kg } CO_2}{1 \text{ scf}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2022 Emissions Estimate

Tetra4's 2022 emissions estimate of **9,299 short tons of CO_2e**, which does not exceed the minimum 25,000 stpy threshold to be included in the inventory, was calculated using the following information:

Data	Value	Source
Fugitive emissions	8,436.12 metric tons CO_2e	Project Sponsor
Conversion Factor	1.1023 short tons/metric ton	TCR 2022

Emissions = 9,299 short tons of CO_2e =

$$8{,}436.12 \text{ metric tons } CO_2e * \frac{1.1023 \text{ short tons}}{\text{metric ton}}$$

TIER C PROJECTS

Tier C projects were not included in the 2007 and 2008 inventories. Emissions calculations for these projects have been included in all inventories from 2009 to the present.

Aga Khan and Medical College Foundation

Maximum Potential-to-Emit Estimate

Aga Khan's maximum PTE estimate of **72,965 STPY of CO_2e** was calculated using the following information:

Data	Value	Source
Small Boiler Rating	1 ton of steam/hr	Project Description
Small Boiler Count	2	Project Description
Large Boiler Rating	10 tons of steam/hr	Project Description
Large Boiler Count	4	Project Description
Conversion Factor	2,000 lbs/short tons	
Boiler Efficiency	0.80	Project Description
Steam Enthalpy at 212 ˚F and 0 psig	1,150 Btu/lbs	Saturated Steam Table
Conservative Operating Assumption	8,000 hr/yr	EIA Form 923 data, 2007
Conversion Factor	0.000001 MMBtu/Btu	
Electricity Generation Nameplate Capacity	4.8 MW	Project Description
Emission Factor: Generation w/ Natural Gas	390 g CO_2/kWh	IFC 2012
Emission Factor: Combustion of Natural Gas	53.02 kg CO_2/MMBtu	TCR 2014
Conversion Factor	1,000 kWh/MWh	
Conversion Factor	0.000001 metric tons/g	
Conversion Factor	1.1023 short tons/metric ton	

Maximum Potential-to-Emit = 72,965 STPY of CO_2e =

$$\left[\frac{(1\ \text{tons} * 2) + (10\ \text{tons} * 4)}{\text{hr}} * \frac{1}{0.8} * \frac{8{,}000\ \text{hr}}{\text{yr}} * \frac{1{,}150\ \text{Btu}}{\text{lb}} * \frac{2{,}000\ \text{lbs}}{\text{short ton}} * \frac{10^{-6}\ \text{MMBtu}}{\text{Btu}}\right.$$

$$* \frac{53.02\ \text{kg}\ CO_2}{\text{MMBtu}} * \frac{10^{-3}\ \text{metric ton}}{\text{kg}} + 4.8\ \text{MW} * \frac{8{,}000\ \text{hr}}{\text{yr}} * \frac{1{,}000\ \text{kWh}}{\text{MWh}} * \frac{390\ \text{g}\ CO_2}{\text{kWh}}$$

$$\left. * \frac{10^{-6}\ \text{metric ton}}{\text{g}}\right] * \frac{1.1023\ \text{short tons}}{\text{metric ton}}$$

2014 Emissions Estimate

Aga Khan's 2014 emissions estimate of **25,064 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	12,879,049 m^3	Project Sponsor
Conversion Factor	35.31 scf/m^3	
Emission Factor Natural Gas	0.05 kg CO_2/scf	TCR 2014
Conversion Factor	0.0011023 short tons/kg	

Emissions = 25,064 short tons of CO_2e =

$$12{,}879{,}000\ m^3 * \frac{35.31\ \text{scf}}{m^3} * \frac{0.05444\ \text{kg}\ CO_2}{\text{scf}} * \frac{0.0011023\ \text{short tons}}{\text{kg}}$$

