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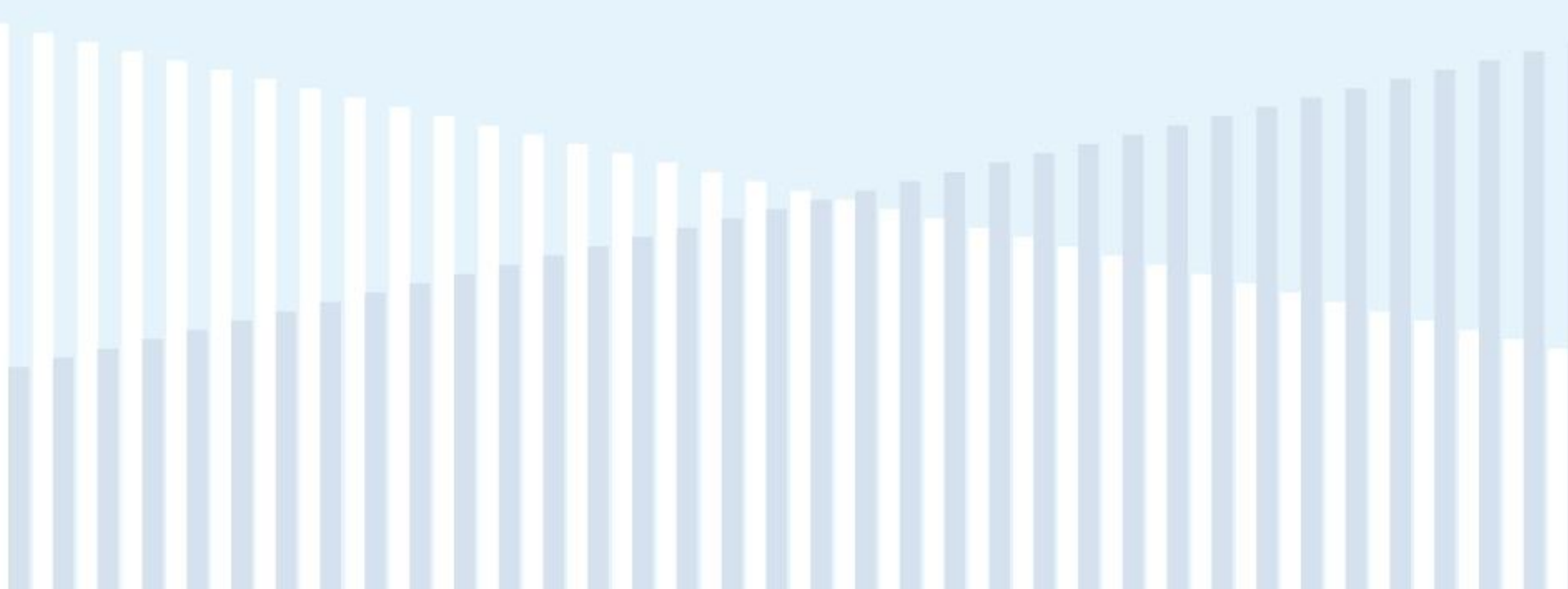
# ESG Impacts of China's Next- Generation Outbound Investments: Indonesia and Cambodia

AUGUST 2023



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# Table of Contents

Executive Summary .....	5
Introduction.....	7
1. A New Era of Chinese Outbound FDI .....	8
2. The ESG Impacts of Chinese Outbound FDI in Southeast Asia .....	18
3. Methodology: A Framework for Evaluating Sustainability and ESG Impacts.....	24
4. Case Studies: Recent Chinese Investment Projects in Indonesia and Cambodia .....	29
Conclusions and Policy Implications .....	61

# Executive Summary

This report describes the changes in China's global outbound foreign direct investment (OFDI) since 2017 and draws on case studies in Southeast Asia to analyze the implications of this next-generation Chinese OFDI for host countries from an environmental, social, and governance (ESG) perspective. Based on new data estimating China's regional investments from 2000 to 2021, we isolate four investments for case study and evaluate them using a multi-tier ESG framework and open-source reports. In Cambodia, we examine the massive Dara Sakor zone and a new tire manufacturing plant, while in Indonesia we examine a geothermal plant and a nickel processing plant for next-generation electric batteries.

Our main findings are:

- **China's global investment has seen tectonic shifts since 2017:** Total investment has slowed down, likely taking an even sharper downturn than that shown in official data. The geographic focus has shifted from advanced economies to other parts of the world, especially Asia. In the 2010s, mergers and acquisitions (M&A) were the dominant mode of Chinese OFDI. However, greenfield FDI is becoming an increasingly important driver of China's OFDI flows in recent years.
- **Chinese investment in Southeast Asia has increased—counter to the global trend in China's investment since 2016—and Chinese firms are becoming involved in new sectors.** While China's engagement in the region once focused on a handful of sectors, like real estate and light manufacturing, Cambodia and Indonesia are now seeing investments that fall outside those narrow industry bounds. Chinese firms' investments in Southeast Asia are shifting from traditional sectors to more advanced manufacturing, processing of critical raw materials, and investments in technology and regional platform businesses. This mirrors shifts in investment in other regions, including Latin America.<sup>1</sup>
- **These new patterns are likely to continue, and host country governments should plan accordingly.** As China's economy matures and attempts to shift toward a new domestic model based on consumption and advanced technology, China's firms may make new energy-intensive manufacturing investments overseas. As traditional industries move abroad, Chinese companies' growing expertise in green technologies like alternative energy and electric vehicles will also enable new overseas investments in those sectors, but environmental effects on recipient countries will likely be mixed.
- The four ESG case studies covered in this report assess **PT QMB New Energy Materials and PT Sorik Marapi geothermal plant (SMGP)** in Indonesia and **the Dara Sakor zone and CART Tire Co, Ltd in Cambodia**. Each case was selected to highlight features of China's outbound FDI in the region, such as new sectors of financial engagement, or Chinese firms' new sustainability policies.
- **Chinese companies are paying increasing attention to ESG concepts**, formulating ESG policies and often producing reports covering firm-wide ESG activity. However, these reports often lack detail and metrics. Reports often omit company-wide metrics (like total carbon emissions) and project-level data. Instead, companies are more likely to report corporate social responsibility (CSR) initiatives like donations to local schools.

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<sup>1</sup> Zara C. Albright, Rebecca Ray, and Yudong (Nathan) Liu, "China-Latin America and the Caribbean: Economic Bulletin, 2022 Edition," *GCI Economic Bulletin*, 2022. [https://www.bu.edu/gdp/files/2022/03/GCI-CH-LAC-Bulletin\\_2022\\_FIN.pdf](https://www.bu.edu/gdp/files/2022/03/GCI-CH-LAC-Bulletin_2022_FIN.pdf).

- **Although Chinese firms operating abroad are often stereotyped as polluters with poor labor practices, there is substantial variation in the ESG practices and performance of the Chinese firms in our case studies.** Each firm often performs satisfactorily in some aspects of ESG, such as community consultation, but does poorly in others. One exception is Dara Sakor, which rates poorly across almost all our metrics.
- **Host country context in Indonesia and Cambodia matters for ESG outcomes.** Our case studies support previous research showing that Chinese companies investing in Southeast Asian countries generally comply with host countries' minimum requirements around ESG practices, including nominally conducting environmental and social impact studies, but usually they do not go further. Despite new voluntary "green investment" guidance from Chinese officials in recent years, in practice, the companies appear to adhere to China's mandatory legal requirements, which require compliance only with host country regulations even if China's domestic regulations might prohibit specific practices.
- **Transparency remains a recurring challenge for the firms in our case studies.** For our case studies, we could only verify the completion of environmental impact assessments (EIAs) or social impact assessments (SIAs) through secondary reports, and only for certain projects. None of the assessments were available via the internet. Only one project—CART Tire's plant in Cambodia—had a publicly available feasibility study. This makes it difficult to establish assessment quality and analyze compliance with their recommendations—and sometimes even to ascertain if they were ever completed. A lack of additional quantitative data, including legally mandated disclosures, obscures the impact of investments on local areas, especially for projects that have small footprints or are part of larger zones.
- **Our case studies observe recurring problems with pollution to waterways, marine areas, and protected land.** Three of the Chinese investments we examine are located near sensitive or protected zones that do not appear to have received sufficient protections. In the case of Dara Sakor, the legal status of protected land did not prevent the development of protected areas, and similar dynamics appear to have been at play for Indonesia's PT. SMGP geothermal power plant.
- **Even projects that appear to promote "green" industry practices or support green technologies—like the battery materials plant and geothermal power station explored in this report—can fail to support good ESG outcomes at the project level.** The battery material processing and geothermal power projects covered in this report exhibit poor environmental performance in one or more areas, highlighting the potential byproducts and risks of green technology development.
- **China and host countries can do more to improve the capacity of almost all actors involved in Chinese overseas investment in Indonesia and Cambodia.** These include consultants and contractors who may be responsible for implementing impact assessments, feasibility studies, and project activities. They also include Indonesian and Cambodian governments and regulatory bodies that may be under-resourced, lack clear legal authority or enforcement power, or are undermined by political input or interference on specific projects.
- **Improving company-level disclosures and including meaningful quantitative and qualitative metrics is critical to improving ESG performance and facilitating new investment.** If China's government were to define clear standards and mandate disclosure (rather than relying on voluntary compliance), it would likely improve overseas ESG performance. More comprehensive coverage of Chinese companies' activities abroad by commercial ESG data providers and public policy researchers would also help promote transparency and improve public accountability.

# Introduction

China's outbound investment has increased rapidly since 2010, establishing the country as one of the world's largest sources of FDI. Southeast Asia, where China is now the largest single source of FDI, has felt this rise keenly. What began in the early 2000s as a slow trickle of investments in low-skilled manufacturing and natural resource extraction has evolved: Chinese firms have steadily expanded in the region, building regional supply chains, new markets for Chinese goods and services, and robust financial and services networks.

Like FDI from other countries, new investment presents both opportunities and risks for host countries in Southeast Asia.<sup>2</sup> China's inflows have the potential to drive economic development and innovation, but they also present possible challenges to ESG outcomes. Even identifying where China's firms are investing is a major data challenge, making it difficult to understand how host countries are being affected.

China's outbound investment is changing rapidly. Significant developments in China's economic priorities—from a new focus on “green” development to more restrictive policies on outbound investment—are shifting where and how Chinese firms invest in Southeast Asia. While previous investments focused on low-skilled manufacturing and resources, recent investments in the region include next-generation technologies from alternative energy and electric vehicles (EVs) to big data analytics and advanced manufacturing, while schemes like the Belt and Road Initiative (BRI) and the Regional Comprehensive Economic Partnership (RCEP) promote relationships across several contexts. Behind this shift, new Chinese economic policies emphasize a broader set of goals beyond simple economic returns. Now with several decades of experience operating in emerging markets, Chinese firms are paying increasing heed to ESG considerations. From the top down, China's government has issued new green finance guidelines and policies to promote foreign investment sustainability, while from the bottom up, China's firms are disclosing more about their global impacts and CSR initiatives as ESG principles become more deeply embedded in global markets.

This report examines the ESG impacts of China's investment in Indonesia and Cambodia against the backdrop of these changes. First, we draw upon both official data and a novel transactions dataset tracking Chinese firms' investments in both countries from 2000 to 2021. We review patterns of China's investment in Southeast Asia and discuss the challenge of tracking Chinese financial flows to the region. We then review the current state of ESG, including China's sustainability practices in both countries, and develop a framework for evaluating the ESG impacts of China's overseas investments. Finally, we apply the framework to four recent Chinese investments across Cambodia and Indonesia to evaluate how China's firms are applying ESG principles in practice.

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<sup>2</sup> This report defines Southeast Asia as the members of the Association of Southeast Asian Nations (ASEAN): Brunei, Cambodia, Indonesia, Laos, Malaysia, Burma (Myanmar), the Philippines, Singapore, Thailand, and Vietnam.

# 1. A New Era of Chinese Outbound FDI

This section describes the evolution of China’s global investment trajectory and then reviews in greater detail China’s FDI footprint in Southeast Asia, specifically in Indonesia and Cambodia. Our overview draws from official FDI data as well as an alternative transactions dataset to address the gaps in official FDI statistics.

## 1.1 China’s Global Outbound FDI

Data on global FDI flows come with major caveats and limitations.<sup>3</sup> One problem is that international statistics rely on national statistical agencies, many of which lack resources, manpower, or adequate training to collect detailed and accurate data on FDI flows and the operations of transnational enterprises. Compounding the challenge is firms’ use of holding companies and offshore vehicles to route financial flows; “roundtripping” (where companies route funds to themselves through countries or regions with generous tax policies and other incentives); and “transshipping” (where companies channel funds into a country to take advantage of favorable tax policies, only to reinvest in a third country).<sup>4</sup> Accordingly, international FDI statistics (including those from United Nations [UN] agencies) often offer a frustratingly incomplete picture in which data are usually available only after years of processing delays, reported totals from home and host countries are inconsistent, and the investments are difficult or impossible to track after they pass through tax havens.

Tracking China’s overseas investment comes with additional challenges. First, two different government agencies are responsible for collecting outbound FDI statistics, causing data reconciliation and access issues. Second, China’s existing capital controls and burdensome regulatory requirements incentivize firms to underreport (or not report) foreign investments to evade capital controls and bureaucratic reviews.<sup>5</sup> This means not all foreign investments may be reflected in official data. Lastly, because China’s firms almost always rely on offshore entities to structure their overseas investments, official data distort the geographical and sectoral distributions of Chinese investment.<sup>6</sup> According to data from China’s Ministry of Commerce (MOFCOM), an average of 64 percent of China’s outbound FDI flows from 2015 to 2020 were registered in either Hong Kong or tax havens such as the Cayman Islands and Singapore.<sup>7</sup> From there, money flows to its ultimate destination—or, in many cases, back to China as part of roundtripping”, where flows end up funding domestic investments or returning back to the original investor. This means there can be substantial differences between what Chinese officials report on the outbound side and what host economies report receiving from China.<sup>8</sup>

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<sup>3</sup> In national accounting statistics, cross-border investment flows are commonly separated into five categories: FDI, portfolio investment, derivatives, other investment, and reserves. Chinese investors have been active in Southeast Asia via all these channels, but this report focuses on FDI.

<sup>4</sup> Additional problems relate to reporting transaction or asset value; although market value should be favored, official data are often recorded in book or historical value, leading to measurement errors. Additionally, although FDI is defined as any investment with a 10 percent or higher share in voting rights, it is often difficult to determine this threshold for a given investment due to “indirect” holdings.

<sup>5</sup> While information submission to MOFCOM and the State Administration of Foreign Exchange (SAFE) is in theory “mandatory” for Chinese firms, accurate reporting wholly depends on compliance of individual companies, and those firms have incentives to underreport or not report because of China’s strict capital control and outward foreign investment review system.

<sup>6</sup> This also may inflate the value of China’s total outbound investment by counting roundtripping, especially via Hong Kong.

<sup>7</sup> This analysis was done by summing the totals of MOFCOM FDI data in several tax havens and dividing by total outbound FDI.

<sup>8</sup> According to research by the Chinese Academy of Social Sciences and Nankai University, around 37 percent of existing FDI in China is a result of roundtripping.



For these reasons, it is critical to consider various available data points to get a reliable sense of China’s investment trajectory and its FDI footprint in a specific region or country. In addition to official statistics from China and the host nation, it is important to consult alternative data that can shed light on the patterns of Chinese outbound FDI. One such perspective is a dataset compiled by Rhodium Group that collects and aggregates data on global acquisitions and greenfield investments by companies and investors from China with a value of \$1 million and above (the Rhodium “Core China OFDI” dataset, Table 1). Such alternative transactions datasets are not directly comparable to those compiled using the traditional balance of payments (BoP) method, but they do avoid some of the existing problems—namely issues with time lags and passthrough locations—and permit a real-time assessment of investment trends.

TABLE 1  
**Rhodium Group’s Core China OFDI Dataset Methodology**

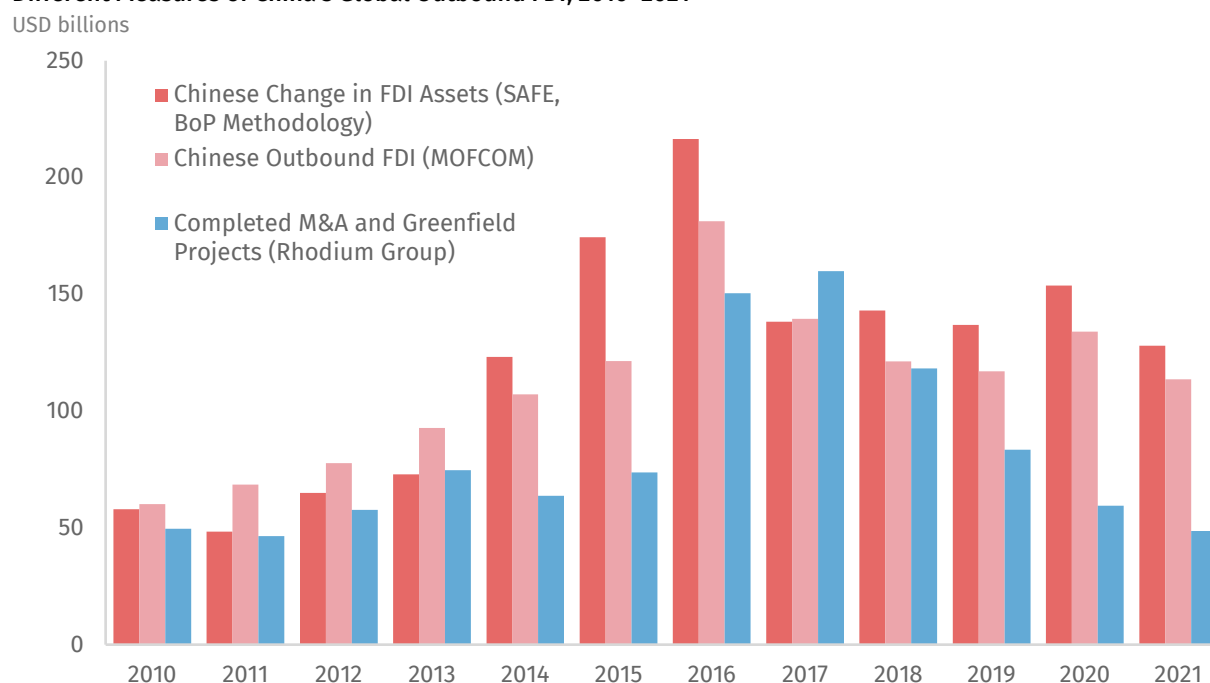
<b>Data Sources</b>	The dataset tracks investments made by mainland Chinese companies around the world through a compilation of information from open-source databases, online search algorithms, media reports, regulatory filings, company reports, industry associations, official releases, investment promotion agencies, industry contacts, and other sources. The dataset includes companies with ultimate ownership in mainland China.
<b>Investment Inclusion Criteria</b>	<p>Common international definitions are used to determine transactions that qualify as direct investment, such as new establishments (greenfield projects), expansion of existing facilities, and acquisitions of stakes in existing companies that exceed 10 percent of equity or voting shares (M&amp;A). Only completed investments are recorded:</p> <ul style="list-style-type: none"> <li>• Greenfield investments only include projects that have broken ground.</li> <li>• Acquisitions are included after close and completion. Chinese company acquisitions of other companies abroad ultimately owned by other Chinese investors (e.g., a Chinese firm’s purchase of another Chinese firm’s manufacturing assets in Indonesia) are also included.</li> </ul> <p>Hong Kong and Macau are excluded from totals for China, but investments by Chinese firms that are routed via Hong Kong and Macau—for example, an acquisition conducted via a Chinese firm’s Hong Kong subsidiary—are included in the dataset.</p>
<b>Transaction Value</b>	The dataset includes deals with a minimum value of \$1 million, with value recorded at historical price with no current cost adjustment. Deal values are recorded from the officially announced value or estimated based on variables such as the number of employees, annual revenue, or the value of similar projects. Transaction values reported in renminbi (RMB) and other foreign currencies are converted into USD at the average exchange rate in the year of the deal. M&A transaction values include equity investment and debt assumption.
<b>Transaction Date</b>	Acquisitions are recorded at the date of deal completion. Greenfield investments are dated according to deal value. Greenfield investments under \$100 million are recorded at date of deal completion. For greenfield transactions valued at greater than \$100 million (and where construction time exceeds one year), total value of the investment is allocated evenly (quarterly) between the commencement date and completion date.

Source: Rhodium Group research.

All available data sources illustrate a sea of change in China’s outbound investment trajectory in recent years. Since the mid-2000s, China’s global OFDI has grown steadily, reaching a boom in 2014 after Beijing liberalized outflows through the FDI channel. Beijing reversed this policy in late 2016 and initiated a crackdown on “illicit” flows in sectors such as real estate and gaming. The reimposition of capital controls and greater regulatory scrutiny abroad led to a significant drop in annual OFDI flows after 2016, but available data sources paint a different picture of the extent of the slowdown. The average annual outbound FDI over the last five years recorded in China’s official statistics only indicates a modest drop of about 21 percent from the 2016 peak, while alternative datasets show a much steeper drop, especially in certain types of transactions like M&A (Figure 1). Both official sources and

alternative data show another drop in 2021, but official data suggest more stability than the alternative transactions approach.<sup>9</sup>

**FIGURE 1**  
**Different Measures of China's Global Outbound FDI, 2010–2021**



Source: State Administration of Foreign Exchange (SAFE), MOFCOM, Rhodium Group. \*Rhodium Group totals are based on Rhodium's Core China OFDI dataset, which includes transactions above \$1 million only.