2015 Emissions Estimate

Aga Khan's 2015 emissions estimate of **28,653 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	13,522,367 m^3	Project Sponsor
Conversion Factor	35.31 scf/m^3	
Emission Factor Natural Gas	0.05444 kg CO_2/scf	TCR 2015
Conversion Factor	0.0011023 short tons/kg	

Emissions = 28,653 short tons of CO_2e =

$$13{,}563{,}367\ m^3 * \frac{35.31\ \text{scf}}{m^3} * \frac{0.05444\ \text{kg}\ CO_2}{\text{scf}} * \frac{0.0011023\ \text{short tons}}{\text{kg}}$$

2016 Emissions Estimate

Aga Khan's 2016 emissions estimate of **29,093 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	13,730,110 m^3	Project Sponsor
Conversion Factor	35.31 scf/m^3	
Emission Factor Natural Gas	0.05444 kg CO_2/scf	TCR 2017
Conversion Factor	0.0011023 short tons/kg	

Emissions = 29,093 short tons of CO_2e =

$$13{,}730{,}110\ m^3 * \frac{35.31\ scf}{m^3} * \frac{0.05444\ kg\ CO_2}{scf} * \frac{0.0011023\ short\ tons}{kg}$$

2017 Emissions Estimate

Aga Khan's 2017 emissions estimate of **28,312 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	13,146,977 m^3	Project Sponsor
Diesel Consumption	150,894 liters	Project Sponsor
Emission Factor Natural Gas	0.05444 kg CO_2/scf	TCR 2017
Emissions Factor Diesel	73.96 kg CO_2/MMBtu	TCR 2017
Diesel Energy Content	0.14 MMBtu per gallon diesel	TCR 2017
Conversion Factor	0.26417 gallons per liter	
Conversion Factor	35.31 scf/m^3	
Conversion Factor	0.0011023 short tons/kg	

Emissions = 28,312 short tons of CO_2e =

$$13{,}146{,}977\ m^3 * \frac{35.31\ scf}{m^3} * \frac{0.05444\ kg\ CO_2}{scf} * \frac{0.0011023\ short\ tons}{kg} +$$

$$150{,}894\ liters * \frac{0.26417\ gallons}{liter} * \frac{0.14\ MMBtu}{gallon} * \frac{73.96\ kg\ CO_2}{MMBtu} * \frac{0.0011023\ short\ tons}{kg}$$

2018 Emissions Estimate

Aga Khan's 2018 emissions estimate of **28,367 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	13,156,408 m^3	Project Sponsor
Diesel Consumption	162,460 liters	Project Sponsor
Emission Factor Natural Gas	0.05444 kg CO_2/scf	TCR 2017
Emissions Factor Diesel	73.96 kg CO_2/MMBtu	TCR 2017
Diesel Energy Content	0.14 MMBtu per gallon diesel	TCR 2017
Conversion Factor	0.26417 Gallons per liter	
Conversion Factor	35.31 scf/m^3	
Conversion Factor	0.0011023 short tons/kg	

Emissions = 28,367 short tons of CO_2e =

$$13{,}156{,}408\ m^3 * \frac{35.31\ scf}{m^3} * \frac{0.05444\ kg\ CO_2}{scf} * \frac{0.0011023\ short\ tons}{kg} +$$

$$162{,}460\ liters * \frac{0.26417\ gallons}{liter} * \frac{0.14\ MMBtu}{gallon} * \frac{73.96\ kg\ CO_2}{MMBtu} * \frac{0.0011023\ short\ tons}{kg}$$

2019 Emissions Estimate

Aga Khan's 2019 emissions estimate of **30,632 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	14,254,793 m^3	Project Sponsor
Diesel Consumption	143,629 liters	Project Sponsor
Emission Factor Natural Gas	0.05444 kg CO_2/scf	TCR 2020
Emissions Factor Diesel	73.96 kg CO_2/MMBtu	TCR 2020
Diesel Energy Content	0.14 MMBtu per gallon diesel	TCR 2020
Conversion Factor	0.26417 Gallons per liter	
Conversion Factor	35.31 scf/m^3	
Conversion Factor	0.0011023 short tons/kg	

Emissions = 30,632 short tons of CO_2e =

$$14{,}254{,}793\ m^3 * \frac{35.31\ scf}{m^3} * \frac{0.05444\ kg\ CO_2}{scf} * \frac{0.0011023\ short\ tons}{kg} +$$

$$143{,}629\ liters * \frac{0.26417\ gallons}{liter} * \frac{0.14\ MMBtu}{gallon} * \frac{73.96\ kg\ CO_2}{MMBtu} * \frac{0.0011023\ short\ tons}{kg}$$

2020 Emissions Estimate

Aga Khan's 2020 emissions estimate of **32,112 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	14,960,226 m^3	Project Sponsor
Diesel Consumption	138,756 liters	Project Sponsor
Emission Factor Natural Gas	0.05444 kg CO_2/scf	TCR 2020
Emissions Factor Diesel	73.96 kg CO_2/MMBtu	TCR 2020
Diesel Energy Content	0.138 MMBtu per gallon diesel	TCR 2020
Conversion Factor	0.264 Gallons per liter	
Conversion Factor	35.31 scf/m^3	
Conversion Factor	0.0011023 short tons/kg	

Emissions = 32,112 short tons of CO_2e =

$$14{,}960{,}226\ m^3 * \frac{35.31\ scf}{m^3} * \frac{0.05444\ kg\ CO_2}{scf} * \frac{0.0011023\ short\ tons}{kg} +$$

$$138{,}756\ liters * \frac{0.264\ gallons}{liter} * \frac{0.138\ MMBtu}{gallon} * \frac{73.96\ kg\ CO_2}{MMBtu} * \frac{0.0011023\ short\ tons}{kg}$$

2021 Emissions Estimate

Aga Khan's 2021 emissions estimate of **30,264 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	14,008,625 m^3	Project Sponsor
Diesel Consumption	195,225 liters	Project Sponsor
Emission Factor Natural Gas	0.05444 kg CO_2/scf	TCR 2020
Emissions Factor Diesel	73.96 kg CO_2/MMBtu	TCR 2020
Diesel Energy Content	0.138 MMBtu per gallon diesel	TCR 2020
Conversion Factor	0.264 Gallons per liter	
Conversion Factor	35.3107 scf/m^3	
Conversion Factor	0.0011023 short tons/kg	

Emissions = 30,264 short tons of CO_2e =

$$14{,}008{,}625\ m^3 * \frac{35.3107\ scf}{m^3} * \frac{0.05444\ kg\ CO_2}{scf} * \frac{0.0011023\ short\ tons}{kg} +$$

$$195{,}225\ liters * \frac{0.264\ gallons}{liter} * \frac{0.138\ MMBtu}{gallon} * \frac{73.96\ kg\ CO_2}{MMBtu} * \frac{0.0011023\ short\ tons}{kg}$$

2022 Emissions Estimate

Aga Khan's 2022 emissions estimate of **29,129 short tons of CO_2e** was calculated using the following information:

Data	Value	Source
Natural Gas Consumption	13,454,183 m^3	Project Sponsor
Diesel Consumption	208,803 liters	Project Sponsor
Emission Factor Natural Gas	0.05444 kg CO_2/scf	TCR 2020
Emissions Factor Diesel	73.96 kg CO_2/MMBtu	TCR 2020
Diesel Energy Content	0.138 MMBtu per gallon diesel	TCR 2020
Conversion Factor	0.264 Gallons per liter	
Conversion Factor	35.3107 scf/m^3	
Conversion Factor	0.0011023 short tons/kg	

Emissions = 29,129 short tons of CO_2e =

$$13{,}454{,}183\ m^3 * \frac{35.3107\ scf}{m^3} * \frac{0.05444\ kg\ CO_2}{scf} * \frac{0.0011023\ short\ tons}{kg} +$$

$$208{,}803\ liters * \frac{0.264\ gallons}{liter} * \frac{0.138\ MMBtu}{gallon} * \frac{73.96\ kg\ CO_2}{MMBtu} * \frac{0.0011023\ short\ tons}{kg}$$

Qalaa Holdings (formerly Citadel)

Maximum Potential-to-Emit Estimate

Qalaa Holdings' project description provided a range of expected emissions. The upper end of this range was used as the project's maximum potential-to-emit in the amount of **105,821 STPY of CO_2e**.