## 1.2 Chinese FDI in Southeast Asia

In addition to a slowdown in overall investment, we are also observing a clear change in the geographic patterns of Chinese outbound FDI since 2016. Advanced economies that previously attracted large amounts of Chinese FDI in the form of M&A transactions—such as the United States, the United Kingdom, or Australia—have seen declining inflows since 2016, especially in sectors blacklisted by Chinese regulators and scrutinized by host country authorities under tightening investment screening rules.<sup>10</sup>

Other regions have seen resilience or even an increase in Chinese investment compared to the 2014–2017 boom period. Southeast Asia is one of these regions with a growing Chinese investment footprint. Various sources agree that Chinese firms' investments into Southeast Asia have grown rapidly in the past decade, countering the overall trend of falling global investments (Figure 2). According to ASEANstats (the statistics division of the ASEAN Secretariat), annual Chinese FDI in Southeast Asia grew from only \$3.6 billion in 2010 to \$10 billion by 2016; annual

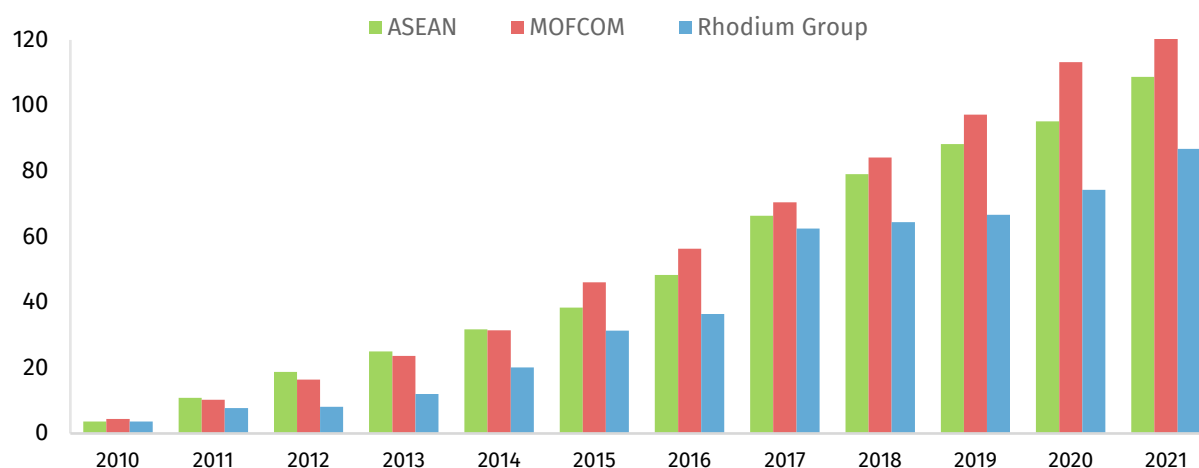
<sup>9</sup> United Nations Conference on Trade and Development (UNCTAD), "Investment Trends Monitor," October 2022. [https://unctad.org/system/files/official-document/diaeiainf2022d4\\_en.pdf](https://unctad.org/system/files/official-document/diaeiainf2022d4_en.pdf).

<sup>10</sup> See Thilo Hanemann et al., "Two-Way Street: 2021 Update US-China Investment Trends," May 19, 2021. <https://rhg.com/wp-content/uploads/2021/05/RHG-TWS-2021-Full-Report-Final.pdf>; Aidan Arasingham and Gerard DiPippo, "Evaluating CFIUS in 2021," August 9, 2022. <https://www.csis.org/analysis/evaluating-cfius-2021>.

totals were \$13.6 billion in 2021.<sup>11</sup> Data from China’s MOFCOM show a similar growth trend, with annual flows of around \$4.4 billion in 2010 reaching an average of \$14.3 billion per year from 2018 to 2020.<sup>12</sup> China’s overall share of FDI in Southeast Asia also grew from 6 percent in 2010 to an average of 12 percent from 2018 to 2020.<sup>13</sup>

Rhodium’s Core China OFDI dataset on global acquisitions and greenfield FDI projects by Chinese companies follows the overall growth trajectory that official data show, but headline investment is lower than in official statistics and more volatile year to year. In the latest available year, MOFCOM shows a total of \$133 billion of Chinese investment in the region (2021), ASEAN statistics show \$109 billion (2021), and the cumulative value of Rhodium’s transactions amounts to \$100 billion (2021).<sup>14</sup>

FIGURE 2  
**Estimates of China’s Cumulative Investment in Southeast Asia, 2010–2021**  
 Cumulative flows, USD billions



Source: ASEANstats, MOFCOM, Rhodium Group. Rhodium Group totals are based on Rhodium’s Core China OFDI dataset, which includes transactions above \$1 million only.

Beyond that aggregate perspective, however, official data vastly disagree on the destinations and target sectors for Chinese investment in Southeast Asia (Figure 3). Singapore is the largest destination for China’s outbound

<sup>11</sup> ASEANstats, “Flows of Inward Foreign Direct Investment (FDI) into ASEAN by Source Country (in Million US\$),” 2021. <https://data.aseanstats.org/fdi-by-hosts-and-sources>; ASEAN Secretariat, “ASEAN Statistical Yearbook 2021,” December 2021. [https://asean.org/wp-content/uploads/2021/12/ASYB\\_2021\\_All\\_Final.pdf](https://asean.org/wp-content/uploads/2021/12/ASYB_2021_All_Final.pdf).

<sup>12</sup> MOFCOM collects monthly FDI data based on administrative approval and registration records from China’s record system as well as periodic company surveys. Ministry of Commerce of the People’s Republic of China, et al., “2021 Statistical Bulletin of China’s Outward Foreign Direct Investment,” September 1, 2022. <http://images.mofcom.gov.cn/fec/202211/20221118091910924.pdf>; Ministry of Commerce of the People’s Republic of China, et al., “2018 Statistical Bulletin of China’s Outward Foreign Direct Investment,” September 12, 2019. <http://fec.mofcom.gov.cn/article/tjsj/tjgb/201910/20191002907954.shtml>.

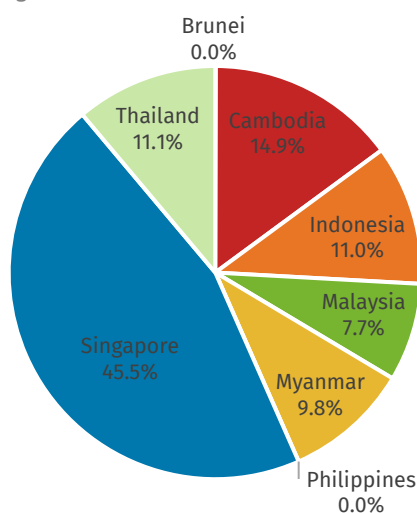
<sup>13</sup> Rhodium Group analysis of MOFCOM data. Ministry of Commerce of the People’s Republic of China, et al., “2021 Statistical Bulletin of China’s Outward Foreign Direct Investment,” September 1, 2022. <http://images.mofcom.gov.cn/fec/202211/20221118091910924.pdf>; Ministry of Commerce of the People’s Republic of China, et al., “2018 Statistical Bulletin of China’s Outward Foreign Direct Investment,” September 12, 2019. <http://fec.mofcom.gov.cn/article/tjsj/tjgb/201910/20191002907954.shtml>

<sup>14</sup> ASEAN Secretariat, “ASEAN Statistical Yearbook 2021,” December 2021. [https://asean.org/wp-content/uploads/2021/12/ASYB\\_2021\\_All\\_Final.pdf](https://asean.org/wp-content/uploads/2021/12/ASYB_2021_All_Final.pdf); Ministry of Commerce of the People’s Republic of China, et al., “2021 Statistical Bulletin of China’s Outward Foreign Direct Investment,” September 1, 2022. <http://images.mofcom.gov.cn/fec/202211/20221118091910924.pdf>; Ministry of Commerce of the People’s Republic of China, et al., “2018 Statistical Bulletin of China’s Outward Foreign Direct Investment,” September 12, 2019. <http://fec.mofcom.gov.cn/article/tjsj/tjgb/201910/20191002907954.shtml>.

investment in Southeast Asia in both official datasets, but this likely reflects investment routing and roundtripping through a major tax and investment haven. MOFCOM data show that Indonesia is the second-biggest recipient of Chinese direct investment among the 10 countries after Singapore.<sup>15</sup> According to these official statistics, in total, Indonesia received \$15.9 billion in cumulative Chinese investment from 2010 to 2020, ahead of Malaysia (\$9.8 billion) and Thailand (\$9.6 billion).<sup>16</sup> ASEAN data has Cambodia (not including Singapore) as the destination with the most accumulated FDI (\$11 billion), followed by Thailand (\$8.1 billion) and Indonesia (\$8 billion).<sup>17</sup>

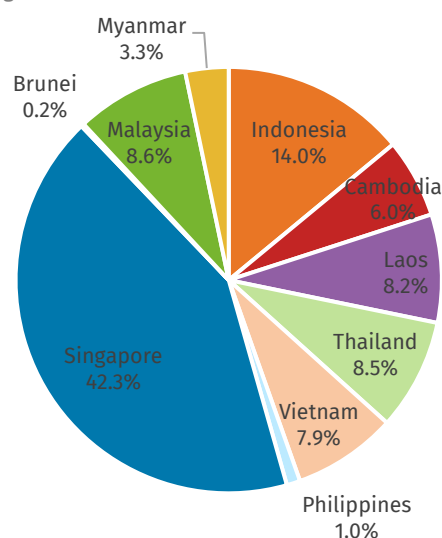
FIGURE 3  
China's FDI Stock in Southeast Asian Countries: Official Data

ASEAN: FDI Stock, 2020  
Percentage of total



Source: ASEANstats.

MOFCOM: Cumulative Flows, 2010–2020  
Percentage of total



Source: MOFCOM.

In addition to confusing information about the geographic distribution of Chinese investment, official data also provide very little useful information about the industry distribution of Chinese investment in Southeast Asia. MOFCOM's aggregate OFDI data are very much distorted toward the industries of the first investment in Hong Kong or other offshore centers ("business services"), and no authoritative breakdown of Chinese investment in Southeast Asian economies by industry is available. Data from host governments widely vary in quality and comprehensiveness. Some governments provide reasonably good data (like Singapore or Malaysia), but other governments do not provide more detailed information, especially for flows coming in through offshore centers (for example, Cambodia or Myanmar).<sup>18</sup> Rhodium's Core China OFDI transaction dataset provides a detailed perspective on the evolution of Chinese FDI by recipient nation, entry mode, and industry (Figure 4). The Rhodium data confirm that the offshore hub of Singapore is the single largest destination for Chinese OFDI in Southeast Asia.

<sup>15</sup> Using cumulative flows allows us to compare more directly with ASEAN's FDI stock data.

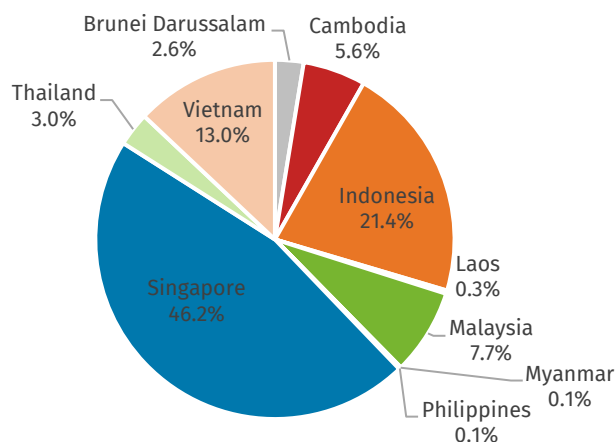
<sup>16</sup> Rhodium Group analysis of MOFCOM data.

<sup>17</sup> ASEAN Stats, "Flows of Inward Foreign Direct Investment (FDI) into ASEAN by Source Country (in million US\$)," 2021. <https://data.aseanstats.org/fdi-by-hosts-and-sources>;

<sup>18</sup> This may be an issue of data capacity. See Manuel Stagars, "Data Quality Analysis of Group C: Laos, Cambodia, and Myanmar," in Manuel Stagars, ed., *Data Quality in Southeast Asia: Analysis of Official Statistics and Their Institutional Framework as a Basis for Capacity Building and Policy Making in the ASEAN*, 2016, 127–165. [https://doi.org/10.1057/978-1-137-60063-9\\_6](https://doi.org/10.1057/978-1-137-60063-9_6).

After that, Indonesia has been the biggest attraction for Chinese investors, receiving more than \$21 billion in cumulative investment, followed by Vietnam (\$13 billion) and Malaysia (\$8 billion).<sup>19</sup>

**FIGURE 4**  
**Value of Chinese FDI Transactions in ASEAN Countries, Cumulative Flows, 2010–2021**  
 Percentage of total



Source: Rhodium Group. Based on Rhodium's Core China OFDI dataset, which includes transactions above \$1 million only.

The industry distribution of Chinese FDI transactions in Southeast Asia tracks China's domestic development and the shifting capabilities of its companies. While Chinese investment in 2010–2015 was chiefly dominated by traditional low-value-added manufacturing sectors and some investments in extractive industries, recent increases in outward FDI to ASEAN countries (especially outside of Singapore) are largely driven by a combination of Chinese private firms exporting their business models and knowhow to new markets and a variety of firms looking to expand their presence in different places on the EV supply chain. The former includes Tencent's investments in Southeast Asia and Alibaba's acquisition of Lazada, while the latter is driven by large capital expenditure projects for critical minerals in Indonesia.<sup>20</sup> China's firms are moving into new technology supply chains in other parts of the world. In Latin America, for example, Chinese investments in key inputs for renewable energy sectors, such as alumina, lithium, and niobium have grown over the past decade.<sup>21</sup>

In terms of entry mode, Chinese FDI in Southeast Asia has historically been dominated by greenfield investment over acquisitions. That pattern generally held up over the past decade, although M&A has become a driving force in certain sectors such as infrastructure and logistics as well as extractive industries.

In the following two sections, we will provide a more detailed description of China's investment patterns in two Southeast Asian economies—Indonesia and Cambodia—that illustrate how investors' diverging economic interests can affect local impacts.

<sup>19</sup> Rhodium Group analysis of Core FDI dataset.

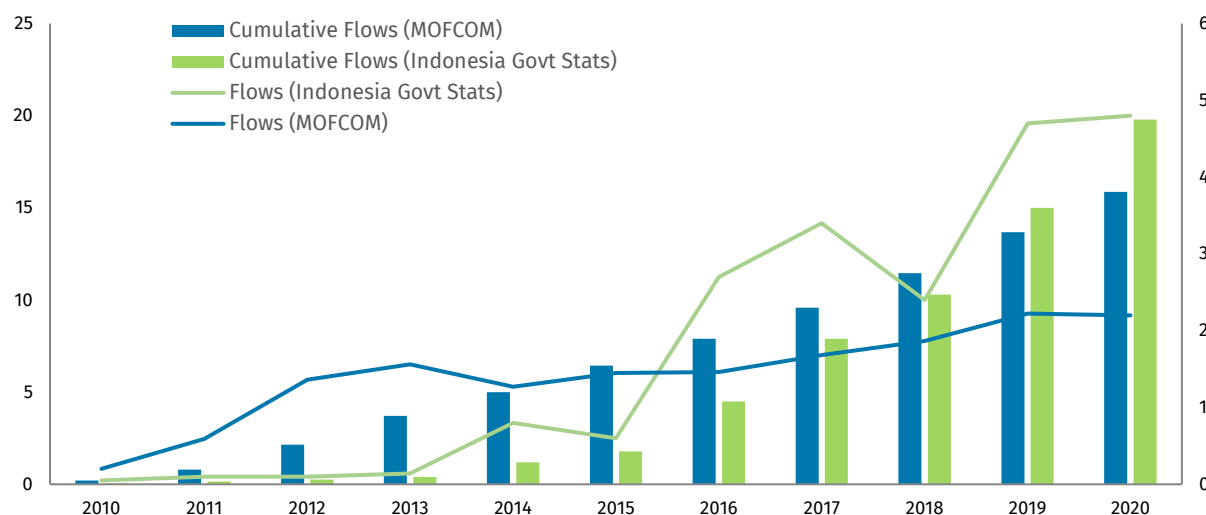
<sup>20</sup> Based on data from an upcoming Rhodium Group report on China's global outbound FDI and economic impact.

<sup>21</sup> Zara C. Albright, Rebecca Ray, and Yudong (Nathan) Liu, "China-Latin America and the Caribbean: Economic Bulletin, 2022 Edition," *GCI Economic Bulletin*, 2022. [https://www.bu.edu/gdp/files/2022/03/GCI-CH-LAC-Bulletin\\_2022\\_FIN.pdf](https://www.bu.edu/gdp/files/2022/03/GCI-CH-LAC-Bulletin_2022_FIN.pdf).

### 1.3 Chinese FDI in Indonesia

Both Chinese and Indonesian statistics show that China has been a major source of FDI for the Indonesian economy. MOFCOM data captured \$16 billion of cumulative Chinese FDI in the country from 2010 to 2020.<sup>22</sup> Indonesian statistics show cumulative flows of \$20 billion (Figure 5).<sup>23</sup>

FIGURE 5  
**Indonesian vs. MOFCOM Statistics: Chinese Investments in Indonesia, Cumulative Flows, 2010–2020**  
 USD billions, LHS cumulative flows, RHS annual flows



Source: Ministry of Investment/Indonesia Investment Coordinating Board (BKPM), MOFCOM, Rhodium Group analysis.

Rhodium’s Core China OFDI dataset includes 110 major transactions with a disclosed value of \$22 billion from 2002 to 2021 (Figure 6).<sup>24</sup> More than a third (35) of these were in the financial services sector, despite only accounting for 16 percent of the cumulative value of Chinese investment into Indonesia.<sup>25</sup> By value, the top industries were the basic materials sector (31 percent of value since 2002) and the transportation and infrastructure sector (24 percent).<sup>26</sup> Annual flows spiked in 2015 and momentum remained strong through 2021, with considerable volatility from year to year.

<sup>22</sup> Rhodium Group analysis of MOFCOM data.

<sup>23</sup> Rhodium Group analysis of BKPM data.

<sup>24</sup> Rhodium Group analysis.

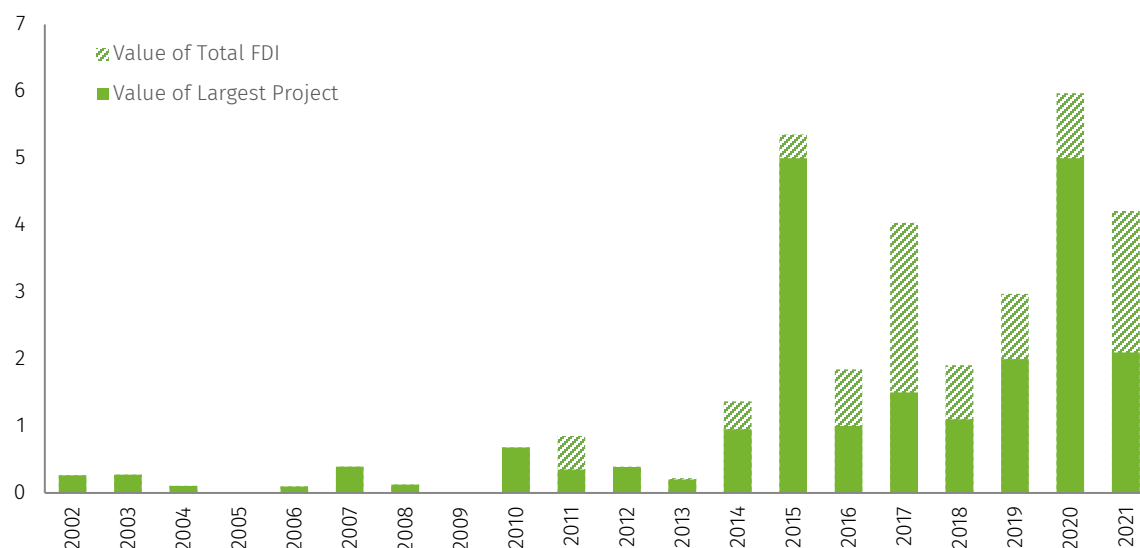
<sup>25</sup> Rhodium Group analysis.

<sup>26</sup> Rhodium Group analysis.

FIGURE 6

**Rhodium Transactions: Chinese Investment Flows into Indonesia, Total and Largest Project, 2002–2021**

USD billions



Source: Rhodium Group. Based on Rhodium's Core China OFDI dataset, which includes transactions with publicly available values above \$1 million only.

The majority of China's FDI is concentrated in a handful of large-scale projects. The combined value of the largest project in each year makes up more than two-thirds of total Chinese FDI stock in Indonesia. Of these large projects, the vast majority are in the extractives and infrastructure sectors (Table 2).

TABLE 2

**Major Chinese FDI Transactions in Indonesia, 2010–2021**

Investor	Target Project	Estimated Investment Size	Announced Date
CIC	PT Kaltim Prima Coal (KPC)	\$1 billion	July 2014
Jiangsu Delong Niede Limited Company	Nickel Processing Plant	\$1 billion	December 2015
Alibaba Group	Lazada	\$1 billion	April 2016
CATL	Lithium Battery Factory	\$5 billion	December 2020
Huayou Cobalt	Nickel Processing Plant	\$0.4 billion	May 2021

Source: Rhodium Group. Based on Rhodium's Core China OFDI dataset, which includes transactions above \$1 million only.

The composition of FDI has also shifted in recent years. Prior to 2017, Chinese investment in Indonesia was almost exclusively dominated by controlling stakes. Since then, minority stakes (10–49 percent) by private Chinese companies have become an increasingly important part of China's overall investment into the country.

The quality of Rhodium Group Core China OFDI data covering Indonesia is generally better than for other countries in Southeast Asia due to better local reporting on financial transactions. However, by only capturing major FDI transactions, our dataset still undercounts China's actual investment footprint in Indonesia by omitting smaller-scale greenfield investments by Chinese nationals. We also do not capture "hidden" investments in the informal sector of the economy, like small retail or services operations established by Chinese expatriates. In terms of investment value, about 50 percent of transactions in our sample do not have a disclosed value. If we were to

estimate the value of these transactions value based on historical patterns in the same industry, it would likely add several billions of dollars to our estimates of cumulative investment.

## 1.4 Chinese FDI in Cambodia

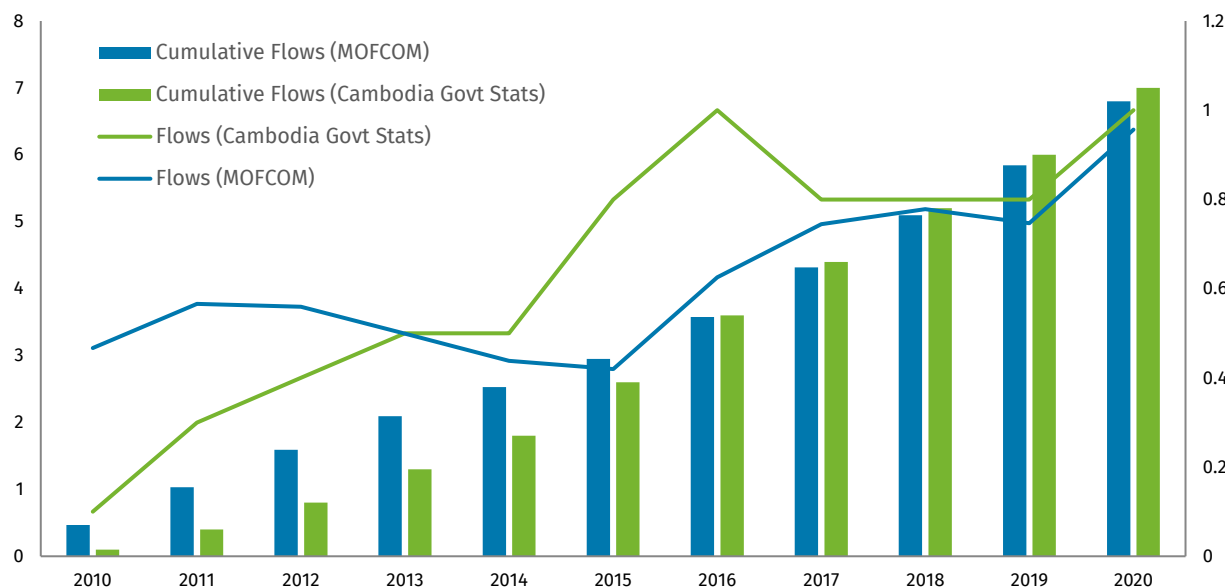
China’s aid and lending relationship with Cambodia is substantial, and analyst estimates China has provided more than \$1.8 billion in aid and development finance since 2000.<sup>27</sup> While aid flows and other projects are well-documented, China’s FDI footprint in Cambodia is more difficult to grasp, due in part to data challenges.

ASEAN statistics show \$7 billion of cumulative Chinese investment in Cambodia, which is the third-lowest value in the region only ahead of Myanmar and Brunei.<sup>28</sup> MOFCOM data show slightly less than \$7 billion of cumulative Chinese FDI from 2010 to 2020 but do not provide any additional details on the industry distribution or other breakdowns (Figure 8).

FIGURE 7

### Cambodian vs. MOFCOM Statistics: Chinese Investments in Cambodia, Cumulative Flows, 2010–2020

USD billions, LHS cumulative flows, RHS annual flows



Source: National Institute of Statistics of the Ministry of Planning of Cambodia, MOFCOM, Rhodium Group analysis.

Given the nature of Chinese investment in Cambodia, Rhodium Group’s Core China OFDI dataset only includes 16 transactions from 2008 through 2020 worth about \$6 billion (Figure 9). This is certainly an undercount of the true scope of Chinese investment in the country and reflects the shortcomings of the “Core China OFDI” dataset to detect smaller scale transactions and activity in the informal sector of the economy. However, examining specific transactions still offers a sense that Chinese investment is fairly uniformly distributed across a number of sectors, but transport and infrastructure accounts for more than 50 percent of value since 2008.

<sup>27</sup> Rhodium Group analysis of AidData, “Global Chinese Development Finance Dataset, Version 2.0,” 2021. <https://www.aiddata.org/data/aiddatas-global-chinese-development-finance-dataset-version-2-0>.

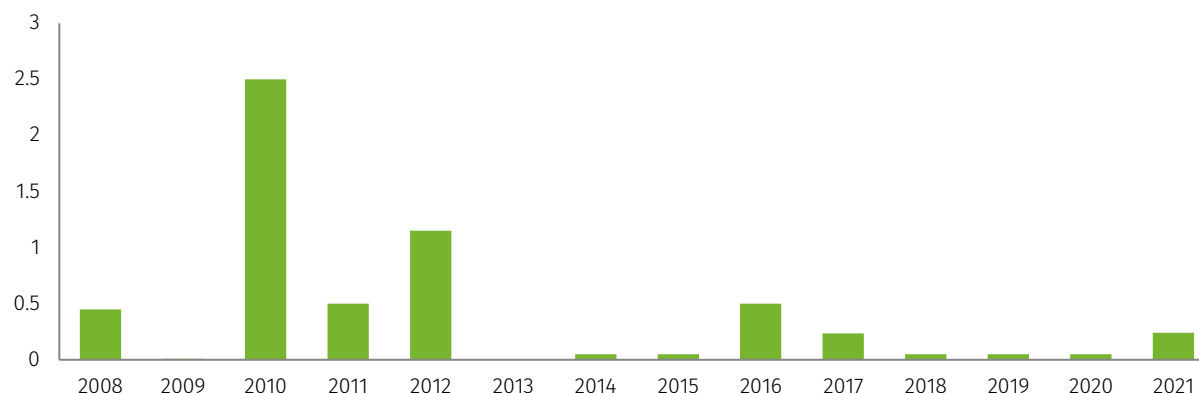
<sup>28</sup> Rhodium Group analysis of ASEANstat data.



FIGURE 8

**Rhodium Group Transaction Data: Chinese Investment Flows into Cambodia, 2008–2021**

USD billions



Source: Rhodium Group. Based on Rhodium's Core China OFDI dataset, which includes transactions with publicly available values above \$1 million only.

China's state-owned enterprises account for more than one-third of the total value of these transactions. Most projects are in the real estate and light manufacturing industries. Compared to Indonesia, we see fewer next-generation investments, including in fintech and other rapidly growing investment spaces. Some of the largest projects are summarized in Table 3.

TABLE 3

**Major Chinese FDI Transactions in Cambodia, 2010–2021**

Investor	Target	Estimated Investment Size	Announced Date
Guangdong Guangken Rubber (Group)	Farming Project	\$70.5 million	November 2012
Hongdou Group	Sihanoukville Special Economic Zone Investments	\$75 million	November 2013
The Bank of East Asia	Prasac Microfinance Institution	\$78 million	March 2017
Jiangsu General Science Technology	Tire Factory	\$200 million	June 2021
Guangzhou Yuetai Group	Commercial Real Estate Construction	\$500 million	September 2018

Source: Rhodium Group. Based on Rhodium's Core China OFDI dataset, which includes transactions above \$1 million only.

Cambodia is an even clearer illustration than Indonesia of the importance of expanding alternative data collection to include estimations of informal flows and transactions without public identifiers. Cambodia is in close geographic proximity to China, has a large Sino-Khmer community as well as a significant resident population of Chinese citizens, and has a large informal sector. Combined with historically poor—though improving—statistical reporting by the Cambodian government and civil society institutions (media, think tanks, etc.) that track economic activity,<sup>29</sup> these characteristics mean that many FDI transactions are not readily traceable through public sources.

<sup>29</sup> See the National Institute of Statistics (Cambodia), *National Strategy for the Development of Statistics 2019–2023*, November 2018, <https://www.nis.gov.kh/nis/NSDS/NSDS%20book.pdf>; Japan International Cooperation Agency, Project on Enhancing the Investment-Related Services of Council for the Development of Cambodia, March 2013, [https://openjicareport.jica.go.jp/pdf/12113619\\_01.pdf](https://openjicareport.jica.go.jp/pdf/12113619_01.pdf).

## 2. The ESG Impacts of Chinese Outbound FDI in Southeast Asia

China's economic engagement with Southeast Asia has helped power regional growth, but analysis also suggests that over the last two decades, China's economic actors—from firms to banks—have contributed to lasting environmental damage, disrupted local or traditional communities, and promoted corruption in countries around the region. As the nature of China's outbound investment shifts, ESG concepts are becoming integral to international markets; listed companies in Hong Kong are required to participate in some ESG disclosure, while China has voluntary rules for ESG matters. But ESG is complex, as there is no single global standard for ESG disclosure, and practices that are applicable in one domain may not be applicable to others. We review existing knowledge of the sustainability impacts of China's global investment before examining the impact of China's investment on Indonesia and Cambodia to date.

### 2.1 Impacts of China's Global Investment: Diverse Outcomes

ESG concepts overlap with existing initiatives focusing on the potential impact of investment on environmental, human rights, or political outcomes. As China's global investment footprint has expanded, the potential for Chinese firms to impact these outcomes has only increased, and existing studies offer a mixed picture of the impacts of Chinese investment. While acknowledging the benefits for recipient countries in the form of development and economic growth, analyses also identify a host of negative impacts on emerging market and developing country recipients of China's FDI.

Environmental protection is a recurring challenge for projects that receive financing from Chinese institutions, though China's development projects appear to be gradually improving. Analysis of projects financed by China's main policy banks—the Export-Import Bank of China and China Development Bank—finds that on average, these projects present a greater threat to biodiversity and environmental protection than projects that receive multilateral funding from the World Bank.<sup>30</sup> However, along with changing patterns of investment and lending in recent years, there has been a decline in the number of Chinese policy bank-financed projects located in environmentally sensitive locations and on indigenous peoples' lands since 2018.<sup>31</sup> Chinese FDI—especially in extractives or natural resources, agriculture, and infrastructure—has been implicated in environmental degradation and threats to local biomes, including in Africa and Latin America where China's investment has concentrated in environmentally sensitive sectors.<sup>32</sup> China's investments in energy are a good example, showing both progress and ongoing challenges. To date, the greatest proportion of China's energy sector FDI has gone to coal assets, with clear environmental implications. However, this situation is changing, as Boston University data show that financing for

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<sup>30</sup> See Hongbo Yang et al., "Risks to Global Biodiversity and Indigenous Lands from China's Overseas Development Finance," *Nature Ecology & Evolution* (September 20, 2021). <https://doi.org/10.1038/s41559-021-01541-w>. The author notes that some World Bank project sites were located in riskier areas for social and environmental protection.

<sup>31</sup> See, for example, Rebecca Ray et al., "A Shifting Course: Environmental and Social Governance during and after the "China Boom" in the Amazon Basin," *GCI Working Paper 024*, October 2022. [https://www.bu.edu/gdp/files/2022/09/GCI\\_WP\\_024\\_FIN.pdf](https://www.bu.edu/gdp/files/2022/09/GCI_WP_024_FIN.pdf).

<sup>32</sup> Yuan Wang and Simon Zadek, "Sustainability Impacts of Chinese Outward Direct Investment: A Review of the Literature," *International Institute for Sustainable Development (IISD)*, January 2016.

fossil fuel power generation peaked in 2015,<sup>33</sup> and investments in renewable energy are taking up an increasing share of China's outward investment in power generation. FDI has driven much of the growth in renewables.<sup>34</sup> Yet hydropower projects, the largest destination of Chinese investment in renewables, pose their own environmental risks,<sup>35</sup> and other investments in carbon-intensive industries may offset the environmental benefits of China's increasing support for renewable energy assets.

Similarly, the social impacts of China's investments—how those investments affect local communities—vary widely. Specifically, questions over Chinese firms' treatment of local workers and displacement of local labor with workers from China have lingered since at least the early 2000s;<sup>36</sup> China's investments in specific sectors like mining have featured especially poor safety records.<sup>37</sup> However, in other cases, analysts find China's enterprises do not present worker health and safety threats, instead contributing to host country worker training and the creation of new local jobs in more productive sectors—like low- and semi-skilled manufacturing (such as assembly line work),<sup>38</sup> construction and real estate, and services<sup>39</sup>. This contrasts theories of labor displacement. Analysts point out that while there is substantial variation in Chinese firms operating abroad, these firms are sometimes subject to special scrutiny due to nationality, and firms that have a neutral impact (or demonstrate good practices) are rarely publicized.<sup>40</sup> At the same time, documented cases of corruption among China's foreign direct investments pose challenges for recipient governance.<sup>41</sup>

Major differences between Chinese investors at least partly explain these outcomes. Chinese firms operating overseas vary widely in their understanding of local and Chinese law, their capacity to evaluate impact of firm actions on local communities, and their long-term planning and outlook. Research on Chinese investment in Africa, for example, finds that the scope of negative impacts varies widely by company size, sector, ownership, and the host country regulatory environment.<sup>42</sup> Of these characteristics, ownership seems highly important. One study finds that larger and/or state-owned firms are associated with larger, more complex, and environmentally and socially

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<sup>33</sup> Cecilia Springer, "Testimony before the U.S.-China Economic and Security Review Commission China's Energy Plans and Practices," March 17, 2022. [https://www.uscc.gov/sites/default/files/2022-03/Cecilia\\_Han\\_Springer\\_Testimony.pdf](https://www.uscc.gov/sites/default/files/2022-03/Cecilia_Han_Springer_Testimony.pdf).

<sup>34</sup> Cecilia Springer, Yangsiyu Lu, and Hua-ke (Kate) Chi, "Understanding China's Global Power: 2022 Update," *GCI Policy Brief* 016, October 2022. [https://www.bu.edu/gdp/files/2022/10/GCI\\_PB\\_016\\_CGP\\_EN\\_FIN.pdf](https://www.bu.edu/gdp/files/2022/10/GCI_PB_016_CGP_EN_FIN.pdf).

<sup>35</sup> Chiyembekezo S. Kaunda, Cuthbert Z. Kimambo, and Torbjorn K. Nielsen, "Hydropower in the Context of Sustainable Energy Supply: A Review of Technologies and Challenges," *ISRN Renewable Energy* 2012, December 27, 2012. <https://downloads.hindawi.com/archive/2012/730631.pdf>.

<sup>36</sup> See Deborah Bräutigam and Xiaoyang Tang, "African Shenzhen: China's Special Economic Zones in Africa," *Journal of Modern African Studies* 49:1 (2011), 27–54. <http://dx.doi.org/10.1017/S0022278X10000649>.

<sup>37</sup> Graeme Smith, "Beijing's Orphans? New Chinese Investors in Papua New Guinea," *Pacific Affairs* 83:2 (June 2013): 327–349. <http://dx.doi.org/10.5509>.

<sup>38</sup> Linda Calabrese and Xiaoyang Tang, "Africa's Economic Transformation: The Role of Chinese Investment," *DFID-ESRC Growth Research Programme Synthesis Report*, June 2020. <http://cdn-odi-production.s3-website-eu-west-1.amazonaws.com/media/documents/DEGRP-Africas-economic-transformation-the-role-of-Chinese-investment-Synthesis-report.pdf>.

<sup>39</sup> Irene Yuan Sun, Kartik Jayaram, and Omid Kassiri, "Dance of the Lions and Dragons: How Are Africa and China Engaging, and How Will the Partnership Evolve?" *McKinsey*, June 2017. <https://www.mckinsey.com/-/media/mckinsey/featured%20insights/middle%20east%20and%20africa/the%20closest%20look%20yet%20at%20chinese%20economic%20engagement%20in%20africa/dance-of-the-lions-and-dragons.ashx>.

<sup>40</sup> David H. Shinn, "The Environmental Impact of China's Investment in Africa," *Cornell Journal of International Law* 49:1 (2016). <https://www3.lawschool.cornell.edu/research/ILJ/upload/Shinn-final.pdf>.

<sup>41</sup> Don Weinland, "China to Tackle Corruption in Belt and Road Projects," *Financial Times*, July 18, 2019. <https://www.ft.com/content/a5815e66-a91b-11e9-984c-fac8325aaa04>.

<sup>42</sup> Irene Yuan Sun and Xiaoyang Tang, "Social Responsibility or Development Responsibility - What Is the Environmental Impact of Chinese Investments in Africa: What Are Its Drivers, and What Are the Possibilities for Action," *Cornell International Law Journal* 49 (2016): 33. <https://www3.lawschool.cornell.edu/research/ILJ/upload/Xiaoyang-Sun-final.pdf>.

sensitive projects, but also benefit from more robust internal policies, more frequent discussions with Chinese officials, and better capacity to address emerging problems with investments and undertake CSR initiatives.<sup>43</sup> Conversely, private firms making large overseas investments, especially “hot” inflows in sectors like gambling or real estate, may lack clear incentives to work with host countries and mitigate adverse investment effects. However, outcomes can vary widely by company and sector.<sup>44</sup>

A key issue—and one that is seen in the case studies described in this report—is that China’s domestic environmental and social investment policies are generally stricter than policies governing overseas investments and come with explicit enforcement mechanisms. Chinese law has required that foreign enterprises investing overseas only meet the environmental standards of the host country, even if those standards fall below those normally required for Chinese domestic investment projects.<sup>45</sup> Beyond this, there are no binding environmental requirements for Chinese investments abroad, although there are a host of nonbinding and advisory policies promoting “green” investment and environmental responsibility for companies operating overseas.<sup>46</sup> Although China continues to develop new regulations and recent guidelines are beginning to encourage firms to follow international standards in environmental protection, these initiatives remain voluntary.

Existing research directly comparing Chinese firms’ environmental and social impacts to the impacts of firms from other countries is somewhat limited. Focusing on development and infrastructure finance, studies examining China’s BRI suggest Chinese banks have less developed environmental and social oversight systems and regulations compared to multilateral development banks or Japanese and Korean overseas development agencies.<sup>47</sup> Several studies document how China’s overseas projects, including aid projects and those funded by Chinese banks, can have negative ESG impacts. Some work also suggests Chinese foreign direct investors are more active in countries with less developed ESG regimes than investors from other countries and are therefore operating more frequently in contexts with lower preexisting regulatory baselines. Going as far back as the 1990s, for example, research suggests Japanese firms tended to invest in countries with relatively more robust environmental frameworks, as opposed to those with weak environmental regulations.<sup>48</sup> Whether this is due to investor preference for weaker regulation or Chinese firms being “crowded out” of strong investments in countries with more developed regulatory regimes is debated.<sup>49</sup>

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<sup>43</sup> See Rafiq Dossani, Jennifer Bouey, and Keren Zhu, “Demystifying the Belt and Road Initiative: A Clarification of Its Key Features, Objectives and Impacts,” *RAND Working Paper* WR-1338, May 2020. [https://www.rand.org/pubs/working\\_papers/WR1338.html](https://www.rand.org/pubs/working_papers/WR1338.html), as cited in Shawn Shieh et al., “Understanding and Mitigating Social Risks to Sustainable Development in China’s BRI: Evidence from Nepal and Zambia,” *ODI Report*, April 2021. [https://cdn.odi.org/media/documents/ODI\\_social\\_risks\\_BRI\\_Nepal\\_and\\_Zambia\\_final0104.pdf](https://cdn.odi.org/media/documents/ODI_social_risks_BRI_Nepal_and_Zambia_final0104.pdf).

<sup>44</sup> Linda Calabrese, Olena Borodyna, and Rebecca Nadin, “Risks along the Belt and Road: Chinese Investment and Infrastructure Development in Cambodia,” *ODI Report*, April 2022. [https://cdn.odi.org/media/documents/Risks\\_along\\_the\\_Belt\\_and\\_Road\\_-\\_Chinese\\_investment\\_and\\_infrastructure\\_developm\\_GWjzjoz.pdf](https://cdn.odi.org/media/documents/Risks_along_the_Belt_and_Road_-_Chinese_investment_and_infrastructure_developm_GWjzjoz.pdf).

<sup>45</sup> State Council in Kelly Sims Gallagher and Qi Qi, “Chinese Overseas Investment Policy: Implications for Climate Change,” *Global Policy* 12:3 (May 2021). <http://dx.doi.org/10.1111/1758-5899.12952>.

<sup>46</sup> State Council in Kelly Sims Gallagher and Qi Qi, “Chinese Overseas Investment Policy: Implications for Climate Change,” *Global Policy* 12:3 (May 2021). <http://dx.doi.org/10.1111/1758-5899.12952>.

<sup>47</sup> Guomei Zhou, Yulong Shi, and Kevin P. Gallagher, “Green Belt and Road Initiative and the 2030 SDGs,” *China Council for International Cooperation on Environment and Development*, September 2020. <https://www.bu.edu/gdp/files/2020/09/SPS-4-1-Green-BRI-and-2020-Agenda-for-Sustainable-Development.pdf>.

<sup>48</sup> Colin Kirkpatrick and Kenichi Shimamoto, “The Effect of Environmental Regulation on the Locational Choice of Japanese Foreign Direct Investment,” *Applied Economics* 40:11 (June 2008): 1399–1409. <https://doi.org/10.1080/00036840600794330>.

<sup>49</sup> Ivar Kolstad, and Arne Wiig, “What Determines Chinese Outward FDI?” *Journal of World Business*, Focus on China Special Section, 47, no. 1 (January 1, 2012): 26–34. <https://doi.org/10.1016/j.jwb.2010.10.017>.

However, it is less clear if Chinese foreign direct investors—whether state-owned enterprises (SOEs) or private firms—perform more poorly than investors from other countries in the same sector and host country context, even if the quality of EIAs conducted by Chinese companies overseas are problematic relative to investors from other countries.<sup>50</sup> Here, evidence is limited. Metanalysis by Wang and Zidek (2016) identifies fewer than 10 studies that directly compare Chinese investors to firms from the Organization for Economic Cooperation and Development (OECD) or other large developing economies.<sup>51</sup> Much of the existing analysis on labor relations in Chinese investment projects in Africa, for example, focuses on large-scale firms or projects, especially those in construction, textiles, or extractives, as these were the major sectors for foreign investment during the 2000s. Analysis of Chinese work in the mining sector finds that while specific Chinese firms had poor labor relationships and elevated social risks, this was not unique to Chinese firms but instead common across investors in those sectors.<sup>52</sup> Analysis also indicates that Chinese firms differ primarily in their higher number of serious accidents, but otherwise they had similar environmental and social impacts when compared to firms from other countries.<sup>53</sup> More recent work in Kenya suggests that while Chinese firms sometimes displayed poor labor rights policies and practices, US firms were vulnerable to similar criticism.<sup>54</sup>

## 2.2 Impacts of Chinese Investment in Indonesia

In the early 2000s, most of China's investment activities in Indonesia were in high-emissions sectors like infrastructure, hydropower, and coal mining. Accordingly, China's impact on Indonesia's ecosystems has been heavily scrutinized. Supported by BRI, China's investment portfolio in Indonesia has now expanded and includes manufacturing for the broader Southeast Asian markets, including solar manufacturing, vehicles (including EVs), and other industries. At present, China is attempting to broaden its green energy investment scope in Indonesia by constructing Indonesia's biggest hydropower plant and setting up an industry for the manufacturing of solar cells.

However, studies suggest the impact of existing Chinese investment on Indonesia's environment has been mixed. Pramono et al. (2022) recently used remote sensing data to identify risks to biodiversity and local communities from Chinese investment projects, finding that the concentration of investments in sensitive sectors—like coal power, extractives, and infrastructure—has caused vegetation loss and threatened endangered species.<sup>55</sup> Investments from Chinese firms have also presented social risks, including corruption and labor rights issues, which

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<sup>50</sup> Yuan Wang and Simon Zidek, "Sustainability Impacts of Chinese Outward Direct Investment: A Review of the Literature," *International Institute for Sustainable Development*, January 2016. <https://www.iisd.org/system/files/publications/sustainability-impacts-chinese-outward-direct-investment-literature-review.pdf>.

<sup>51</sup> Yuan Wang and Simon Zidek, "Sustainability Impacts of Chinese Outward Direct Investment: A Review of the Literature," *International Institute for Sustainable Development*, January 2016. <https://www.iisd.org/system/files/publications/sustainability-impacts-chinese-outward-direct-investment-literature-review.pdf>.