Data	Value	Source
Direct Emissions	96,000 metric tons	Project Description
Conversion Factor	1.1023 short tons/metric ton	

Maximum Potential-to-Emit = 105,821 STPY of CO_2e =

96,000 metric tons * 1.1023 short tons/metric ton

2012 Emissions Estimate

Citadel is a private equity firm that invests in multiple platforms. In 2012, the Glenview Investment Holdings platform had an estimated carbon footprint estimate of **46,707 short tons of CO_2e** calculated using the following information:

Data	Value	Source
Natural Gas Consumption	24 million m^3	Project Description
Conversion Factor	1,000,000 m^3/ million m^3	
Conversion Factor	35.31 scf/ m^3	
Natural Gas Emission Factor	0.05 kg CO_2/ scf	TCR 2013
Conversion Factor	0.0011023 short tons/ kg	

Total emissions estimate = 46,707 short tons of CO_2e =

$$24 \text{ million } m^3 * \frac{1{,}000{,}000\ m^3}{\text{million } m^3} * \frac{35.31 \text{ scf}}{m^3} * \frac{0.05 \text{ kg } CO_2}{\text{scf}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2013 Emissions Estimate

In 2013, Citadel changed its name to Qalaa Holdings, a private equity firm that invests in multiple platforms. In 2013, three platforms contributed to Qalaa Holdings' total emissions, including Glenview Investment Holdings, United Company for Foundries, ASEC Company for Mining, and Falcon for Agricultural Investments Ltd. The 2013 revised emissions estimate of **52,169 short tons of CO_2e** was calculated as follows.

Data	Value	Source
Natural Gas Consumption (Glenview Investment Holdings)	18 million m^3	Project Description
Natural Gas Consumption (other platforms)	8.807 million m^3	Project Sponsor
Conversion Factor	1,000,000 m^3/ million m^3	
Conversion Factor	35.31 scf/ m^3	
Natural Gas Emission Factor	0.05 kg CO_2/ scf	TCR 2013
Conversion Factor	0.0011023 short tons/ kg	

Total emissions estimate = 52,169 short tons of CO_2e =

$$(18 + 8.807) \text{ million } m^3 * \frac{1{,}000{,}000\ m^3}{\text{million } m^3} * \frac{35.31 \text{ scf}}{m^3} * \frac{0.05 \text{ kg } CO_2}{\text{scf}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2014 Emissions Estimate

In 2014, four platforms contributed to Qalaa Holdings' total emissions, including Grandview Investment Holdings, United Company for Foundries, ASEC Company for Mining, and Falcon for Agricultural Investments Ltd. The 2014 emissions estimate of **47,437 short tons of CO_2e** was calculated as follows.

Data	Value	Source
Natural Gas Consumption (all platforms)	24.376 million m^3	Project Sponsor
Conversion Factor	1,000,000 m^3/ million m^3	
Conversion Factor	35.31 scf/ m^3	
Natural Gas Emission Factor	0.05 kg CO_2/ scf	TCR 2014
Conversion Factor	0.0011023 short tons/ kg	

Total emissions estimate = 47,437 short tons of CO_2e =

$$24.376 \text{ million } m^3 * \frac{1{,}000{,}000\ m^3}{\text{million } m^3} * \frac{35.31 \text{ scf}}{m^3} * \frac{0.05 \text{ kg } CO_2}{\text{scf}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2015 Emissions Estimate

In 2015, two platforms contributed to Qalaa Holdings' total emissions, including Grandview Investment Holdings, United Company for Foundries, and ASEC Company for Mining. The 2015 emissions estimate of **34,279 short tons of CO_2e** was calculated as follows.