<sup>52</sup> See, among others, Barry Sautman and Yan Hairong, "The Chinese Are the Worst?: Human Rights and Labor Practices in Zambian Mining," *Maryland Series in Contemporary Asian Studies* 3 (2012).

<sup>53</sup> Amos Irwin and Kevin P. Gallagher, "Chinese Investment in Peru: A Comparative Analysis," *Tufts University Global Development and Environment Institute*, 2012.

<sup>54</sup> Zander Rounds and Hongxiang Huang, "We Are Not So Different: A Comparative Study of Employment Relations at Chinese and American Firms in Kenya," *Working Paper No. 2017/10, China Africa Research Initiative, School of Advanced International Studies, Johns Hopkins University*, 2017. <https://static1.squarespace.com/static/5652847de4b033f56d2bdc29/t/58da9416e4fcb5845eb6da4a/1490719767135/zander+vi.pdf>. Older work focusing on Cambodia found no major wage discrepancies between Chinese and US firms. See Julia Kubny and Hinrich Voss, "The Impact of Chinese Outward Investment: Evidence from Cambodia and Vietnam," *Discussion Paper, Deutsches Institut für Entwicklungspolitik*, 2010, 16.

<sup>55</sup> Albertus Hadi Pramono et al., "China's Belt and Road Initiative in Indonesia: Mapping and Mitigating Environmental and Social Risks," *GCI Working Paper 021*, July 2022. [https://www.bu.edu/gdp/files/2022/07/GCI\\_WP\\_021\\_FIN.pdf](https://www.bu.edu/gdp/files/2022/07/GCI_WP_021_FIN.pdf).

can be compounded by complex relationships between the Chinese diaspora and Indonesians of Chinese descent and other groups and political actors in Indonesia.<sup>56</sup>

On the positive side, some studies suggest China's FDI has contributed significantly to local economic growth.<sup>57</sup> For example, after the foundation of the Morowali Industrial Park (IMIP), the economic growth of Central Sulawesi Province (where the park is located) increased to over 13 percent annually, much higher than the national average of 5 percent.<sup>58</sup> In addition, while foreign companies tend to invest in high-emissions sectors, research by the OECD Investment Policy Review found that foreign firms, including Chinese ones, are more energy efficient than domestic firms.<sup>59</sup>

The risks of Chinese investment in Indonesia appear set to increase with the passage of the Omnibus Law in 2020, which amended and relaxed over 1,200 articles and regulations—including regulations on environment, forestry, fisheries, investment, and spatial planning—in an effort to streamline and boost FDI.<sup>60</sup> Among the most controversial articles of the Omnibus Law is the repeal of the current regulation requiring at least 30 percent of forest area to be conserved for each watershed area or island. The Omnibus Law also eases the requirements for businesses to carry out an EIA as a precondition to obtaining a business license and limits public consultation to only those who are directly affected by the specific project. Previous major Chinese investment projects in Indonesia, including the Jakarta-Bandung High-Speed Rail project, have been criticized for poor adherence to Indonesia's environmental and social impact evaluation regulations.<sup>61</sup>

### 2.3 Impacts of Chinese Investment in Cambodia

Investment from China has helped fund needed infrastructure<sup>62</sup> and propelled economic growth in sectors across the Cambodian economy, including textiles and real estate. However, some of China's investment has come at a substantial cost. Analysts, nongovernmental organizations (NGOs), opposition political figures, and others have alleged that some Chinese projects have damaged Cambodia's environment, promoted corruption, and harmed the interests of Cambodian workers.<sup>63</sup> While proponents often cite the economic benefits of Chinese investment, other analysis argues that the spillover effects of a given project to the wider Cambodian economy may be limited<sup>64</sup> and

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<sup>56</sup> Evi Fitriani, "Indonesia's Wary Embrace of China," in *Beyond Blocs: Global Views on China and US-China Relations*, Mercator Institute for China Studies, August 18, 2022. <https://merics.org/en/indonesias-wary-embrace-china>.

<sup>57</sup> Tham Siew Yean and Siwage Dharma Negara, "Chinese Investments in Industrial Parks: Indonesia and Malaysia Compared," *ISEAS - Yusof Ishak Institute*, September 2020. [https://www.think-asia.org/bitstream/handle/11540/12747/ISEAS\\_EWP\\_2020-08\\_Tham\\_Negara.pdf?sequence=1](https://www.think-asia.org/bitstream/handle/11540/12747/ISEAS_EWP_2020-08_Tham_Negara.pdf?sequence=1).

<sup>58</sup> Tham Siew Yean and Siwage Dharma Negara, "Chinese Investments in Industrial Parks: Indonesia and Malaysia Compared," *ISEAS - Yusof Ishak Institute*, September 2020, 19–20. [https://www.think-asia.org/bitstream/handle/11540/12747/ISEAS\\_EWP\\_2020-08\\_Tham\\_Negara.pdf?sequence=1](https://www.think-asia.org/bitstream/handle/11540/12747/ISEAS_EWP_2020-08_Tham_Negara.pdf?sequence=1).

<sup>59</sup> Organization for Economic Cooperation and Development, "OECD Investment Policy Reviews: Indonesia 2020." <https://doi.org/10.1787/b56512da-en>.

<sup>60</sup> Phelim Kine, "Indonesia's New Omnibus Law Trades 'Green Growth' for Environmental Ruin," *Diplomat*, October 24, 2020. <https://thediplomat.com/2020/10/indonesias-new-omnibus-law-trades-green-growth-for-environmental-ruin/>.

<sup>61</sup> Arpan Rachman and Andi Aisyah Lamboge, "Bungled Jakarta-Bandung High-Speed Rail Line Causes Chaos," *China Dialogue*, July 28, 2020. <https://chinadialogue.net/en/transport/bungled-jakarta-bandung-high-speed-rail-line-causes-chaos/>.

<sup>62</sup> Fang Hu et al., "Chinese Enterprises' Investment in Infrastructure Construction in Cambodia," *Asian Perspective* 43:1 (2019): 177–207. <https://doi.org/10.1353/apr.2019.0006>.

<sup>63</sup> Fang Hu et al., "Chinese Enterprises' Investment in Infrastructure Construction in Cambodia," *Asian Perspective* 43:1 (2019): 177–207, 191.

<sup>64</sup> Julia Kubny and Hinrich Voss, "The Impact of Chinese Outward Investment: Evidence from Cambodia and Vietnam," *Discussion Paper*, *Deutsches Institut für Entwicklungspolitik*, 2010, 16.

that large Chinese infrastructure and investment projects in Cambodia provide much in the way of technology and knowledge transfer for Cambodian firms.<sup>65</sup>

Hydropower projects and dams, which have large physical presences that can affect local biodiversity and have implications for local communities that are often forced to resettle, are among the most widely studied types of investment, and researchers have found numerous ESG issues.<sup>66</sup> Other academics have found that non-infrastructure investments in Cambodia, such as manufacturing plants, generally encounter fewer issues.<sup>67</sup> An important finding in the literature is that many of the adverse outcomes of Chinese investment are exacerbated due to lax enforcement on the part of local officials.<sup>68</sup> A study examining Chinese businessmen who engage in bribery, for example, points to the environment of corruption in Cambodia and the need to adhere to local practices to do business.<sup>69</sup> Accordingly, case studies of Chinese projects in Cambodia (including by Cambodian organizations) find noncompliance with environmental and social standards and Cambodian laws and widespread conflicts of interest in both aid and loan projects<sup>70</sup> and investments, including negative impacts in Sihanoukville.<sup>71</sup> One recurring challenge is Chinese firms' adherence to Cambodia's environmental and SIA regulations. Limited public access to project reporting documents, such as EIAs and SIAs, exacerbates challenges with compliance monitoring.<sup>72</sup> Cambodian law lacks detailed requirements for the implementation of EIAs and clear designation of responsibility for public disclosure, resulting in a more permissive environment for government actors and firms to sidestep safeguards. In April 2023, Cambodia's Council of Ministers approved a new Environment and Natural Resources Code. Earlier draft versions of the code dictate more defined responsibilities for government oversight and instate more articulated disclosure requirements. Cambodia's institutional context is also challenging, government agencies have limited—but improving—capacity to process assessments, consulting firms approved to conduct them vary widely in qualifications, and local elites and politicians can influence how projects are treated.<sup>73</sup>

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<sup>65</sup> Frauke Urban et al., "South–South Technology Transfer of Low-Carbon Innovation: Large Chinese Hydropower Dams in Cambodia," *Sustainable Development* 23:4 (2015): 232–244. <https://doi.org/10.1002/sd.1590>.

<sup>66</sup> Emilio F. Moran, et al., "Sustainable Hydropower in the 21st Century," *Proceedings of the National Academy of Sciences* 115, no. 47 (November 20, 2018): 11891–98. <https://doi.org/10.1073/pnas.1809426115>; Atif Ansar, et al., "Should We Build More Large Dams? The Actual Costs of Hydropower Megaproject Development," *Energy Policy* 69 (June 1, 2014): 43–56. <https://doi.org/10.1016/j.enpol.2013.10.069>.

<sup>67</sup> Julia Kubny and Hinrich Voss, "The Impact of Chinese Outward Investment: Evidence from Cambodia and Vietnam," *Discussion Paper*, *Deutsches Institut für Entwicklungspolitik*, 2010, 16.

<sup>68</sup> Heng Pheakdey, "Hydropower and Local Community: A Case Study of the Kamchay Dam, a China-Funded Hydropower Project in Cambodia," *Community Development* 48:3 (May 27, 2017): 385–402. <https://doi.org/10.1080/15575330.2017.1304432>.

<sup>69</sup> Terence Chong, "The Politics behind Cambodia's Embrace of China," *ISEAS Perspective* 2017:59 (2017). [https://www.iseas.edu.sg/images/pdf/ISEAS\\_Perspective\\_2017\\_59.pdf](https://www.iseas.edu.sg/images/pdf/ISEAS_Perspective_2017_59.pdf).

<sup>70</sup> Future Forum, "Building towards Constructive Capital: Cambodia," March 2022.

[https://www.futureforum.asia/\\_files/ugd/5198b8\\_f304c506e2b46359ca2ec26c50edd21.pdf](https://www.futureforum.asia/_files/ugd/5198b8_f304c506e2b46359ca2ec26c50edd21.pdf); Sokphea Young, "China's Belt and Road Initiative: Patron-Client and Capture in Cambodia," *Chinese Journal of Comparative Law* 8:2 (September 2020): 414–434. <https://doi.org/10.1093/cjcl/cxaa025>.

<sup>71</sup> Linda Calabrese, Olena Borodyna, and Rebecca Nadin, "Risks along the Belt and Road: Chinese Investment and Infrastructure Development in Cambodia," *ODI Report*, April 2022. [https://cdn.odi.org/media/documents/Risks\\_along\\_the\\_Belt\\_and\\_Road\\_-\\_Chinese\\_investment\\_and\\_infrastructure\\_developm\\_GWjzjoz.pdf](https://cdn.odi.org/media/documents/Risks_along_the_Belt_and_Road_-_Chinese_investment_and_infrastructure_developm_GWjzjoz.pdf).

<sup>72</sup> Thy Try and David Hindley, "Open EIA Reporting and Contracting for Sustainable Land and Natural Resource Development in Cambodia," *World Bank Land and Poverty Conference 2019*, (2019). [https://data.opendatacambodia.net/library\\_record/open-eia-reporting-and-contracting-for-sustainable-land-and-natural-resource-development-in-cambodi](https://data.opendatacambodia.net/library_record/open-eia-reporting-and-contracting-for-sustainable-land-and-natural-resource-development-in-cambodi)

<sup>73</sup> Sam Chanthy and Clemens M. Grünbühel. "Critical Challenges to Consultants in Pursuing Quality of Environmental and Social Impact Assessments (ESIA) in Cambodia," *Impact Assessment and Project Appraisal* 33:3 (July 3, 2015): 226–232. <https://doi.org/10.1080/14615517.2015.1049488>.

## 3. Methodology: A Framework for Evaluating Sustainability and ESG Impacts

Although Chinese firms' aggregate investments in Indonesia and Cambodia have clear ESG implications, determining the ESG risks and impacts of specific investments is more complex. There is no universal, ready-built framework to evaluate ESG, and existing frameworks differ in their principles, reliance on quantitative indicators, and sectoral approaches. In this section, we explore the concepts underpinning ESG and develop a cross-cutting framework to evaluate ESG concepts across countries and sectors.

### 3.1 ESG Concepts: Many Facets of Sustainability

ESG has no single definition, and the concepts continue to evolve and blur even as ESG principles (and ESG labeling) become more important to real corporate and investor decision-making. The core concept underpinning ESG is considering “sustainability” across multiple dimensions. But depending on the context, ESG can describe:

- **A type of business:** A business may be “ESG positive” by nature of its core business activity (e.g., solar energy generation, organic agriculture).
- **A corporate goal:** Companies may be “ESG focused” simply by identifying/claiming that their company has goals or purposes in addition to profitmaking for shareholders.
- **A set of criteria for constructing investment portfolios:** Companies that perform well on ESG metrics may be included in particular portfolios or investment indices.
- **A set of voluntary reporting/disclosure standards:** For instance, a company may voluntarily describe its environmental impacts (e.g., emissions/power sources) or carbon intensity.
- **A set of mandated/legally required reporting/disclosure standards**
- **A set of risk disclosures**
- **A set of standards for corporate activity**
- **A type of corporate activity:** For instance, purchasing carbon offsets, donating to various social or political causes, and social activity may overlap with traditional CSR or diversity, equity, and inclusion (DEI) mandates.

The challenge is compounded by the numerous evaluation frameworks that claim to assess ESG. While certain types of activity may be considered ESG-relevant by a given organization, framework, or scheme, they are rejected by others. Consulting firm, McKinsey, for example, includes economic growth as an ESG factor in its annual ESG disclosures,<sup>74</sup> while other frameworks may evaluate everything from data protection practices to a company's

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<sup>74</sup> McKinsey, “2022 ESG Report: A Year of Impact,” 2022. <https://www.mckinsey.com/about-us/social-responsibility/esg-report-overview>.



product labeling. Compounding the challenge, even highly specific evaluation standards may be designed for development projects or for organizing broad investment portfolios—not discrete FDI projects.

Accordingly, to evaluate four cases of FDI from Chinese firms in Cambodia and Indonesia, we have developed our own ESG framework with cross-sectoral applicability. Our ESG evaluation framework is based on a review of multilateral development agency environmental and social impact standards as well as principles underpinning ESG criteria and ratings systems for equity and other asset markets (Table 4).

TABLE 4  
Selected ESG Frameworks

Source	Title	Description	Primarily Applies to
Sauvant and Mann (2019) <sup>75</sup>	Making FDI More Sustainable: Towards a List of FDI Sustainability Characteristics	Gathers indicators of impacts of FDI flows on sustainable development.	FDI
UN Conference on Trade and Development (UNCTAD) <sup>76</sup>	Core Indicators for Entity Reporting on Contribution towards Implementation of SDGs	Core indicators for assessing company impact on the UN's Sustainable Development Goals (SDGs).	Companies, both local and foreign
World Bank <sup>77</sup>	The World Bank Environmental and Social Framework	Sets environmental and social project requirements in order to obtain World Bank financing.	Development projects
World Bank <sup>78</sup>	The World Bank Sovereign Environmental, Social, and Governance Data Framework	A set of indicators that allow researchers and sovereign nations to track national ESG performance over time.	Countries
United Nations <sup>79</sup>	Indicators of Sustainable Development	Groupings of country-level themes of sustainable development to measure how countries are meeting their SDGs.	Countries
Organization for Economic Cooperation and Development (OECD) <sup>80</sup>	FDI Quality Indicators	Indicators that show how FDI affects sustainable development in host countries and how FDI may affect the UN's SDGs.	FDI
Global Real Estate Sustainability Benchmark (GRESB) <sup>81</sup>	Infrastructure Asset Investment	Provides metrics to analyze ESG performance of infrastructure projects at the asset level.	Infrastructure assets

Source: Rhodium Group analysis.

<sup>75</sup> Karl P. Sauvant and Howard Mann, "Making FDI More Sustainable: Towards an Indicative List of FDI Sustainability Characteristics," *Journal of World Investment & Trade* 20 (December 2019): 916–952. <https://papers.ssrn.com/abstract=3509771>.

<sup>76</sup> United Nations Conference on Trade and Development, "Guidance on Core Indicators for Entity Reporting on Contribution towards Implementation of the Sustainable Development Goals," August 6, 2019. <https://doi.org/10.18356/1902575e-en>.

<sup>77</sup> World Bank, "The World Bank Environmental and Social Framework," 2016. <https://thedocs.worldbank.org/en/doc/837721522762050108-0290022018/original/ESFFramework.pdf>.

<sup>78</sup> World Bank, "Sovereign ESG Data Framework." <https://datatopics.worldbank.org/esg/framework.html>.

<sup>79</sup> United Nations, "Sustainable Development Indicators." <https://unstats.un.org/sdgs>.

<sup>80</sup> Organization for Economic Cooperation and Development, "FDI Quality Indicators: 2022." [https://read.oecd-ilibrary.org/view/?ref=1144\\_1144750-15ks4jvtm&title=FDI-Qualities-Indicators-2022](https://read.oecd-ilibrary.org/view/?ref=1144_1144750-15ks4jvtm&title=FDI-Qualities-Indicators-2022).

<sup>81</sup> Global Real Estate Sustainability Benchmark, "Infrastructure Asset Assessment." <https://www.gresb.com/nl-en/infrastructure-asset-assessment/>.

Using these frameworks as a starting point, our framework consists of three clusters: Environmental Sustainability (E), Social Safeguards and Protection (S), and Governance (G) (referring to both corporate governance and investment impact on host country governance). Each cluster evaluates up to five ESG themes, with criteria laid out on a five-tier rating scale ranging from **Good** to **Poor** (Table 5). Where possible, and where data are available, each variable includes quantitative indicators that may inform our ultimate ESG rating. Our derived indicators are those that occur most frequently across ESG frameworks and theoretical literature.

TABLE 5  
**Evaluation Scale for ESG Variables**

5	4	3	2	1	Not Applicable/NA
Activity reflects global best practices.	Most activity conforms to global best practices.	Some activity is consistent with best practices.	Most activity does not conform to global best practices.	Most activity does not conform to global best practices and creates clear harm.	No data or insufficient data available/indicator is not relevant to the project.

Source: Rhodium Group.

For each case, we do not offer a composite rating attempting to average or otherwise blend cluster ratings; we evaluate environmental, social, and governance impacts individually.

### 3.2 Environmental Sustainability (E)

Environmental sustainability refers to a greenfield investment’s impact on the surrounding environment and ecosystem throughout both the construction process and the project’s ongoing operations. Taken broadly, environmental sustainability assessments can consider not only the impact of a project’s ongoing pollution on its immediate surroundings but also how the investment’s inputs, construction, processes (including manufacturing/processing/generation processes), and energy mix may affect environments or climates far removed from the investment site. Key indicators include impact on the natural area immediately around the project (e.g., air and water pollutants) and effects on the local ecosystem. An additional concern is the project’s overall carbon footprint.

TABLE 6

**Environmental Indicators – Characteristics and Descriptions**

Characteristic	Description	Measurement (where available)
Low carbon/renewable energy	Reducing intensity of carbon emissions. Includes the use of renewable energy in products and services or promotion of the use of renewable energy in its activities.	Percentage of electricity as renewable energy (or composition of grid electricity); estimated carbon intensity
Air	Includes obligations on multinational enterprises to undertake their activities with due regard to reducing pollution and low air quality.	Emissions intensity; air pollution (particulate)
Land and biodiversity	Includes protection of natural habitats, species, and other biodiversity indicators.	Change in forest area cover; reports of deforestation; habitat changes; proximity to protected areas
Water	Includes water pollution control but also water uses, water allocation, and water quantity.	Water consumption; water pollution; proximity to waterways, such as rivers
Compliance and reporting	Extent to which the entity reports on environmental issues (including the public disclosure of an EIA) and the impact assessment conforms to international standards.	EIA access; company website and features; other public disclosures

**3.3 Social Safeguards and Protection (S)**

We define the “social” pillar of ESG as referring both to an *internal* aspect of how a company interacts with its labor force as well as an *external* impact on the local community. Many ESG frameworks focus primarily on a company’s internal labor and employment practices, while others may neglect labor rights in favor of community consultation and possible displacement. In determining the impact of Chinese FDI, it is critical to examine how investment projects affect local laborers and workers as well as the impact on the wider community.

TABLE 7

**Social Indicators – Characteristics and Descriptions**

Characteristic	Description	Measurement (where available)
Labor rights	Includes, among others, association and union rights, no presence of forced or compulsory labor, clear contracts and legal recourse for workers, and fair wages and conditions.	Use of child or forced labor; hostility toward unionization or labor groups; wages and pay conditions
Worker health and safety	Protections for workers, including availability of health and safety equipment, known workplace or industrial accidents, and other factors.	Fatalities/injuries reported; compliance with national labor standards; health leave and/or costs; COVID-19 mitigation
Community engagement and cultural heritage protection	Includes substantive consultations with affected communities before, during, and after project implementation, to include grievance mechanisms; safeguards to protect historical and other cultural heritage sites.	Survey results in community SIA document
Resettlement	In addition to aspects relating to the minimization of resettlement, clear guidelines and standards for compensation, and follow-through.	Existence of corporate policies around resettlement issues; SIA document
Compliance and reporting	Includes the extent to which the entity reports on social issues (including the disclosure of an SIA) and any assessments are compliant with local and international standards.	SIA; company website; public disclosures

Source: UNCTAD Report on the Sustainable Development Goals (2018); UNCTAD Guidance on Core Indicators for Entity Reporting on Contribution towards Implementation of the Sustainable Development Goals (2019); Karl P. Sauvant and Howard Mann, “Making FDI More Sustainable: Towards an Indicative List of FDI Sustainability Characteristics,” December 2019; Rhodium Group analysis.

### 3.4 Governance (G)

As traditionally defined, “governance” in ESG frameworks often refers to *corporate* governance: a company’s structure and management policies (including policies governing board operations and conflicts of interest, shareholder rights, and pay). It may also consider business ethics and regulatory compliance and disclosure. This sometimes makes governance an awkward companion to environmental and social frameworks, which focus on tangible external impacts. However, governance concerns can extend beyond the board room, also considering corruption and firm impacts on *host country* governance.<sup>82</sup> Our framework takes this broader approach.

ESG frameworks sometimes split on how governance interacts with environmental and social considerations, as governance can also implicate *operational* governance: the systems to manage environmental and social risks.<sup>83</sup> This also means governance can easily become a catchall concept and is difficult to measure. For clarity, we consider operational governance relating to social and environmental and social sustainability—for example, company requirements and processes governing EIAs—in their respective clusters.