Data	Value	Source
Natural Gas Consumption (all platforms)	17.614 million m^3	Project Sponsor
Conversion Factor	1,000,000 m^3/ million m^3	
Conversion Factor	35.31 scf/ m^3	
Natural Gas Emission Factor	0.05 kg CO_2/ scf	TCR 2014
Conversion Factor	0.00110023 short tons/ kg	

Total emissions estimate = 34,279 short tons of CO_2e =

$$17.614 \text{ million } m^3 * \frac{1{,}000{,}000\ m^3}{\text{million } m^3} * \frac{35.31 \text{ scf}}{m^3} * \frac{0.05 \text{ kg } CO_2}{\text{scf}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2016 Emissions Estimate

In 2016, emissions from Qalaa Holdings fell below the 25,000 CO_2 threshold. The 2016 emissions estimate of **7,194 short tons of CO_2e** was calculated as follows.

Data	Value	Source
Natural Gas Consumption (all platforms)	3.6966 million m^3	Project Sponsor
Conversion Factor	1,000,000 m^3/ million m^3	
Conversion Factor	35.31 scf/ m^3	
Natural Gas Emission Factor	0.05 kg CO_2/ scf	TCR 2014
Conversion Factor	0.0011023 short tons/ kg	

Total emissions estimate = 7,194 short tons of CO_2e =

$$3.6966 \text{ million } m^3 * \frac{1{,}000{,}000\ m^3}{\text{million } m^3} * \frac{35.31 \text{ scf}}{m^3} * \frac{0.05 \text{ kg } CO_2}{\text{scf}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2017 Emissions Estimate

In 2017, emissions from Qalaa Holdings fell below the 25,000 CO_2 threshold. The 2017 emissions estimate of **12,025 short tons of CO_2e** was calculated as follows.

Data	Value	Source
Natural Gas Consumption (all platforms)	6,178,895.16 m^3	Project Sponsor
Conversion Factor	35.31 scf/ m^3	
Natural Gas Emission Factor	0.05 kg CO_2/ scf	TCR 2014
Conversion Factor	0.0011023 short tons/ kg	

Total emissions estimate = 12,025 short tons of CO_2e =

$$6{,}178{,}895.16 \text{ million } m^3 * \frac{35.31 \text{ scf}}{m^3} * \frac{0.05 \text{ kg } CO_2}{\text{scf}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2018 Emissions Estimate

The 2018 emissions estimate of **45,919 short tons of CO_2e** for Qalaa Holdings was calculated as follows.

Data	Value	Source
Natural Gas Consumption (all platforms)	23,595,201.00 m^3	Project Sponsor
Conversion Factor	35.31 scf/ m^3	
Natural Gas Emission Factor	0.05 kg CO_2/ scf	TCR 2014
Conversion Factor	0.0011023 short tons/ kg	

Total emissions estimate = 45,919 short tons of CO_2e =

$$23{,}595{,}201.00 \ m^3 * \frac{35.31 \text{ scf}}{m^3} * \frac{0.05 \text{ kg } CO_2}{\text{scf}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2019 Emissions Estimate

The 2019 emissions estimate of **47,615 short tons of CO_2e** for Qalaa Holdings was calculated as follows.

Data	Value	Source
Natural Gas Consumption (all platforms)	24,466,525 m^3	Project Sponsor
Conversion Factor	35.31 scf/ m^3	
Natural Gas Emission Factor	0.05 kg CO_2/ scf	TCR 2020
Conversion Factor	0.0011023 short tons/ kg	

Total emissions estimate = 47,615 short tons of CO_2e =

$$24{,}466{,}525 \ m^3 * \frac{35.31 \text{ scf}}{m^3} * \frac{0.05 \text{ kg } CO_2}{\text{scf}} * \frac{0.0011023 \text{ short tons}}{\text{kg}}$$

2020 Emissions Estimate

The 2020 emissions estimate of **54,695 short tons of CO_2e** for Qalaa Holdings was calculated as follows.