It is often difficult to evaluate governance on a comparative scale or with quantitative inputs. This study deploys a different strategy to evaluate governance using a nine-question screening checklist. To incorporate corporate governance considerations, it also evaluates (where possible) select characteristics of the investor and parent company.

TABLE 8  
Governance Indicators – Characteristics and Descriptions

Characteristic	Criteria
<b>Transparency</b>	Does the company have audit controls, including an internal audit committee?
<b>Transparency</b>	Does the company utilize third-party audits?
<b>Transparency</b>	Is information on the company’s senior management team publicly available?
<b>Transparency</b>	For investment projects, is there disclosure of the investment timeline, management, investment partners, contractors, and other information, such as a dedicated online portal for the project?
<b>Reporting and transparency</b>	Does the investing company (or its parent company) issue an annual ESG report?
<b>Reporting and transparency</b>	Does the company provide quantitative metrics on the company’s total ESG impact?
<b>Reporting and transparency</b>	Does the ESG report contain project-level information?
<b>Corruption and fraud</b>	Has the company been implicated in corruption or bribery scandals, either within the host country or in other countries, in open-source reports?
<b>Ownership disclosure</b>	Does the parent (investing) company disclose its own shareholders in sufficient detail?

Source: Based on UNCTAD Report on the Sustainable Development Goals (2018); UNCTAD Guidance on Core Indicators for Entity Reporting on Contribution towards Implementation of the Sustainable Development Goals (2019); Karl P. Sauvant and Howard Mann, “Making FDI More Sustainable: Towards an Indicative List of FDI Sustainability Characteristics,” *Journal of World Investment & Trade* 20 (December 2019): 916–952; Rhodium Group analysis.

<sup>82</sup> Karl P. Sauvant, and Howard Mann, “Making FDI More Sustainable: Towards an Indicative List of FDI Sustainability Characteristics,” 2019. <https://papers.ssrn.com/abstract=3509771>; Emma Aisbett, et al. “Rethinking International Investment Governance: Principles for the 21st Century,” *Columbia Center on Sustainable Investment*, (2018).

[https://scholarship.law.columbia.edu/cgi/viewcontent.cgi?article=1000&context=sustainable\\_investment\\_books](https://scholarship.law.columbia.edu/cgi/viewcontent.cgi?article=1000&context=sustainable_investment_books).

<sup>83</sup> PWC, “ESG Oversight: The Corporate Director’s Guide,” 2022. <https://www.pwc.com/us/en/services/governance-insights-center/pwc-esg-oversight-the-corporate-director-guide.pdf>.

## 4. Case Studies: Recent Chinese Investment Projects in Indonesia and Cambodia

China’s engagement with Southeast Asia is changing and expanding from traditional sectors of engagement. To examine how these new patterns are affecting Chinese firms’ ESG impacts, we selected four greenfield investments from our database of several thousand investment projects in Cambodia and Indonesia. Each investment project is recent and features a sector that departs from traditional Chinese investment patterns into emerging or “next-generation” sectors for Chinese investment. The evaluation framework is applied to these investments to determine their ESG implications.

TABLE 9

**ESG Impacts of “Next-Generation” Chinese Investment: Four Investment Cases**

Investment Project	Country	“Next-Gen” Investments
PT. QMB New Energy Materials (Morowali Industrial Park)	Indonesia	Mineral processing for alternative batteries
Sorik Marapi & Sokoria Generation Plants	Indonesia	Geothermal power generation
Dara Sakor Park	Cambodia	Integrated real estate and tourism/hospitality
CART Tire Co, Ltd (Qilu Special Economic Zone)	Cambodia	“Green” (tire) manufacturing for the Southeast Asia market

Source: Rhodium Group research.

In Indonesia, the first case, **PT. QMB New Energy Materials**, offers a perspective on large investments in the new energy materials sector in one of the largest—and most controversial—Chinese industrial parks in Indonesia. The second case study, **Sorik Marapi and Sokoria Geothermal Plants**, highlights the environmental risks of the surge in alternative energy projects as Chinese investors move away from large coal and hydropower projects in the region.

In Cambodia, the third case study, **Dara Sakor**, analyzes a complex series of Chinese investments spanning services and real estate sectors of the kind that are coming to dominate Cambodian cities like Sihanoukville and Phnom Penh. Lastly, the fourth case study of Chinese firm Sailun’s **CART Tire Co**—built in a China-funded green development zone—shows the promise and shortcomings of Chinese firms as they react to new green development guidance from Beijing and around the world.

## 4.1 Case Study: PT. QMB New Energy Materials (Morowali Industrial Park)

### 4.1.1 Background

QMB New Energy Materials (PT. QMB), located in Indonesia’s Morowali Industrial Park (IMIP), is one of many Chinese investments seeking to capture surging demand for critical battery materials. This case study assesses the project’s nickel ore high pressure acid leaching (HPAL) plant. HPAL processing is one of the few options for converting low-grade nickel deposits into suitable inputs for lithium-ion batteries.<sup>84</sup> Given the global shortage of battery-grade nickel, HPAL plants are one of the only alternative options. But such plants are potentially environmentally hazardous, and this rising sector of the lithium-ion battery supply chain has major ESG sensitivities.

TABLE 10  
Overview of the PT.QMB New Energy Materials Project

<b>AKA</b>	Indonesian Nickel Resource Project
<b>Chinese name</b>	青美邦新能源材料有限公司
<b>Investment Mode</b>	FDI, Joint Venture
<b>Estimated value</b>	USD 998 million <sup>85</sup> (total investment)
<b>Year(s) established</b>	2018
<b>Registered Capital<sup>86</sup></b>	USD 299.4 million <sup>87</sup>
<b>Location</b>	Morowali Industrial Park (IMIP), Central Sulawesi Province
<b>Formal Name</b>	PT. QMB New Energy Materials
<b>Investors and ownership structure<sup>88</sup></b>	New Horizon International Holding, Ltd (Hong Kong) (21%) PT. Indonesia Morowali Industrial Park (10%) Hanwa Co Ltd (Japan) (8%) Jingmen GEM Co., Ltd (China) (36%) GEM Hong Kong International Co. Ltd (6%) ECOPRO Global Co., Ltd (South Korea) (9%) HK Brunp Resource Recycling Technology Co., Ltd (10%)

In total, through direct and indirect control, GEM Group owns 63% of the company.

PT. QMB New Energy Materials is a subsidiary of Shenzhen’s GEM Co. Ltd (“GEM Group”), which mines, recycles, processes, and distributes rare earth and other metals and new energy materials critical to batteries and other manufacturing.<sup>89</sup> In September 2018, Jingmen GEM, a subsidiary of GEM Group, joined a consortium that planned to construct a 50,000 metric tons/year nickel and 4,000 metric tons/year cobalt production plant for EV battery use at IMIP in Central Sulawesi Province. The plant was later incorporated into PT. QMB. Other co-investors of the

<sup>84</sup> Henrique Ribeiro, et al., “Rising EV-Grade Nickel Demand Fuels Interest in Risky HPAL Process,” *S&P Global*, March 3, 2021.

<https://www.spglobal.com/commodityinsights/en/market-insights/blogs/metals/030321-nickel-hpal-technology-ev-batteries-emissions-environment-mining>.

<sup>85</sup> “格林美股份有限公司关于变更部分募集资金投资项目的公告 [GEM Co., Ltd. Announcement of Changes to Some Investment Funding for Projects],” April 2021. <http://static.cninfo.com.cn/finalpage/2021-04-28/1209832597.PDF>.

<sup>86</sup> In China, registered capital refers to the total amount of investment into the company promised by the founders when they apply for a corporate license.

<sup>87</sup> “格林美股份有限公司关于印尼青美邦镍资源项目建设进度的进展公告 [GEM Co., Ltd. Announcement on the Construction Progress of the QMB Indonesia Nickel Resource Project],” July 2022. <http://static.cninfo.com.cn/finalpage/2022-07-25/1214123753.PDF>.

<sup>88</sup> “格林美股份有限公司关于印尼青美邦镍资源项目建设进度的进展公告 [GEM Co., Ltd. Announcement on the Construction Progress of the QMB Indonesia Nickel Resource Project],” July 2022. <http://static.cninfo.com.cn/finalpage/2022-07-25/1214123753.PDF>.

<sup>89</sup> GEM is a publicly listed company on the Shenzhen Stock Exchange (002340.SZ).

plant include China’s Tsingshan Group and Contemporary Amperex Technology (CATL), with minority stakes held by Japan’s Hanwa Co. Ltd. and IMIP itself through the project finance company PT. IMIP.

Phase 1 of the project, with 30,000 metric tons/year nickel production capacity, was originally planned for completion by 2021 but was delayed by the COVID-19 pandemic. On September 26, 2022, GEM Group announced that Phase 1 of the project was complete and operations had commenced.<sup>90</sup> In August 2022, GEM Group announced it would invest a further \$375 million in PT. QMB to increase total production capacity of nickel to 73,000 metric tons/year,<sup>91</sup> but the project’s production scale is typical of nickel projects in Indonesia.<sup>92</sup>

#### 4.1.2 ESG Performance

TABLE 11

##### Environmental Sustainability

Characteristic	Rating	Remarks
<b>Low carbon/ renewable energy</b>	3	Three carbon-intensive coal-fired power plants, with over 2 gigawatts of capacity, power IMIP, including PT. QMB’s industrial operations. <sup>93</sup> Little information is available on the efficiency of these plants.
<b>Air</b>	1	Detailed information on the PT. QMB’s project’s air pollution impact is unavailable. Anecdotal accounts from local clinics report an increased rate of respiratory infection since the broader park activity began, and the area is a hotspot of NO <sub>2</sub> pollution compared to surrounding areas. <sup>94</sup>
<b>Land and biodiversity</b>	NA	No additional land was cleared for the construction of PT. QMB, reducing impacts to land and biodiversity from the project’s site selection. However, PT. QMB’s waste disposal practices could present risks to biodiversity.
<b>Water</b>	2	PT. QMB’s tailings disposal dam risks polluting nearby protected marine areas with hazardous waste materials, and construction activities pose risks to marine ecosystems. <sup>95</sup> Hua Pioneer Indonesia (another joint venture in IMIP) was responsible for implementing an on-land tailings disposal dam. There is a risk of marine pollution from mud and silt disturbed by construction activities. Adjacent marine areas are protected and designated as limited-use zones. <sup>96</sup>
<b>Compliance and reporting</b>	1	GEM annual reports do not include environmental reporting at a project level; a project EIA exists but is not available on official government disclosure websites or by web search and could not be evaluated. <sup>97</sup>

<sup>90</sup> “格林美股份有限公司关于印尼青美邦镍资源项目建设进度的进展公告 [GEM Co., Ltd. Announcement on the Construction Progress of the QMB Indonesia Nickel Resource Project],” September 2022. <http://static.stockstar.com/announcement/stock/2022-09-27/1214683693.PDF>.

<sup>91</sup> “关于投资印尼镍资源新增 2.3 万吨镍/年项目的公告 [Announcement of Investment in Indonesia Nickel Resources Project for an Additional 23,000 Tons of Nickel per Year],” August 2022. <http://www.cninfo.com.cn/new/disclosure/detail?plate=szse&orgId=9900010252&stockCode=002340&announcementId=1214290837&announcementTime=2022-08-14%2012:00>.

<sup>92</sup> “印尼镍产业全景梳理 [Survey of Indonesia’s Nickel Industry],” *Essence Securities*, March 2022. [https://pdf.dfcfw.com/pdf/H3\\_AP202203151552784535\\_1.pdf?1647361558000.pdf](https://pdf.dfcfw.com/pdf/H3_AP202203151552784535_1.pdf?1647361558000.pdf).

<sup>93</sup> PT. QMB aims to produce 50,000 metric tons of nickel per year. HPAL nickel processing typically emits 20 kg CO<sub>2</sub>-eq/kg nickel.

<sup>94</sup> Biemo W. Soemardi and Toong-Khuan Chan, “China’s Belt and Road Initiative in Indonesia,” in Toong-Khuan Chan and Krishna Suryanto Pribadi, *Construction in Indonesia*, 1st ed., Routledge, 2022, 131–142. <https://doi.org/10.1201/9781003149866-9>.

<sup>95</sup> PT. QMB is projected to discharge tailings at a rate of about 25 million metric tons per year. See The People’s Map, “Indonesia Morowali Industrial Park (IMIP),” November 2021. <https://thepeoplesmap.net/project/indonesia-morowali-industrial-park-imip/>.

<sup>96</sup> Muhammad Rushdi et al., “Fast and Furious for Future: The Dark Side of Electric Vehicle Battery Components and Their Social and Ecological Impacts in Indonesia,” *Rosa Luxemburg Stiftung*, 2020. [https://www.rosalux.de/fileadmin/images/publikationen/Studien/Fast\\_and\\_Furious\\_for\\_Future.pdf](https://www.rosalux.de/fileadmin/images/publikationen/Studien/Fast_and_Furious_for_Future.pdf); Totok Gunawan, Hasnia, and Sigit Herumurti, “Kajian Kerusakan Lingkungan Akibat Kegiatan Penambangan Bijih Nikel Di Kecamatan Bahodopi Kabupaten Morowali Provinsi Sulawesi Tengah [Study of Environmental Damage Due to Nickel Mining Activity in Bahodopi District Morowali Regency Central Sulawesi Province],” March 2018. <https://repository.globethics.net/handle/20.500.12424/167655>.

<sup>97</sup> GEM Co. Ltd., “GEM Co. Ltd. 2021 Annual Report.” April, 2022.; GEM Co. Ltd., “GEM Co. Ltd. 2020 Annual Report.” April 13, 2021.

Our assessment finds that PT. QMB presents clear environmental risks. It is difficult to isolate the effects of PT. QMB from the broader environmental impacts of IMIP, but what can be isolated suggests PT. QMB may put marine habitats at risk and contribute to air particulate pollution and poor carbon outcomes. The factory uses the HPAL<sup>98</sup> process on nickel ores to extract battery “precursors” that are later used in battery manufacturing. Although the HPAL method is less greenhouse gas (GHG)-intensive than some other nickel processing methods,<sup>99</sup> it is still two to three times as emissions-intensive as production from high-quality nickel, requires toxic chemicals onsite, and generates substantial waste byproducts, all of which have direct implications for PT. QMB’s environmental sustainability. Even before QMB began production, IMIP’s incumbent nickel factories—mostly powered by polluting coal-fired plants—were damaging the surrounding environment and waterways.<sup>100</sup> Nickel processing waste and mud from construction has affected aquatic species and irrigation channels, with fishermen reporting a decline in local fish populations and residents claiming damage to forest resources such as resin and rattan.<sup>101</sup>

PT. QMB will add to these risks through ore processing byproducts (“tailings”). PT. QMB originally planned to dispose of its tailings by dumping them at sea, a method that is almost obsolete in the mining industry because of its devastating impacts on marine life<sup>102</sup> and water quality.<sup>103</sup> Changes in Indonesian policy to deny new dumping permits<sup>104</sup> are forcing PT. QMB and other processors to build an on-land tailings dam (in effect a giant holding pond for byproducts), risking catastrophic failure given Indonesia’s exposure to earthquakes.<sup>105</sup> Isolating the impact on air pollution of any particular investment within the industrial park is challenging, but local health sources suggest

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<sup>98</sup> HPAL processing is one of the few options available to convert low-grade nickel deposits into suitable inputs for lithium-ion batteries. However, there have been several cases in which HPAL plants were unsuccessful in producing high-quality nickel. Plants with production levels above 40,000 tpa (tonnes per annum), such as PT. QMB, are more likely to encounter this issue due to challenges in scaling up the chemical conversion process. HPAL processing produces an acid slurry that must be properly neutralized before returning to natural water systems. This slurry waste produced by the plant generally requires its own storage facility, as the rate of waste production exceeds the plant’s rate of recycling.

Henrique Ribeiro, Jacqueline Holman, and Lucy Tang, “Rising EV-Grade Nickel Demand Fuels Interest in Risky HPAL Process,” *S&P Global*, March 3, 2021. <https://www.spglobal.com/commodityinsights/en/market-insights/blogs/metals/030321-nickel-hpal-technology-ev-batteries-emissions-environment-mining>. See also Benchmark Mineral Intelligence, “ESG and Nickel – Wading through the Issues,” January 31, 2020. <https://www.benchmarkminerals.com/membership/esg-and-nickel-wading-through-the-issues/>; Matt Geiger, “The Great Laterite Challenge: Why Scaling Class 1 Nickel Production Won’t Be Easy, Cheap, or Environmentally Friendly,” *The Assay* (blog), January 18, 2021. <https://www.theassay.com/articles/investor-insight/the-great-laterite-challenge-why-scaling-class-1-nickel-production-wont-be-easy-cheap-or-environmentally-friendly/>.

<sup>99</sup> International Energy Agency, “The Role of Critical Minerals in Clean Energy Transitions,” May 2021, 196, 199. <https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions>.

<sup>100</sup> Ian Morse, “Coal-Powered Industrial Parks Test Indonesia’s Climate Pledges – and China’s Too,” *China Dialogue*, March 2022. <https://chinadialogue.net/en/energy/coal-powered-industrial-parks-test-indonesias-climate-pledges-and-chinas-too/>.

<sup>101</sup> Arianto Sangadji, Muh Fardan Ngoyo, and Pius Ginting, “Road to Ruin: Challenging the Sustainability of Nickel-Based Production for Electric Vehicle Batteries,” *Rosa Luxemburg Stiftung*, November 2019. <https://www.rosalux.de/en/publication/id/44018>.

<sup>102</sup> Including endangered species like certain coral species.

<sup>103</sup> Of the world’s 2,500 mines, fewer than 20 use sea tailings disposal due to its impacts on biotic and abiotic marine factors. Fransiska Nangoy and Wilda Asmarini, “Indonesia Approves Environmental Study for Battery-Grade Nickel Plants: Minister,” *Reuters*, January 8, 2020. <https://www.reuters.com/article/us-indonesia-politics/indonesia-approves-environmental-study-for-battery-grade-nickel-plants-minister-idUSKBN1Z7182>.

<sup>104</sup> Fransiska Nangoy and Fathin Ungku, “Exclusive: Facing Green Pressure, Indonesia Halts Deep-Sea Mining Disposal,” *Reuters*, February 5, 2021. <https://www.reuters.com/article/us-indonesia-mining-environment-exclusive-idUSKBN2A50UV>; Henry Sanderson, “Nickel Drama Highlights Tsingshan’s Role in Energy Transition,” *China Dialogue* (blog), May 13, 2022. <https://chinadialogue.net/en/business/nickel-drama-highlights-tsingshans-role-in-energy-transition/>.

<sup>105</sup> Sea tailings disposal is disfavored as a waste management solution for HPAL processing due to environmental concerns. See David M. Chambers and Bretwood Higman, “Long Term Risks of Tailings Dam Failure,” Center for Science in Public Participation, Bozeman, Montana, October 2011. [https://ofmpub.epa.gov/eims/eimscomm.getfile?p\\_download\\_id=513583](https://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=513583).



the coal-fired power plants needed for PT. QMB (and the rest of IMIP) are causing increased respiratory problems and exacerbating tuberculosis, with a local health center reporting a 30 percent increase in patients suffering from acute respiratory infection between 2017 and 2018.<sup>106</sup>

Indonesian law required PT. QMB to conduct an EIA prior to project approval. It also mandates relevant government agencies to disclose both the draft and the final version of the EIA to the public in an accessible, prompt, and low-cost manner.<sup>107</sup> However, as of 2022 this EIA was not accessible online or in government databases, and PT. QMB has no official website to offer additional disclosures. While IMIP and PT. QMB's other shareholders reference the plant in corporate sustainability and ESG reports, these reports cover the firms' general ESG initiatives, favoring social initiatives over environmental impact reporting and offering little quantitative information. There is no concrete information on GHG emissions, water usage intensity, waste disposal, or other pertinent environmental information.

TABLE 12

**Social Safeguards and Protection**

Characteristic	Rating	Remarks
<b>Labor rights</b>	3	In its company reporting, GEM has reported positive outcomes for workers' rights and working conditions, but at the park level, IMIP workers reportedly have poor labor conditions and wages. Since 2012, there have been ongoing park-wide strikes to protest low wages and poor working conditions, disrupting mining operations. <sup>108</sup>
<b>Worker health and safety</b>	3	GEM has reported high standards for worker safety and successful COVID mitigation. However, these reports do not align with reported instances of safety violations occurring across IMIP.
<b>Community engagement and cultural heritage protection</b>	3	GEM's report disclosed that the company has contributed to local education by funding a master's degree scholarship for Indonesian students. <sup>109</sup> Other information on community engagement is limited. Many reported socioeconomic impacts are associated with IMIP and cannot be traced to PT. QMB.
<b>Resettlement</b>	NA	No apparent direct resettlement concerns; GEM has not disclosed any company-wide policy on resettlement compensation.
<b>Compliance and reporting</b>	2	GEM and PT. IMIP report on CSR initiatives but do not review actual impacts on community impacts; SIA exists but is not publicly accessible; no company website for reporting.

There is limited information available about the direct socioeconomic impacts of PT. QMB. The firm claims it has made positive contributions to social outcomes, including creating jobs for residents, offering educational opportunities, and providing COVID-19 resources for park workers. However, the project has received criticism for harming local businesses and for allegedly holding workers against their will during COVID-19 testing. While there is no evidence of GEM workers being mistreated or underpaid, at the park level, workers reportedly face exploitative working conditions and relatively low wages, and protests have been ongoing since 2012.<sup>110</sup>

<sup>106</sup> Arianto Sangadji, Muh Fardan Ngoyo, and Pius Ginting, "Road to Ruin: Challenging the Sustainability of Nickel-Based Production for Electric Vehicle Batteries," *Rosa Luxemburg Stiftung*, November 2019. <https://www.rosalux.de/en/publication/id/44018>.

<sup>107</sup> Government of Indonesia, *Decree of the Minister of Environment of the Republic of Indonesia Number 17 of 2012 on Public Participation in AMDAL and Environmental Permit, No: 17 PERMEN-LH S (2012)*; Government of Indonesia, *Law of the Republic of Indonesia Number 32 of 2009 on Environmental Protection and Management*, (2009).

<sup>108</sup> Arianto Sangadji, Muh Fardan Ngoyo, and Pius Ginting, "Road to Ruin: Challenging the Sustainability of Nickel-Based Production for Electric Vehicle Batteries," *Rosa Luxemburg Stiftung*. [https://www.rosalux.de/fileadmin/rls\\_uploads/pdfs/engl/Nickel\\_Study\\_FINAL.pdf](https://www.rosalux.de/fileadmin/rls_uploads/pdfs/engl/Nickel_Study_FINAL.pdf).

<sup>109</sup> GEM Group, "2020 Corporate ESG Report." <https://www.gem.com.cn/uploadfiles/2021/04/20210419174007441.pdf>.

<sup>110</sup> Arianto Sangadji, Muh Fardan Ngoyo, and Pius Ginting, "Road to Ruin: Challenging the Sustainability of Nickel-Based Production for Electric Vehicle Batteries," *Rosa Luxemburg Stiftung*, November 2019. <https://www.rosalux.de/en/publication/id/44018>.

### *Creation of local employment and educational opportunities*

PT. QMB has offered educational opportunities and created jobs for locals, including funding a master's program in metallurgy at the Central South University in China in 2019, offering a scholarship for Indonesian students, and using PT. QMB as a training center. GEM also established a nickel engineering lab at the industrial park for the master's program,<sup>111</sup> with the first cohort of 21 Indonesian students graduating in June 2022.<sup>112</sup>

According to GEM Group's 2021 ESG report, the QMB nickel plant has employed over 2,500 locals during the construction phase. GEM Group estimated that after operation starts, 800 jobs will be created. Since the project came online in September 2022, reporting on the size of the project's actual workforce is not yet available. At the park level, IMIP employs over 35,000 Indonesian workers, contributing to a reduction in unemployment in Central Sulawesi, which consistently has a much lower unemployment rate than Indonesia's other provinces.<sup>113</sup> Since IMIP began operation, many domestic migrants have come searching for jobs, creating business opportunities for locals, such as renting out accommodations and opening food stalls, and the zone as a whole has provided some donations and aid to the surrounding community.<sup>114</sup>

### *Disruption to local livelihoods*

Despite its contribution to economic growth, the industrial park has been criticized for having some negative socioeconomic impacts on the community. Locals claim PT. QMB's impact on water sources has disrupted their sources of income. For example, residents in adjacent communities have experienced declining water quality and lower fish numbers in local waterways, forcing them to travel farther out to sea to fish.<sup>115</sup> This is due to submarine wastewater disposal from IMIP (including from the production process), runoff from coal stockpiles, hot water from the cooling process of coal-fired power plants, and domestic wastewater.<sup>116</sup>

### *Treatment of workers*

Local and Chinese media reports do not directly allege that PT. QMB workers have been mistreated or underpaid. However, since 2012, workers in IMIP have organized a series of park-wide strikes in protest of exploitative labor conditions, such as being forced to pay fees to secure jobs, insecure labor contracts, low wages in terms of purchasing power, racial discrimination, and safety hazards. Several trade unions have also lobbied for secure employment contracts for all workers at the park.<sup>117</sup> Additionally, IMIP's aggressive campaign against COVID-19 was

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<sup>111</sup> GEM Group, "2020 Corporate ESG Report." <https://www.gem.com.cn/uploadfiles/2021/04/20210419174007441.pdf>.

<sup>112</sup> GEM Co. Ltd., "Writing a New Chapter of Science and Technology Exchange to Create a Green and Bright Future—Warm Congratulations on the Successful Graduation of the First China-Indonesia Joint Training Master Class in Metallurgical Engineering," June 18, 2022. [https://www.gem.com.cn/CompanyNews/info\\_itemid\\_5840.html](https://www.gem.com.cn/CompanyNews/info_itemid_5840.html).

<sup>113</sup> Tham Siew Yean and Siwage Dharma Negara, "Chinese Investments in Industrial Parks: Indonesia and Malaysia Compared," *ISEAS - Yusof Ishak Institute*, September 2020, 40.

<sup>114</sup> However, the beneficiaries have been limited to households in Bahodopi, the district where the park is located. The park's management has granted sewing machines to mothers, repaired elementary school buildings, offered food assistance, and provided agricultural aid, among other acts of assistance. Arianto Sangadji, Muh Fardan Ngoyo, and Pius Ginting, "Road to Ruin: Challenging the Sustainability of Nickel-Based Production for Electric Vehicle Batteries," *Rosa Luxemburg Stiftung*, November 2019. <https://www.rosalux.de/en/publication/id/44018>.

<sup>115</sup> Indonesia Morowali Industrial Park, "The People's Map of China." <https://thepeoplesmap.net/project/indonesia-morowali-industrial-park-imip/>.

<sup>116</sup> Wardi Bania, "Chinese-Backed Smelter Plan Causes Concern among Sulawesi Fisherman," *Mongabay*, March 31, 2015. <https://news.mongabay.com/2015/03/chinese-backed-smelter-plan-causes-concern-among-sulawesi-fishermen/>.

<sup>117</sup> Arianto Sangadji, Muh Fardan Ngoyo, and Pius Ginting, "Road to Ruin: Challenging the Sustainability of Nickel-Based Production for Electric Vehicle Batteries," *Rosa Luxemburg Stiftung*. [https://www.rosalux.de/fileadmin/rls\\_uploads/pdfs/engl/Nickel\\_Study\\_FINAL.pdf](https://www.rosalux.de/fileadmin/rls_uploads/pdfs/engl/Nickel_Study_FINAL.pdf).

criticized, as workers were not allowed to enter or leave the site without “written permission” from their supervisors out of fear of a COVID-19 outbreak in early 2020.<sup>118</sup>

### *Data and reporting availability*

As in the case of the environment cluster, there is little information about the direct social impacts of PT. QMB. Most available information addresses the industrial park more broadly. GEM Group’s ESG reports discuss initiatives for PT. QMB workers, statements of compliance with labor laws and unions, and expressions of intent to encourage equitable hiring practices. There is no information on the implementation or results of these initiatives. While PT. IMIP periodically reports on CSR initiatives undertaken by the park to support its workers, efforts lack monitoring and evaluation to assess impacts. PT. QMB’s EIA likely includes an SIA, but this document is not publicly accessible. PT. QMB does not have an official website, nor has the company released SIAs in other forums.

TABLE 13

### **Governance**

<b>Characteristic</b>	<b>Question</b>	<b>Yes/No/NA</b>
<b>Transparency</b>	Does the company have audit controls, including an internal audit committee?	Yes
<b>Transparency</b>	Does the company utilize third-party audits?	Yes
<b>Transparency</b>	Is information on the company’s senior management team publicly available?	Yes
<b>Transparency</b>	For investment projects, is there disclosure of the investment timeline, management, investment partners, contractors, and other information, such as a dedicated online portal for the project?	No
<b>ESG reporting</b>	Does the investing company (or its parent company) issue an annual ESG report?	Yes
<b>ESG reporting</b>	Does the company provide quantitative metrics on its total ESG impact?	Yes. There is some data disclosure on the company’s efforts to reduce emissions and energy use, but no data on overall carbon emissions and pollution levels.
<b>ESG reporting</b>	Does the ESG report contain project-level information?	Yes. There is some disclosure on corporate initiatives at PT. QMB to protect the local environment, but no metrics provided.
<b>Corruption and fraud</b>	Has the company been implicated in corruption or bribery scandals, either within the host country or in other countries, in open-source reports?	No, based on available reports.
<b>Ownership disclosure</b>	Does the parent (investing) company disclose its own shareholders in sufficient detail?	Yes

<sup>118</sup> *Agence France-Presse*, “Wuhan Virus: Thousands on Coronavirus Lockdown at China-Backed Plant in Indonesia,” *Straits Times*, January 2020. <https://www.straitstimes.com/asia/se-asia/wuhan-virus-thousands-on-coronavirus-lockdown-at-china-backed-plant-in-indonesia>.

There is little information available on the governance of PT. QMB, but the governance information of GEM Group, the parent company, is clearer, fulfilling eight out of nine criteria. GEM discloses its yearly third-party audit reports at the corporate level, disclosing equity ownership of PT. QMB and the value of investments made into the project in its most recent 2023 audit. I.<sup>119</sup> Other project companies operating in Morowali and their shareholders have been audited and reported audit findings in the official documentation.<sup>120</sup>

Morowali's contribution to building Indonesia's capacities in a national priority sector, the EV supply chain, has earned projects in the park a classification of Proyek Strategis Nasional (PSN). As PSNs, projects in IMIP receive expedited licensing processes and reduced barriers to land procurement.<sup>121</sup> They pay taxes to the central and provincial governments rather than to the local government, reducing exposure to rent-seeking behavior by local officials. A portion of PT. QMB's tax payments go into a CSR fund to support the local community. The fund is disbursed by the government and allocated by a committee of local officials.<sup>122</sup> There are no reports of legal inquiries made about PT. QMB, but legal inquiries have been made regarding foreign workers' status and mining accidents in other projects in Morowali.<sup>123</sup>

Annual shareholder and ESG reports from GEM Group are the primary sources of governance information on the project. Corruption and legal inquiries were analyzed primarily by examining Indonesian and Chinese media reports. We could find only anecdotal evidence—chiefly from media reports and GEM annual reports—of interaction between the Morowali local government, the central Indonesian government, and PT. QMB. The lack of centralized information on PT. QMB is a primary challenge in analyzing the governance of the project.

#### 4.1.3 Takeaways

A major research challenge is separating the ESG profile of the PT. QMB nickel plant from the ESG profile of PT. IMIP and GEM Group. There is some disclosure and media coverage of IMIP's ESG profile, but existing information makes it difficult to evaluate the project-level impacts even of major, environmentally sensitive projects like PT. QMB.

The negative impacts of IMIP are reflected mainly through its poor labor conditions as well as health and environmental impacts. The area adjacent to the park saw an increase in respiratory disease cases and a reduction in fishery output. In addition, workers at IMIP have protested poor living conditions and low wages, but specific information on wages and compliance with work environment standards remains unclear.

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<sup>119</sup> Beijing Institute of Certified Public Accountants, “格林美股份有限公司审计报告 [GEM Co., Ltd. Audit Report],” April 26, 2022. [https://pdf.dfcfw.com/pdf/H2\\_AN202204271562041199\\_1.pdf?1651109376000.pdf](https://pdf.dfcfw.com/pdf/H2_AN202204271562041199_1.pdf?1651109376000.pdf). Asia Pacific (Group) CPAs (Special General Partnership), “格林美股份有限公司审计报告 [GEM Co., Ltd. Audit Report],” April 27, 2023. [https://pdf.dfcfw.com/pdf/H2\\_AN202304291586103732\\_1.pdf](https://pdf.dfcfw.com/pdf/H2_AN202304291586103732_1.pdf).

<sup>120</sup> Nickel Mines Limited, “Nickel Mines Limited Annual Report 2020,” 2020. [https://www.annualreports.com/HostedData/AnnualReports/PDF/ASX\\_NKL\\_2020.pdf](https://www.annualreports.com/HostedData/AnnualReports/PDF/ASX_NKL_2020.pdf).

<sup>121</sup> Tham Siew Yean and Siwage Dharma Negara, “Chinese Investments in Industrial Parks: Indonesia and Malaysia Compared,” *ISEAS - Yusof Ishak Institute*, September 2020, 40.

<sup>122</sup> Viriya P. Singgih, “Everyone Wants Slice of Emerging Morowali,” *Jakarta Post*, November 16, 2017. <https://www.thejakartapost.com/news/2017/11/16/everyone-wants-slice-emerging-morowali.html>.

<sup>123</sup> China Labor Watch, “Five Chinese Workers Employed in Indonesia Are Detained by Malaysia's Immigration Department (五名在印尼工作的中国工人被马来西亚移民局关押),” October 15, 2021. <https://chinalaborwatch.org/elementor-7031/>; Xu Zhenhua, “For Chinese Workers in Indonesia, No Pay, No Passports, No Way Home,” *Sixth Tone*, January 8, 2022. <https://www.sixthtone.com/news/1009399/for-chinese-workers-in-indonesia-no-pay-no-passports-no-way-home>; IndustriALL, “Urgent Need to Stop Mine Accidents at Indonesia Morowali Industrial Park,” March 8, 2022. <https://www.industrialall-union.org/urgent-need-to-stop-mine-accidents-at-indonesia-morowali-industrial-park>.

## 4.2 Case Study: PT. Sorik Marapi Geothermal (PT. SMGP)/PT. Sokoria Geothermal Indonesia (SGI)

### 4.2.1 Background

Geothermal energy is expected to play an integral role in Indonesia’s energy transition away from fossil fuels. The Government of Indonesia’s new Electricity Business Plan has set a target to add 3,400 megawatts (MW) to the country’s existing 2,175 MW of geothermal capacity by 2030.<sup>124</sup> With China committing to end financing for overseas coal power projects, Indonesia’s renewable energy sector presents an attractive alternative investment destination. PT. Sorik Marapi Geothermal (PT SMGP) in North Sumatra, a geothermal power plant majority-owned by Chinese company Kaishan Group, aims to fill part of this demand. Nonetheless, a series of gas leak accidents reveals gaps in management and operation standards. While China’s overseas renewable energy projects may help Indonesia’s quest to develop cleaner power, if safety concerns are not effectively managed, even green projects can still pose social and environmental threats to local communities.

TABLE 14  
Overview of the Sorik Marapi Geothermal Power Plant (PT SMGP)

<b>Chinese name</b>	Sorik Marapi 地热能有限公司
<b>Investment Mode</b>	Equity acquisition
<b>Estimated value</b>	Total estimated investment (all phases combined): \$940 million <sup>125</sup>
<b>Year(s) established</b>	Acquisition completed in 2016 <sup>126</sup>
<b>Operation</b>	Operation started in September 2019
<b>Location</b>	Purba Lamo, Lembah Sorik Marapi, Mandailing Natal Regency, North Sumatra
<b>Investors and ownership structure</b>	OTP Geothermal Pte. (95%) <sup>127</sup> PT Supraco Indonesia (5%)
<b>Main contractors</b>	EPC (engineering, procurement, and construction) contractor: <sup>128</sup> PowerChina, Kaishan Compressor Co.
<b>Generation Capacity</b>	45+45 MW (current); 50+50+50 MW (planned/under construction) <sup>129</sup> .

Founded in 1956 as a state-owned company and privatized in 1998, Zhejiang Kaishan Compressor Co. Ltd. (Kaishan Group Co. Ltd) is a publicly listed manufacturing company based in Zhejiang, China. Kaishan Group mainly

<sup>124</sup> PT PLN (Persero), “Solar Energy Development in Indonesia,” April 7, 2022. <https://reinvestindonesia.com/assets/source/materials/southkorea-2022/Cita%20Dewi%20-%20PLN.pdf>; Satya Widya Yudha, Benny Tjahjono, and Philip Longhurst, “Unearthing the Dynamics of Indonesia’s Geothermal Energy Development,” *Energies* 15:14 (July 8, 2022): 5009. <https://doi.org/10.3390/en15145009>.

<sup>125</sup> “开山集团股份有限公司关于对于深圳证券交易所关注函答复的公告 [Announcement from Kaishan Group Co. Responding to the Shenzhen Stock Exchange’s Letter of Concern],” *Kaishan Group Co.*, February 2022. <https://xinpi.stcn.com/finalpage/2022-02/10/1212337479.PDF>.

<sup>126</sup> “投资 9 亿美元，开山股份靠什么拿下印尼最大的地热发电项目？ [A \$900 Million Investment: How Did Kaishan Win Indonesia’s Largest Geothermal Power Project?],” *Jiemian News*, August 2017. <https://www.jiemian.com/article/1579677.html>.

<sup>127</sup> OPT Geothermal is a subsidiary of KS Orka, a subsidiary of Kaishan (joint venture with Hugar Orka ehf. See “投资 9 亿美元，开山股份靠什么拿下印尼最大的地热发电项目？ [A \$900 Million Investment: How Did Kaishan Win Indonesia’s Largest Geothermal Power Project?],” *Jiemian News*, August 2017. <https://www.jiemian.com/article/1579677.html>.

<sup>128</sup> AidData, “Global Chinese Development Finance Dataset, Version 2.0.” <https://www.aiddata.org/data/aiddatas-global-chinese-development-finance-dataset-version-2-0>, 2021, <https://china.aiddata.org/projects/62261/>.

<sup>129</sup> Announcements from company website. <http://www.kaishan-group.com/cnnews/8.html>, <http://www.kaishan-group.com/cnnews/9.html>.

manufactures and distributes construction and mining equipment such as rock drills, digging machines, and compressors to a global customer base. In recent years, it has expanded to international geothermal development, with most of its current and planned projects in Indonesia and the United States. Kaishan Group is the ultimate controller of three geothermal power projects in Indonesia: Sorik Marapi, Sokoria, and Simbolon Samosir, all through its subsidiary, KS Orka (Table 15).<sup>130</sup> As of 2022, Sorik Marapi and Sokoria are operational, while Simbolon Samosir is still under development.

TABLE 15  
Other Kaishan Geothermal Investments in Indonesia

	Sokoria Geothermal Power Plant	Simbolon Samosir Geothermal Power Plant
<b>Chinese name</b>	PT. Sokoria 地热公司	PT. Samosir 地热公司 <sup>131</sup>
<b>Investment Mode</b>	Equity acquisition	Joint venture
<b>Estimated value</b>	Total estimated investment (all phases): \$134 million <sup>132</sup>	Total expected investment: \$440 million <sup>133</sup>
<b>Year(s) established</b>	Acquisition completed in 2016 <sup>134</sup>	Contract signed in 2018 <sup>135</sup>
<b>Operation</b>	Operation began in March 2020	Currently awaiting permits; expected operational by 2025
<b>Location</b>	Ende, Flores Island, East Nusa Tenggara	Five regencies in North Sumatra
<b>Investors and ownership structure</b>	KS Orka (100%)	KS Orka (90%) (China-Iceland) Pt. Optima Nusantara Energi (Pt. ONE) (Indonesia) (10%)
<b>Main contractors</b>	EPC contractor:China Energy Engineering Corporation <sup>136</sup>	NA
<b>Generation Capacity</b>	5 MW (current); 3+11+11 MW (planned)	110 MW (expected) <sup>137</sup>

In combination, they represent the largest geothermal power investments made by Chinese companies in Indonesia to date. This study focuses on PT. SMGP, the first and the largest of KS Orka’s projects.

<sup>130</sup> OTP Geothermal Power Ltd. (OTP), a consortium of international firms, originally owned the rights to develop the Sorik Marapi geothermal plant. OTP formed project company PT. Sorik Marapi Geothermal (PT. SMGP), with Indonesia’s PT. Supraco Indonesia. In August 2016, KS Orka, a Singapore-based joint venture in which Kaishan Group holds 96 percent of the shares, acquired full ownership of OTP. As of 2021, KS Orka owns 95 percent of SMGP through OTP. PT. Supraco has ownership of the other 5 percent. Kaishan Group acquired 100 percent of PT. Sokoria Geothermal Indonesia (SGI) in 2016 through KS Orka. In February 2022, Kaishan’s subsidiary KS Orka signed a contract to acquire the rights of exploitation and development of seven geothermal projects for \$60 million from Inter Investment Pte. Ltd. The acquisition is still in the phase of fulfilling condition precedents, as of 2021. See Kaishan Holding Group Ltd, “开山集团股份有限公司 2021 年年度报告 [Kaishan Group Co., Ltd. 2021 Annual Report],” April 2020.

[https://pdf.dfcfw.com/pdf/H2\\_AN202204261561745811\\_1.pdf?1650997958000.pdf](https://pdf.dfcfw.com/pdf/H2_AN202204261561745811_1.pdf?1650997958000.pdf).

<sup>131</sup> In 2018, KS Orka signed a contract with PT. Optima Nusantara Energi (PT. ONE) to codevelop Simbolon Samosir geothermal project. No further update on the project has been reported, so project development has likely not started yet. See “开山股份控股孙公司联合开发 Simbolon-Samosir 地热项目 [Kaishan Group Co.’s Joint-Development of the Simbolon-Samosir Geothermal Project],” *China Securities Journal*, March 2018. [https://www.cs.com.cn/ssgs/gsxw/201803/t20180319\\_5749224.html](https://www.cs.com.cn/ssgs/gsxw/201803/t20180319_5749224.html).

<sup>132</sup> Ibid..

<sup>133</sup> Global Data, “PLN – Simbolon Samosir Geothermal Power Plant 110 MW – North Sumatra,” October 12, 2017.

<https://www.globaldata.com/store/report/pln-simbolon-samosir-geothermal-power-plant-110-mw-north-sumatra/>.

<sup>134</sup> “关于印尼 PT Sokoria 地热公司第一期电站（5 兆瓦）投入商业运营的公告 [Announcement of the Commercial Operation of the First Phase of PT Sokoria Geothermal Company’s Indonesia Power Station (5MW)],” <http://www.kaishancomp.com/news/ks/55.html>.

<sup>135</sup> “KS Orka Renewables Pte Ltd 与 PT Optima Nusantara Energi 关于联合开发 Simbolon-Samosir 地热项目的公告 [KS Orka Renewables Pte Ltd and PT Optima Nusantara Energi Announcement on the Joint Development of Simbolon-Samosir Geothermal Project],” March 2018. [http://pdf.dfcfw.com/pdf/H2\\_AN201803191105987103\\_1.pdf](http://pdf.dfcfw.com/pdf/H2_AN201803191105987103_1.pdf).

<sup>136</sup> International Investment and Trading Network, “合作单位中国能建所属浙江火电中标印尼升压站及线路 EPC 项目 [Partners China Energy Engineering Group Co., Ltd. and Zhejiang Thermal Power Win Bid for Indonesian Power Station and Power Lines EPC Project],” September 21, 2018. <http://www.china-ofdi.org/newsDetail/9/6233>.

<sup>137</sup> Power Technology, “Simbolon Samosir Geothermal Power Plant, Indonesia,” October 2021. <https://www.power-technology.com/marketdata/simbolon-samosir-geothermal-power-plant-indonesia/>.