Data	Value	Source
Natural Gas Consumption (all platforms)	28,104,677 m^3	Project Sponsor
Conversion Factor	35.31 scf/m^3	

Natural Gas Emission Factor	0.05 kg CO_2/scf	TCR 2020
Conversion Factor	0.0011023 short tons/kg	

Total emissions estimate = 54,695 short tons of CO_2e =

$$28{,}104{,}677\ m^3 * \frac{35.31\ scf}{m^3} * \frac{0.05\ kg\ CO_2}{scf} * \frac{0.0011023\ short\ tons}{kg}$$

2021 Emissions Estimate

The 2021 emissions estimate of **59,553 short tons of CO_2e** for Qalaa Holdings was calculated using fuel consumption data from 2020 (since 2021 data was not provided) with updated emission factors for 2021.

Data	Value	Source
Natural Gas Consumption (all platforms)	28,104,677 m^3	Project Sponsor
Conversion Factor	35.3107 scf/m^3	
Natural Gas Emission Factor	0.05444 kg CO_2/scf	TCR 2020
Conversion Factor	0.0011023 short tons/kg	

Total emissions estimate = 59,553 short tons of CO_2e =

$$28{,}104{,}677\ m^3 * \frac{35.3107\ scf}{m^3} * \frac{0.05444\ kg\ CO_2}{scf} * \frac{0.0011023\ short\ tons}{kg}$$

2022 Emissions Estimate

The 2022 emissions estimate of **59,553 short tons of CO_2e** for Qalaa Holdings was calculated using fuel consumption data from 2020 (since 2022 data was not provided) with updated emission factors for 2022.

Data	Value	Source
Natural Gas Consumption (all platforms)	28,104,677 m^3	Project Sponsor
Conversion Factor	35.3107 scf/m^3	
Natural Gas Emission Factor	0.05444 kg CO_2/scf	TCR 2020
Conversion Factor	0.0011023 short tons/kg	

Total emissions estimate = 59,553 short tons of CO_2e =

$$28{,}104{,}677\ m^3 * \frac{35.3107\ scf}{m^3} * \frac{0.05444\ kg\ CO_2}{scf} * \frac{0.0011023\ short\ tons}{kg}$$

APPENDIX C – COMMON CONVERSIONS

Listed below are common emission and conversions factors used in the development of emission estimates.

UNIT CONVERSION		
Value	**Unit of Measure**	**Source**
8,000	Hours per Year	Conservative Operating Assumption – EIA Form 923, 2007
333	Days per Year	Calculated from Hours per Year
1,000,000	Btu per MMBtu	TCR 2008, TCR 2020, TCR 2022
0.001	metric tons per kg	TCR 2008, TCR 2020, TCR 2022
0.0011023	short tons per kg	TCR 2008, TCR 2020, TCR 2022
1,000,000	scf per Mcf	TCR 2008, TCR 2020, TCR 2022
0.02832	m3 per scf	TCR 2008, TCR 2020, TCR 2022
0.9072	metric tons per short ton	TCR 2008, TCR 2020, TCR 2022
0.000001	metric tons per g	TCR 2008, TCR 2020, TCR 2022
0.0000011023	short tons per g	TCR 2008, TCR 2020, TCR 2022
907.18	kg per short ton	TCR 2008, TCR 2020, TCR 2022
2.2046	lbs per kg	TCR 2008, TCR 2020, TCR 2022
2,204.62	lbs per metric tonne	TCR 2008, TCR 2020, TCR 2022
2,000	lbs per short ton	TCR 2008, TCR 2020, TCR 2022
42	gallons per barrel	TCR 2008, TCR 2020, TCR 2022