## 4.2.2 ESG Performance

TABLE 16

### Environmental Sustainability

Characteristic	Rating	Remarks
<b>Low carbon/ renewable energy</b>	4	PT. SMGP produced minimal carbon emissions during its construction and operation phases. KS Orka conducted a study on emissions during the exploration phase of PT. SMGP up to 2017 that found ambient levels of carbon dioxide and particulate pollutants to be within limits set by national and international standards. <sup>138</sup>
<b>Air</b>	3*	The project's exploration activities remained within limits for particulate emissions set by national and international standards, according to studies conducted up to 2017. <sup>139</sup> In 2021 and 2022, drilling at PT. SMGP resulted in the release of toxic gas H <sub>2</sub> S, though these gas leaks are not expected to impact long-term ambient air quality. <sup>140</sup>
<b>Land and biodiversity</b>	3	The project site overlaps with protected and production forests. <sup>141</sup> Permitting for the Sorik Marapi Geothermal Working Area grants PT. SMGP a legal basis for land clearing. PT. SMGP used an incremental development model, which requires less land than typical for geothermal plants. <sup>142</sup> Global Forest Watch reports that from 2002 to 2021, Mandailing Natal lost 151 kilohectares of tree cover, equivalent to a 24 percent reduction. <sup>143</sup>
<b>Water</b>	4	The Environment Office of Mandailing Natal Regency conducted tests and monitored the impact of drilling waste on water quality according to Ministerial Decree No. 21/2017, Section 3 (1), finding the water quality to be suitable for use. <sup>144</sup>
<b>Compliance and reporting</b>	3	PT. SMGP complied with government regulations on community participation in the EIA process but did not release project documents, earning a rating of moderate. As mandated by government regulation No. 27/1999, <sup>145</sup> PT. SMGP conducted an EIA soliciting community participation from village representatives in the geothermal construction work areas through online forums and in-person workshops. <sup>146</sup> Although EIAs must be made available to the public, <sup>147</sup> compliance is inconsistent across Indonesia, <sup>148</sup> and after completion in 2021, PT. SMGP's EIA was not available online. <sup>149</sup>

\*Impacts of the gas leak on the health and safety of workers and local residents are addressed in the social safeguards and protection evaluation.

<sup>138</sup> Respati Katmoyo et al., "Analysis on the Quality of Noise, Air Quality Ambient and Odor as Impact of Geothermal Drilling Exploration in Sorik Marapi Geothermal Power Project, North of Sumatra, Indonesia," The 5th Indonesia International Geothermal Convention & Exhibition, 2017.

<sup>139</sup> Respati Katmoyo et al., "Analysis on the Quality of Noise, Air Quality Ambient and Odor as Impact of Geothermal Drilling Exploration in Sorik Marapi Geothermal Power Project, North of Sumatra, Indonesia," The 5th Indonesia International Geothermal Convention & Exhibition, 2017.

<sup>140</sup> Sapariah Satri, "ESDM Findings on Sorik Marapi Toxic Gas and Incidents in Other Areas," *Mongabay.co.id*, March 2, 2021. <https://www.mongabay.co.id/2021/03/02/temuan-esdm-soal-gas-beracun-sorik-marapi-dan-kejadian-di-daerah-lain/>.

<sup>141</sup> Syariful Azmi, "Geothermal Management Investment Policy Analysis in the Context of Regional Autonomy in North Sumatra," November 30, 2020, 9.

<sup>142</sup> Directorate General of Finance and Risk Management, Ministry of Finance, Indonesia, *Develop Geothermal Energy, DJPPR Review PLTP Sorik Marapi*, May 16, 2018. <https://www.djppr.kemenkeu.go.id/page/load/2154>.

<sup>143</sup> Global Forest Watch, "Mandailing Natal, Sumatera Utara, Indonesia." <https://bit.ly/3BUDaUa>.

<sup>144</sup> Ministry of Energy and Mineral Resources, "Reviewing Sorik Merapi PLTP Location, Director General of EBTKE: Social Aspects Have Been Handled Well," February 8, 2021. <https://www.esdm.go.id/en/media-center/news-archives/tinjau-lokasi-pltp-sorik-merapi-dirjen-ebtke-aspek-sosial-sudah-tertangani-dengan-baik>.

<sup>145</sup> Government of the Republic of Indonesia, *Government Regulation No.27 of 1999: Analysis of Environmental Impacts (1999)*. <https://policy.asiapacificenergy.org/sites/default/files/Government%20Regulation%20No.27%20of%201999%20RE%20Analysis%20of%20Environmental%20Impacts.pdf>.

<sup>146</sup> ANTARA News Agency, "SMGP Gelar Diskusi Publik Hasil Studi Dampak Lingkungan - ANTARA News Sumatera Utara," <https://sumut.antaranews.com/berita/426257/smgp-gelar-diskusi-publik-hasil-studi-dampak-lingkungan>.

<sup>147</sup> Government of the Republic of Indonesia, *Government Regulation No.27 of 1999: Analysis of Environmental Impacts (1999)*.

<sup>148</sup> Samantha Sharpe, Monique Retamal, and Maria Cristina Martinez Fernandez, "Assessing the Impact: Environmental Impact Assessment in the Textile and Garment Sector in Bangladesh, Cambodia, Indonesia and Viet Nam," *International Labour Organization*, 2022. <https://doi.org/10.54394/YCEP9777>.

<sup>149</sup> ANTARA News Agency, "SMGP Gelar Diskusi Publik Hasil Studi Dampak Lingkungan - ANTARA News Sumatera Utara," <https://sumut.antaranews.com/berita/426257/smgp-gelar-diskusi-publik-hasil-studi-dampak-lingkungan>.

Geothermal power is a clean, low-carbon energy source with clear long-term environmental benefits; Kaishan's 2021 annual report claims that PT. SMGP can avert 450,000 tons of CO<sub>2</sub> that a coal power plant would otherwise produce.<sup>150</sup> However, the construction of geothermal plants comes with its own environmental risks. During PT. SMGP's construction phase, locals near the project site reported environmental concerns with the clearing of agroforestry land and the contamination of water from drilling wastewater. Indonesia's Ministry of Energy and Mineral Resources and the Regency's Environmental Office have refuted these claims.<sup>151</sup> As required by law, PT. SMGP conducted an EIA in 2021 and elicited community participation in the EIA process from village representatives through formal and informal meetings.<sup>152</sup> However, the EIA is not publicly available on government databases nor disclosed on the PT. SMGP website or in GEM Group's corporate disclosure.

As is typical of Indonesia's geothermal drilling sites, the land designated by the Indonesian government as the Sorik Marapi Geothermal Working Area is located within a protected forest area.<sup>153</sup> As a result, the land designation of the project site falls under the authority of two separate government departments, in a bureaucratic gray zone. Licensing for geothermal areas falls under the authority of the Ministry of Energy and Mineral Resources, whereas protected forests and conservation areas fall under the jurisdiction of the Ministry of Forestry.<sup>154</sup> These overlapping licensing authorities prevent the designation of protected forest land from serving as an effective safeguard against the environmental damage caused by land development. In PT. SMGP's case, the project site formerly housed production forests, where locals harvested agroforestry products as a primary income source. The working area abuts Batang Gadis National Park, posing a risk to protected wildlife in the area.<sup>155</sup>

Locals raised claims that water for agricultural purposes had been contaminated by drilling wastewater from the plant's construction, noting an increase in sediments in water sources. However, reports claimed that testing conducted by local officials, the Environment Office of Mandailing Natal Regency, found no toxins in the water.<sup>156</sup>

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<sup>150</sup> Kaishan Holding Group Ltd, "开山集团股份有限公司 2021 年年度报告 [Kaishan Group Co., Ltd. 2021 Annual Report]," April 2020. [https://pdf.dfcfw.com/pdf/H2\\_AN202204261561745811\\_1.pdf?1650997958000.pdf](https://pdf.dfcfw.com/pdf/H2_AN202204261561745811_1.pdf?1650997958000.pdf)

<sup>151</sup> Ikhwanuddin Harahap Fatmah and Dermina Dalimunthe, "Pelaksanaan Peraturan Menteri ESDM No. 21 Tahun 2017 - Implementation of the Ministry of Energy and Mineral Resources Regulation No. 21 of 2017," *Jurnal El-Thawalib* 2:3 (June 30, 2021): 78-87. <http://jurnal.iain-padangsidempuan.ac.id/index.php/thawalib/article/view/3983>; Ministry of Energy and Mineral Resources, *Reviewing Sorik Merapi PLTP Location, Director General of EBTKE: Social Aspects Have Been Handled Well*, February 8, 2021. <https://www.esdm.go.id/en/media-center/news-archives/tinjau-lokasi-pltp-sorik-merapi-dirjen-ebtke-aspek-sosial-sudah-tertangani-dengan-baik>.

<sup>152</sup> Ahmad Taufik and Indra Lestari, "The Role of Farmers Development Program as Implementation of CSR on PT. Sorik Marapi Geothermal Power against Community Resistance," *Lembaran Masyarakat* 8:1 (2022): 34.

<sup>153</sup> Satya Yudha, Benny Tjahjono, and Philip Longhurst, "Unearthing the Dynamics of Indonesia's Geothermal Energy Development," *Energies* 15:14 (July 8, 2022): 5009. <https://doi.org/10.3390/en15145009>.

<sup>154</sup> Satya Yudha, Benny Tjahjono, and Philip Longhurst, "Unearthing the Dynamics of Indonesia's Geothermal Energy Development," *Energies* 15:14 (July 8, 2022): 5009. <https://doi.org/10.3390/en15145009>.

<sup>155</sup> Syariful Azmi, "Geothermal Management Investment Policy Analysis in the Context of Regional Autonomy in North Sumatra," November 30, 2020, 9.

<sup>156</sup> Ikhwanuddin Harahap Fatmah and Dermina Dalimunthe, "Pelaksanaan Peraturan Menteri ESDM No21 Tahun 2017 - Implementation of the Ministry of Energy and Mineral Resources Regulation No. 21 of 2017," *Jurnal El-Thawalib* 2:3 (June 30, 2021): 78-87. <http://jurnal.iain-padangsidempuan.ac.id/index.php/thawalib/article/view/3983>.



TABLE 17

**Social Safeguards and Protection**

Characteristic	Rating	Remarks
<b>Labor rights</b>	3	Kaishan's annual report discloses the existence of a trade union, but it lacks information about operations in Indonesia. Limited information is available on PT. SMGP's employment practices. Media sources report that locals are hired for low-skill positions.
<b>Worker health and safety</b>	1	In January 2021, a gas leak accident resulted in five deaths. An Indonesian government investigation found PT. SMGP was negligent and noncompliant with national regulations, leading to the incident. Two additional gas leaks occurred in 2022, requiring dozens of workers and residents to be hospitalized.
<b>Community engagement and cultural heritage protection</b>	2	KS Orka (subsidiary of Kaishan and controller of PT. SMGP) held a forum for community responses on the EIA, but the EIA itself was not disclosed to the public. PT. SMGP conducted consultations with local stakeholders through formal and informal meetings to inform community members about project activities. <sup>157</sup> Failure to properly inform the community of project impacts contributed to exposure to the gas explosion. However, the company seems to have improved CSR efforts following the accidents, as evidenced by the many community outreach activities disclosed in Kaishan's annual reports and press releases.
<b>Resettlement</b>	3	The Sorik Marapi project area overlaps with agriculture and agroforestry land but not residential land. PT. SMGP has implemented CSR initiatives to support farmers relocated from the project site. During the land acquisition process, locals logged 191 complaints from 2011 to 2014.
<b>Compliance and reporting</b>	1	Kaishan complied with external audits and worked with the government after accidents, publicly documenting the gas accidents, investigation, and compensation negotiations on its website. However, Kaishan's reporting on PT. SMGP's social impact is sparse. While Kaishan's annual report has a section on CSR, there is no project-specific information.

*Gas leakage accidents*

PT. SMGP's repeated gas leakage accidents are the main determinant of its poor social safeguards score. In January 2021, a hydrogen sulfide gas explosion from a drilling well killed five farmers. The ensuing investigation by Indonesia's Ministry of Energy and Mineral Resources found that the accident resulted from violations of established procedures, inadequate safety equipment, weak project coordination, and a lack of communication between the company and residents.<sup>158</sup> Additional gas accidents followed in March 2022 (injuring 58 residents) and April 2022 (with 15 residents hospitalized and two drilling crew members injured).<sup>159</sup>

<sup>157</sup> Ahmad Taufik and Indra Lestari, "The Role of Farmers Development Program as Implementation of CSR on PT. Sorik Marapi Geothermal Power against Community Resistance," *Lembaran Masyarakat* 8:1 (2022): 34.

<sup>158</sup> EBTKE, "Direktorat Jenderal EBTKE - Kementerian ESDM," February 3, 2021.

<https://ebtke.esdm.go.id/post/2021/02/04/2787/hasil.investigasi.lapangan.terkait.kejadian.diduga.paparan.gas.h2s.pada.pltp.sor>.

<sup>159</sup> VOI - Waktunya Merevolusi Pemberitaan, "Repeated Accident, Commission VII DPR Asks the Ministry of Energy and Mineral Resources to Give Strict Sanctions to Sorik Marapi," August 22, 2022. <https://voi.id/en/economy/203310/repeated-accident-commission-vii-dpr-asks-the-ministry-of-energy-and-mineral-resources-to-give-strict-sanctions-to-sorik-marapi>; Prioritas, "Ini Penjelasan PT SMGP Terkait Semburan Lumpur Peristiwa 24 April 2022 [PT SMGP's Explanation of the Mudflow Event April 24, 2022]," April 24, 2022. <https://prioritas.co.id/ini-penjelasan-pt-smgp-terkait-semburan-lumpur-peristiwa-24-april-2022/>.

Following the deadly January 2021 accident, PT. SMGP compensated victims; families of the deceased were provided IDR (Indonesian rupiah) 175 million (equivalent to \$12,500), with lesser sums provided to each injured victim based on severity.<sup>160</sup>

Another government investigation into gas accidents was conducted in June 2022 but did not fully address public concerns.<sup>161</sup> In August, a commission in the Indonesian House of Representatives urged the Ministry of Energy and Mineral Resources to officially admonish PT. SMGP and suspend the company's drilling permits if it continued to use drilling contractor HSDI.<sup>162</sup>

### *CSR initiatives*

During project construction, parent company Kaishan made efforts to engage with the local community of Mandailing Natal Regency. PT. SMGP created a communication forum for residents to participate in the project process, as required by Indonesian regulations. However, a lack of communication between project managers and residents about the potential risks of geothermal plant construction was partially to blame for the casualties of the gas leak accident.<sup>163</sup> During the land acquisition process, locals filed 191 complaints with the company between 2011 and 2014, citing concerns over land encroachment and pollution, yet there is no documented response from Kaishan or PT. SMGP.<sup>164</sup>

The Sorik Marapi project area overlaps with agriculture and agroforestry land where locals cultivated rice, rubber, cacao, and horticulture, initially prompting resistance to the project. In response, PT. SMGP attempted to assuage locals' concerns with community engagement and CSR initiatives. Through interviews, one Indonesian study found that these programs were well received by residents—benefiting farmers by improving the efficiency of farming practices and helping them to develop business skills—and that over time, community complaints declined.<sup>165</sup> But this study was based on a small number of interviews (12) and appears intended to publicize PT. SMGP's CSR efforts. PT. SMGP's corporate website documented an agricultural initiative, the Sibanggor Tonga Farming Collective, as an example of its agricultural assistance and claimed that the company had helped increase harvest production in the village.<sup>166</sup>

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<sup>160</sup> Children of the deceased would receive an undisclosed amount of scholarship covering tuition from primary school to college education and preferential consideration for future hiring at Kaishan. SMGP also reached a settlement agreement with the 52 injured villagers who received medical treatment. Based on the severity of the condition determined by local medical institutions, the compensation will be classified into two levels: IDR 50 million (equivalent to approximately \$3,570) per person for severe symptoms, and IDR 40 million (equivalent to \$2,856) per person for mild injuries. “关于印尼 SMGP 地热发电项目发生安全事故的进展公告 [Announcement on the Accident at SMGP's Indonesia Geothermal Power Plant],” February 2021. <https://q.stock.sohu.com/newpdf/202143174496.pdf>.

<sup>161</sup> VOI, “Repeated Gas Leaks Incident, DPR Will Supervise PT SMGP Geothermal Drilling,” June 2022. <https://voi.id/en/economy/178951/kejadian-kebocoran-gas-berulang-dpr-akan-kawal-pengeboran-panas-bumi-pt-smgp>.

<sup>162</sup> VOI - Waktunya Merevolusi Pemberitaan, “Repeated Accident, Commission VII DPR Asks the Ministry of Energy and Mineral Resources to Give Strict Sanctions to Sorik Marapi,” August 22, 2022. <https://voi.id/en/economy/203310/repeated-accident-commission-vii-dpr-asks-the-ministry-of-energy-and-mineral-resources-to-give-strict-sanctions-to-sorik-marapi>.

<sup>163</sup> Gosumut, “PT SMGP Jalankan Konsultasi Publik AMDAL,” August 2022. <https://www.gosumut.com/berita/baca/2022/08/03/pt-smgp-jalankan-konsultasi-publik-amdal>.

<sup>164</sup> Ahmad Taufik and Indra Lestari, “The Role of Farmers Development Program as Implementation of CSR on PT. Sorik Marapi Geothermal Power against Community Resistance,” *Lembaran Masyarakat* 8:1 (2022): 34.

<sup>165</sup> Ahmad Taufik and Indra Lestari, “Peran Program Pengembangan Petani Sebagai Implementasi Corporate Social Responsibility (CSR) Pada PT. Sorik Marapi Geothermal Power (SMGP) Terhadap Resistensi Masyarakat” [The Role of Farmers Development Program as Implementation of CSR on PT. Sorik Marapi Geothermal Power Against Community Resistance] 8, no. 1 (2022): 34.

<sup>166</sup> KS Orka PT. SMGP corporate website, “Sibanggor Tonga Farming Collective,” April 20, 2022. <http://www.ksorka-sorikmarapi.com/>.

PT. SMGP’s official website does disclose more up-to-date community outreach and other CSR activities. For example, in 2022, PT. SMGP donated six cows to some villages in the area to celebrate Eid-ul-Adha, a traditional Islamic festival, and provided fertilizer assistance.<sup>167</sup> However, readily accessible information on labor rights, resettlement, and the projects’ minority shareholders—whether through PT. SGMP or other sources—is scarce.

TABLE 18  
Governance Safeguards

Characteristic	Question	Yes/No/NA
<b>Transparency</b>	Does the company have audit controls, including an internal audit committee?	Yes
<b>Transparency</b>	Does the company utilize third-party audits?	Yes
<b>Transparency</b>	Is information on the company’s senior management team publicly available?	Yes, disclosed in annual report
<b>Transparency</b>	For investment projects, is there disclosure of the investment timeline, management, investment partners, contractors, and other information, such as a dedicated online portal for the project?	Yes. The project timeline and management are disclosed in annual reports and public announcements, but there is a lack of information on contractors. The project website has press releases and news stream pages that disclose social activities and other project updates.
<b>ESG reporting</b>	Does the investing company (or its parent company) issue an annual ESG report?	No
<b>ESG reporting</b>	Does the company provide quantitative metrics on the company’s total ESG impact?	No
<b>ESG reporting</b>	Does the ESG report contain project-level information?	No
<b>Corruption and fraud</b>	Has the company been implicated in corruption or bribery scandals, either within the host country or in other countries, in open-source reports?	Yes. Kaishan’s listed entity was cited by Chinese provincial securities authorities for improper annual reporting and misuse of company funds, but these appear unrelated to geothermal projects in Indonesia.
<b>Ownership disclosure</b>	Does the parent (investing) company disclose its own shareholders in sufficient detail?	Yes

PT. SMGP fulfills five out of the nine evaluated governance criteria. An overarching transparency issue is the lack of project-level ESG reporting and ownership disclosure. Since KS Orka’s acquisition, PT. SMGP appears to comply with tax payments and necessary government reporting. At the project level, research does not suggest that PT. SMGP has been publicly implicated in any formal corruption cases.

However, governance problems with the parent company have persisted. In February 2021, the Zhejiang Securities Regulatory Commission alleged that PT. SMGP parent company Kaishan was noncompliant with domestic reporting rules, claiming it followed improper annual reporting practices and had misused company funds.<sup>168</sup> Most of the accusations appear general and unrelated to the company’s Indonesia projects, though regulators referenced “consulting fees” for an unspecified geothermal project that had gone unreported in Kaishan’s annual reports.

<sup>167</sup> KS Orka PT. SMGP corporate website, “Supporting Food Security and Livelihoods, SMGP Distributes Fertilizer in Aid to Sibanggor Tonga Farmers,” April 20, 2022. <http://www.ksorka-sorikmarapi.com/>.

<sup>168</sup> China Securities Regulatory Commission, *Decision on Taking Corrective Measures against Zhejiang Kaishan Compressor Co., Ltd.* Zhejiang Regulatory Bureau. <http://www.csrc.gov.cn/zhejiang/c103940/c1576355/content.shtml>.

Most of the information on Sorik Marapi comes from Kaishan’s annual reports and public announcements, which contain financial data on KS Orka (the holding company) and the project’s economic performance. There is little reporting on KS Orka’s Icelandic partner, and the company’s role in the geothermal enterprise is unclear. KS Orka’s website also contains no specific information on project financials. Information on tax payments, corruption, and compliance are sourced from media reporting. PT. SMGP and its parent companies did not self-report information on supply chain partners, contractors, or labor conditions at Sorik Marapi.

#### 4.2.3 Takeaways

While SMGP would otherwise perform relatively well on ESG metrics, a series of gas leaks and accidents over the past two years harm its performance and have greatly impacted local communities. While Kaishan Group has vowed to improve its operational standards and is reported to have provided compensation to victims’ families, the lack of sufficient health and safety protocols to prevent the accidents shows how even “green” investment projects may fall short.

A positive aspect of the project’s social sustainability program and CSR efforts is the farmer development program, which provided capacity-building resources to a small group of farmers displaced by project construction. These efforts directly helped farmers displaced by project construction by improving their production output and business opportunities. While PT. SMGP initiated this program to combat local backlash to the project, the program’s engagement with local stakeholders to develop community-specific solutions and its contribution to preserving local industry serves as an example of fostering positive long-term community relationships.

Indonesian law requires the disclosure of information to facilitate ESG impact monitoring at SMGP, but these provisions come with practical constraints. While Indonesian law entitles the public to access project documents, legal requirements leave room for companies to select how to disseminate documents, so compliance varies in practice.<sup>169</sup> Even where physical copies of reports are technically made available, issues of access and comprehensibility can still hamper community understanding. While PT. SMGP may technically be in compliance with Indonesian EIA regulations, it still lags behind international best practices on disclosure.

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<sup>169</sup> Asian Development Bank, “Appendix 2, 3, and 4: Environmental Safeguards – Equivalence Assessment,” *Country Safeguards Review: Indonesia Consultation Draft*, March 2017. <https://www.adb.org/sites/default/files/project-documents/47287/47287-001-dpta-01-app-2-4.pdf>; Ali Rahmat Kurniawan, Takehiko Murayama, and Shigeo Nishikizawa, “A Qualitative Content Analysis of Environmental Impact Assessment in Indonesia: A Case Study of Nickel Smelter Processing,” *Impact Assessment and Project Appraisal* 38, no. 3 (May 3, 2020): 194–204. <https://doi.org/10.1080/14615517.2019.1672452>.