HEAT CONTENT		
Value	**Unit of Measure**	**Source**
43	TJ/Gg HFO Gross Calorific Value	National Physical Laboratory, 2015
44	TJ/Gg LFO Gross Calorific Value	National Physical Laboratory, 2015
5.796	MMBtu per barrel diesel (fuel oil #2)	TCR 2013, TCR 2014
17.25	MMBtu per short ton coal (sub-bituminous)	TCR 2008, TCR 2020
5.80	MMBtu per barrel diesel (fuel oil #2)	TCR 2013, TCR 2014, TCR 2020
5.80	MMBtu per barrel crude oil	TCR 2013, TCR 2014, TCR 2020
1,028	Btu per scf natural gas (U.S. weighted average)	TCR 2013, TCR 2014
1,026	Btu per scf natural gas (U.S. weighted average)	TCR 2015, TCR 2020

EMISSION FACTORS FOR ELECTRICITY GENERATION		
Value	**Unit of Measure**	**Source**
901	g CO_2 per kWh generated using coal	IFC 2012
666	g CO_2 per kWh generated using oil	IFC 2012
390	g CO_2 per kWh generated using natural gas	IFC 2012

EMISSION FACTORS FOR FUEL COMBUSTION		
Value	**Unit of Measure**	**Source**
53.02	kg CO_2 per MMBtu natural gas	TCR 2013, TCR 2014, TCR 2015
53.06	kg CO_2 per MMBtu natural gas	TCR 2015, TCR 2017
72.22	kg CO_2 per MMBtu kerosene type jet fuel	TCR 2017, TCR 2020
52.91	kg CO_2 per MMBtu natural gas (Btu/scf 1,000-1,025)	TCR 2013, TCR 2014, TCR 2015, TCR 2020
73.96	kg CO_2 per MMBtu diesel (fuel oil #2)	TCR 2013, TCR 2014, TCR 2015, TCR 2017
97.09	kg CO_2 per MMBtu coal (sub-bituminous)	TCR 2008
74.49	kg CO_2 per MMBtu crude oil	TCR 2013
0.05444	kg CO_2 per scf natural gas	TCR 2013, TCR 2014, TCR 2015, TCR 2017
75.1	kg CO_2 per MMBtu Residual Fuel Oil (#6)	TCR 2014, TCR 2015, TCR 2017, TCR 2020
2098.89	kg CO_2 per short ton coal (mixed industrial sector)	TCR 2013, TCR 2014
2115.8745	kg CO_2 per short ton coal (mixed industrial sector)	TCR 2017
77,400	kg CO_2 per TJ Residual Oil – Heavy Fuel Oil	IPCC, 2006.
74,100	kg CO_2 per TJ Residual Oil – Light Fuel Oil	IPCC, 2006.

EMISSION FACTORS FOR INDUSTRIAL PROCESSES		
Value	**Unit of Measure**	**Source**
0.44	Short tons CO_2 per short ton limestone processed	IPCC 2006

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> Emissions from natural pipeline transport are very segment specific, varying by pipeline infrastructure, compression energy source, and segment distance. In order to define the related emissions for representative pipeline hauls in the absence of system specifications, Pace Global assumed pipeline-fuel consumption and both combustion and non-combustion CO_{2e} emissions, based on EIA natural gas consumption data and data from the U.S. GHG Inventory released by EPA in 2008. This data yielded an average fugitive-emission-loss rate of 1.7% (per unit volume), and fugitive emissions factor of 4,297 lbs of CO_2 per mmscfd. The emissions associated with combustion required to move natural gas were calculated to be 3,439 lbs of CO_2 per MMscd.

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> This guidance note by the IFC provides suggested GHG emissions estimation methodologies for the energy and industrial sectors. The table in Annex A

provides the capacity for electric-generating technologies (oil = 25MW, coal = 18MW, gas = 41MW) that would emit 100,000 metric tons of CO_2e per year. The table also provides the emissions factor that was applied to the electric generation projects for which no throughput or consumption volumes were available.

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