## 4.3 Case Study: Dara Sakor Zone

### 4.3.1 Background

Established in 2008, the Dara Sakor project is intended to build an economic development and tourism zone. From the outset, the project’s massive land footprint has spawned skepticism and concern: its land concession covers almost 175 square miles, or about 20 percent of Cambodia’s coastline, and the sprawling scope envisions 11 industrial zones that include a park, an airport, a resort, and entertainment venues.<sup>170</sup> Fifteen years later, few of the investment projects are operational, following multiple delays.<sup>171</sup> Dara Sakor’s alleged human and social rights violations—as well as alleged corruption involving Chinese and Cambodian officials—highlight the risks of poorly supervised (and illicit) investment in Cambodia.<sup>172</sup>

TABLE 19  
Overview of the Dara Sakor Zone

<b>Chinese name</b>	柬中综合投资开发试验区暨柬埔寨七星海旅游度假区
<b>Investment mode</b>	Greenfield
<b>Estimated value</b>	\$3.8 billion plus \$350 million – airport <sup>173</sup>
<b>Year(s) established</b>	2008
<b>Registered capital</b>	No data
<b>Formal name</b>	Cambodia–China Comprehensive Investment and Development Pilot Zone & Dara Sakor Seashore Resort
<b>Investors and ownership structure</b>	Coastal City Development Group (七星海城市发展集团有限公司) (formerly known as Union Development Group Co., Ltd., UDG) <sup>174</sup> is a wholly owned subsidiary of Tianjin Youlian Investment Development Group Co., Ltd. (天津优联投资发展集团有限公司)
<b>Main contractors</b>	MCC Singapore (subsidiary of Metallurgical Corporation China); China Railway 11th Bureau Fourth Company (subsidiary of China Railway Construction Corporation); and Sichuan Huashi Overseas Investment and Construction Company Limited (subsidiary of Sichuan Huashi Group) <sup>175</sup>
<b>Concession</b>	36,000 hectares (2008); 9,100 hectares (2011) <sup>176</sup>

<sup>170</sup> As of September 2022, UDG’s website has been taken down; some information was collected via internet archive; see UDG, “Overall Plan.” <https://web.archive.org/web/20220608112347/http://www.union-groupcompany.com/index.php/Ch/Cms/Ztgh/ztgh#page1>.

<sup>171</sup> May Titthara, “Cambodians Struggle to Be Compensated for Dara Sakor Megaproject,” *China Dialogue*, December 2019. <https://chinadialogue.net/en/business/11735-cambodians-struggle-to-be-compensated-for-dara-sakor-megaproject-2/>.

<sup>172</sup> In 2020, the US Department of the Treasury sanctioned Union Development Group (UDG) the project’s developer, for alleged corruption and labor, and human rights violations. Officials claimed the Chinese state ultimately controlled UDG. US Department of the Treasury, *Treasury Sanctions Chinese Entity and Officials Pursuant to Global Magnitsky Human Rights Accountability Act*, July 9, 2020. <https://home.treasury.gov/news/press-releases/sm1055>.

<sup>173</sup> In 2019, the Council for the Development of Cambodia approved a \$500.4 million addition to Dara Sakor, known as the TEMI project (Tourism, Ecological, Marine, and International). Pal Song, “Launch of the First Global TEMI Project in Koh Kong Province,” *Cambodia Ministry of Information*, January 11, 2019. <https://www.information.gov.kh/articles/26066>.

<sup>174</sup> This report refers to the investors as UDG, the organization’s name during most of the project’s early development.

<sup>175</sup> Neil Loughlin, “Cambodia–China Comprehensive Investment and Development Pilot Zone & Dara Sakor Seashore Resort,” *The People’s Map of Global China*, January 10, 2022. <https://thepeoplesmap.net/project/cambodia-china-comprehensive-investment-and-development-pilot-zone-dara-sakor-seashore-resort/>.

<sup>176</sup> Cambodian League for the Promotion and Defense of Human Rights (LICADHO). <https://www.licadho-cambodia.org/>. An *Asia Times* article quotes the lease price at \$30/hectare, but this cannot be independently corroborated. Andrew Nachemson, “A Chinese Colony Takes Shape in Cambodia,” *Asia Times*, June 5, 2018. <https://asiatimes.com/2018/06/a-chinese-colony-takes-shape-in-cambodia/>.

### 4.3.2 ESG Performance

TABLE 20

#### Environmental Sustainability

Characteristic	Rating	Rating
<b>Low carbon/ renewable energy</b>	NA	Renewable energy powers the zone, at least in part. Although heavy construction activities point to high carbon intensity, lack of data hampers evaluation. Similarly, power generation for the zone cannot be reliably ascertained: although the project is connected to the national power grid, in 2011 the Cambodian government leased additional land to project investor Union Development Group (UDG) to construct a hydropower dam and water reservoir. <sup>177</sup>
<b>Air</b>	NA	Construction and burning of houses and trees to clear the project site likely contributes to GHG emissions and lower air quality, but definitive metrics are unavailable. <sup>178</sup> UDG's self-reported air quality data does not contain enough information to be evaluated against standards. <sup>179</sup>
<b>Land and biodiversity</b>	1	UDG's land concession absorbed 26 percent of Botum Sakor National Park. Deforestation of this formerly protected area has reduced tree coverage, contributing to extensive habitat loss. Botum Sakor National Park houses threatened and endemic species, sensitive marine ecosystems, and a critical elephant corridor. Dara Sakor's site overlaps with many of these areas, causing devastating harm to fragile habitats. <sup>180</sup>
<b>Water</b>	2	Reports suggest water usage issues persist. A report by the UN expressed concerns over water shortages and contamination, a common issue in investment projects in Cambodia. <sup>181</sup> UDG claims it has mitigated risks to local water systems with water treatment infrastructure, but reports from the UN and local press identify damage to local water sources.
<b>Compliance and reporting</b>	1	Reporting transparency on the project is poor, as UDG makes no public disclosures on the environmental impact of the project. While reports from the Cambodian government confirm that an EIA was conducted as required by law, the EIA was not made public and there is no evidence of predevelopment consultation with locals. <sup>182</sup> UDG's websites and press releases make no specific disclosures regarding the project's environmental impact.

The Dara Sakor zone absorbed over a quarter of Botum Sakor National Park's land, although assessing precise environmental impact is difficult due to scarce information about the development's subprojects, unpredictable construction timelines, and limits on access to the project site.<sup>183</sup> Data from satellite imagery and reports from

<sup>177</sup> Surya Subedi, "Report of the Special Rapporteur on the Situation of Human Rights in Cambodia, Surya P. Subedi: addendum," *United Nations General Assembly Human Rights Council*, Vol. A/HRC/21/63/Add.1/Rev.1, 2012. <https://digitallibrary.un.org/record/736486?ln=en>.

<sup>178</sup> Global Forest Watch, "Area in Koh Kong, Cambodia Interactive Forest Map & Tree Cover Change Data." <https://bit.ly/3QK8Xvl>.

<sup>179</sup> Coastal City Group, "Environmental Protection." <http://www.coastalcitygroup.net/business.aspx?type=51>.

<sup>180</sup> Men Kimseng, Hul Reaksmei, and Aun Chhengpor, "US Sanctions Chinese Company Developing Resort in Cambodia," *Voice of America - Cambodia*. <https://www.voacambodia.com/a/5589798.html>; *The People's Map of Global China* (blog), "Cambodia-China Comprehensive Investment and Development Pilot Zone & Dara Sakor Seashore Resort." <https://thepeoplesmap.net/project/cambodia-china-comprehensive-investment-and-development-pilot-zone-dara-sakor-seashore-resort/>; *Cambodia Daily*, "Chinese Mega Project Raises Social, Environmental Concerns," July 9, 2010. <https://english.cambodiadaily.com/news/chinese-mega-project-raises-social-environmental-concerns-99477/>.

<sup>181</sup> Surya Subedi, "Report of the Special Rapporteur on the Situation of Human Rights in Cambodia, Surya P. Subedi: addendum," *United Nations General Assembly Human Rights Council*, Vol. A/HRC/21/63/Add.1/Rev.1, 2012. <https://digitallibrary.un.org/record/736486?ln=en>.

<sup>182</sup> Council for the Development of Cambodia, "Press Statement by the Council for the Development of Cambodia," September 20, 2020. [https://opendevdevelopmentcambodia.net/wp-content/blogs.dir/2/files\\_mf/1600659548jgg2pdf12.pdf](https://opendevdevelopmentcambodia.net/wp-content/blogs.dir/2/files_mf/1600659548jgg2pdf12.pdf); Sao Vichheka, "A Study on Resettlement Schemes of Large-Scale Land Lease to Chinese Investment in Cambodia: Case Study of Union Development Group, Co., Ltd.," December 2015. [https://www.mekonginstitute.org/uploads/tc\\_ffpublication/WPS\\_N1\\_2015.pdf](https://www.mekonginstitute.org/uploads/tc_ffpublication/WPS_N1_2015.pdf).

<sup>183</sup> Between 2008 and 2011, the Cambodian government leased more than 25 percent of land originally belonging to Botum Sakor National Park to UDG for the zone. Surya Subedi, "Report of the Special Rapporteur on the Situation of Human Rights in Cambodia - Addendum: A Human Rights Analysis of Economic and Other Land Concessions in Cambodia," *United Nations General Assembly Human Rights Council*, October 10, 2012. [https://cambodia.ohchr.org/cambodiaohchr/sites/default/files/SR\\_report\\_on\\_land\\_concessions\\_in\\_Cambodia\\_Eng\\_o.pdf](https://cambodia.ohchr.org/cambodiaohchr/sites/default/files/SR_report_on_land_concessions_in_Cambodia_Eng_o.pdf).

local media and NGOs indicate environmental damage within the project site,<sup>184</sup> earning Dara Sakor poor ratings for land and biodiversity. Across UDG's concessions, tree coverage has decreased by 19 percent since 2008.<sup>185</sup> Land clearing has directly threatened the more than 500 endangered or critically endangered species that inhabit the Botum Sakor region.<sup>186</sup> Dara Sakor's environmental impact extends beyond the project site, damaging surrounding protected areas. Resettlement policies relocated locals to land within the remaining territory of Botum Sakor, and uncontained pollution from construction activities poses a risk to fragile mangrove sites on Cambodia's coastline.<sup>187</sup> The project's impact on air pollution is unclear, though reports suggest air quality is a concern. UDG claims that the "results of the Chinese Academy of Science's Eco-Environmental Research Center show that the PM<sub>2.5</sub> of the region is below 6.5".<sup>188</sup> The omission of corroborating details makes it impossible to determine whether this level falls within an acceptable range according to international guidelines.

UDG also earned poor ratings on compliance and reporting for its lack of public disclosure regarding activities on the sprawling Dara Sakor development site. Multiple academic and NGO teams have been unable to obtain the project EIA document upon request.<sup>189</sup> Cambodia's Ministry of Environment is responsible for approving the EIA but has no binding obligation under national law to publicly disclose the document.<sup>190</sup> In the absence of official disclosures, therefore, assessment of Dara Sakor's environmental performance relies heavily on reporting from residents, NGOs, and local media or from remote sensing data that can help track tree cover loss, identify (some) GHG emissions, and document construction progress.

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<sup>184</sup> *Mongabay Environmental News*, "REDD+ Project Struggles to Find Feet as Cambodian National Park Burns," April 22, 2016. <https://news.mongabay.com/2016/04/redd-project-struggles-find-feet-cambodian-national-park-burns/>; *China Dialogue* (blog), "Cambodians Struggle to Be Compensated for Dara Sakor Megaproject," December 17, 2019. <https://chinadialogue.net/en/business/11735-cambodians-struggle-to-be-compensated-for-dara-sakor-megaproject-2/>; Protected Planet, "Cambodia." <https://www.protectedplanet.net/country/KHM>. Google Earth 7.3, (2023) Dara Sakor Resort 10°52'48"N, 103°08'45"E, elevation 15M, 3D buildings data layer. <http://www.google.com/earth/index.html>. Global Forest Watch, (2023)

<sup>185</sup> *Mongabay Environmental News*, "REDD+ Project Struggles to Find Feet as Cambodian National Park Burns," April 22, 2016. <https://news.mongabay.com/2016/04/redd-project-struggles-find-feet-cambodian-national-park-burns/>.

<sup>186</sup> *China Dialogue* (blog), "Cambodians Struggle to Be Compensated for Dara Sakor Megaproject," December 17, 2019. <https://chinadialogue.net/en/business/11735-cambodians-struggle-to-be-compensated-for-dara-sakor-megaproject-2/>.

<sup>187</sup> *Mongabay Environmental News*, "REDD+ Project Struggles to Find Feet as Cambodian National Park Burns," April 22, 2016. <https://news.mongabay.com/2016/04/redd-project-struggles-find-feet-cambodian-national-park-burns/>; UNEP-WCMC, Protected Area Profile for Cambodia from the World Database on Protected Areas, August 2023. <https://www.protectedplanet.net/country/KHM>.

<sup>188</sup> Coastal City Group, "Environmental Protection." <http://www.coastalcitygroup.net/business.aspx?type=51>.

<sup>189</sup> Council for the Development of Cambodia, "Press Statement by the Council for the Development of Cambodia," September 20, 2020. [https://opendevdevelopmentcambodia.net/wp-content/blogs.dir/2/files\\_mf/1600659548jpg2pdf12.pdf](https://opendevdevelopmentcambodia.net/wp-content/blogs.dir/2/files_mf/1600659548jpg2pdf12.pdf); Sao Vichheka, "A Study on Resettlement Schemes of Large-Scale Land Lease to Chinese Investment in Cambodia: Case Study of Union Development Group, Co., Ltd.," December 2015. [https://www.mekonginstitute.org/uploads/tx\\_ffpublication/WPS\\_N1\\_2015.pdf](https://www.mekonginstitute.org/uploads/tx_ffpublication/WPS_N1_2015.pdf).

<sup>190</sup> Kingdom of Cambodia, *Sub-decree on Environmental Impact Assessment Process*, No: 72 ANRK.BK § (1999). <https://s3.amazonaws.com/rgi-documents/5c527d3e55eff909860db87bb2007439f6ee70ca.pdf>; Kingdom of Cambodia, *Law on Environmental Protection and Natural Resource Management* (1996).

TABLE 21

**Social Safeguards and Protection**

Characteristic	Rating	Remarks
<b>Labor rights</b>	1	Multiple credible reports of human trafficking or forced labor conditions within the zone.
<b>Worker health and safety</b>	1	Multiple cases of human trafficking and fraudulent activities were reported at establishments in Dara Sakor, casting further doubt about the safety and health of workers. However, UDG's direct connection to these incidents is unclear. <sup>191</sup>
<b>Community engagement and cultural heritage protection</b>	1	Consultation and communication with nearby residents have been poor: UDG initiated community consultations only after project development began and provided inadequate information to residents about the project timeline and impacted areas. <sup>192</sup> Local livelihoods were disrupted by resettlement schemes and competition from new park industries. <sup>193</sup>
<b>Resettlement</b>	1	UDG is still litigating disputes with locals over land ownership, compensation, and forced relocation. <sup>194</sup> Residents reported they were violently evicted, and UDG violated Cambodia's national policy on resettlement in at least several instances. Although UDG promised land and other compensation to over 1,000 displaced families, these families either did not receive compensation or only received partial amounts. <sup>195</sup>
<b>Compliance and reporting</b>	1	Purportedly, UDG was not legally required to conduct an SIA under Cambodian law; <sup>196</sup> one appears to have been conducted but is not publicly available. <sup>197</sup> UDG's website reports on CSR initiatives but not on specific ESG metrics or project impacts. <sup>198</sup> More importantly, the company has not disclosed anything about the ongoing land disputes and plans for negotiation.

*Accusations of trafficking and forced labor*

The Dara Sakor project site houses several companies that allegedly engage in illegal activities, including human trafficking and online fraud, according to interviews with victims conducted by Chinese media outlets.<sup>199</sup> *Southern Weekly*, a high-profile Chinese newspaper, interviewed several Chinese nationals who went to Dara Sakor for employment opportunities. According to interviews, purported employers in Dara Sakor advertised nonexistent employment opportunities and trafficked victims to Cambodia. Victims claimed that they were imprisoned by local gangs and forced to work for online gambling companies in Dara Sakor under harsh conditions with little pay.<sup>200</sup> In

<sup>191</sup> *Southern Weekly*, “血奴小伙”受困柬埔寨：“我怀疑他们有长期产业链 [‘Blood Slave Boy’ Trapped in Cambodia: ‘I Suspect They Have a Long-Established Supply Chain]”, February 18, 2022. <https://v2r.cn/b21fed62563842f4/>.

<sup>192</sup> Sao Vichheka, “A Study on Resettlement Schemes of Large-Scale Land Lease to Chinese Investment in Cambodia: Case Study of Union Development Group, Co., Ltd.,” December 2015. [https://www.mekonginstitute.org/uploads/tx\\_ffpublication/WPS\\_N1\\_2015.pdf](https://www.mekonginstitute.org/uploads/tx_ffpublication/WPS_N1_2015.pdf).

<sup>193</sup> Siphath Touch and Andreas Neef, “Resistance to Land Grabbing and Displacement in Rural Cambodia,” Conference Paper No. 16, Chiang Mai University, 2015. [https://landmatrix.org/media/uploads/cmcp\\_16\\_touch\\_and\\_neef.pdf](https://landmatrix.org/media/uploads/cmcp_16_touch_and_neef.pdf).

<sup>194</sup> Khut Sokun, “Koh Kong Residents Protest UDG at Chinese Embassy,” VOD, May 28, 2019. <https://vodenglish.news/koh-kong-residents-protest-udg-at-chinese-embassy/>.

<sup>195</sup> Siphath Touch and Andreas Neef, “Resistance to Land Grabbing and Displacement in Rural Cambodia,” Conference Paper No. 16, Chiang Mai University, 2015. [https://landmatrix.org/media/uploads/cmcp\\_16\\_touch\\_and\\_neef.pdf](https://landmatrix.org/media/uploads/cmcp_16_touch_and_neef.pdf).

<sup>196</sup> Sao Vichheka, “A Study on Resettlement Schemes of Large-Scale Land Lease to Chinese Investment in Cambodia: Case Study of Union Development Group, Co., Ltd.,” December 2015. [https://www.mekonginstitute.org/uploads/tx\\_ffpublication/WPS\\_N1\\_2015.pdf](https://www.mekonginstitute.org/uploads/tx_ffpublication/WPS_N1_2015.pdf).

<sup>197</sup> Sao Vichheka, “A Study on Resettlement Schemes of Large-Scale Land Lease to Chinese Investment in Cambodia: Case Study of Union Development Group, Co., Ltd.,” December 2015. [https://www.mekonginstitute.org/uploads/tx\\_ffpublication/WPS\\_N1\\_2015.pdf](https://www.mekonginstitute.org/uploads/tx_ffpublication/WPS_N1_2015.pdf).

<sup>198</sup> Union Group, “Corporate Social Responsibility.” <http://www.union-groupcompany.com/webpage/ch/cms/shzr/shzr.shtml#page4>.

<sup>199</sup> *Southern Weekly*, “血奴小伙”受困柬埔寨：“我怀疑他们有长期产业链 [‘Blood Slave Boy’ Trapped in Cambodia: ‘I Suspect They Have a Long-Established Supply Chain]”, February 18, 2022. <https://v2r.cn/b21fed62563842f4/>.

<sup>200</sup> *Southern Weekly*, “血奴小伙”受困柬埔寨：“我怀疑他们有长期产业链 [‘Blood Slave Boy’ Trapped in Cambodia: ‘I Suspect They Have a Long-Established Supply Chain]”, February 18, 2022. <https://v2r.cn/b21fed62563842f4/>; Danielle Keeton-Olsen and Mech Dara, “Rescue Reveals Scam Compound at Koh Kong’s UDG,” VOD, August 2022. <https://vodenglish.news/rescue-reveals-scam-compound-at-koh-kongs-udg/>.



February 2022, the Chinese Embassy in Cambodia reported the incident to Cambodian police, who filed an investigation; the results of the investigation are currently unknown. Cambodian authorities have denied claims of trafficking and forced labor, and there is no direct evidence tying UDG (rather than resident firms) to these scandals.<sup>201</sup>

### *Inadequate community consultations, forced resettlement, and corruption*

Dara Sakor's community engagement and resettlement practices are rated as "poor." UDG failed to host community consultations prior to project development, delaying until after development had already begun.<sup>202</sup> Information was also unevenly distributed, with UDG disseminating details about relocation policies to local authorities but not to many individuals who would be affected.<sup>203</sup> The lack of adequate consultation exacerbated the project's disruption of local livelihoods. Resettlement and compensation policies failed to follow Cambodia's national "leopard skin" policy, which prioritizes the coexistence of local communities within a concession area.<sup>204</sup> The Cambodian government justified foregoing the policy due to environmental concerns with the families' continued residence in the concession area. As a result, 1,163 families were allocated new parcels of land deep inside the protected Botum Sakor National Park and forced to leave their land. Many of the relocated families relied on subsistence farming and coastal resources<sup>205</sup> and complained that the area to which they relocated lacked employment opportunities. One resident complained that the land where they relocated had "no work, no water, no school, no temple. Just malaria."<sup>206</sup> In its efforts to clear the land needed for development, UDG allegedly enlisted the help of several Cambodian officials. Interviews with affected villagers placed blame on Koh Kong Governor Khem Chandy, accusing him of corruption and working for UDG.<sup>207</sup> In 2020, the US Department of the Treasury accused Cambodian General Kun Kim of using military personnel to forcibly remove villagers from their homes at the behest of UDG.<sup>208</sup>

Throughout this period, the residents of Koh Kong have raised several disputes against UDG, escalating to a petition from local representatives to the National Assembly.<sup>209</sup> In 2014, locals reported violent evictions and the destruction of property by UDG's armed security guards.<sup>210</sup> Protests have been ongoing since 2014, and displaced residents have lobbied the Chinese Embassy to intervene after failing to receive a response from the Cambodian government.<sup>211</sup> In

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<sup>201</sup> *Southern Weekly*, "血奴小伙"受困柬埔寨: "我怀疑他们有长期产业链 ['Blood Slave Boy' Trapped in Cambodia: 'I Suspect They Have a Long-Established Supply Chain']," February 18, 2022. <https://v2r.cn/b21fed62563842f4/>.

<sup>202</sup> Siphath Touch and Andreas Neef, "Resistance to Land Grabbing and Displacement in Rural Cambodia," Conference Paper No. 16, Chiang Mai University, 2015. [https://landmatrix.org/media/uploads/cmcp\\_16\\_touch\\_and\\_neef.pdf](https://landmatrix.org/media/uploads/cmcp_16_touch_and_neef.pdf).

<sup>203</sup> Sao Vichheka, "A Study on Resettlement Schemes of Large Scale Land Lease to Chinese Investment in Cambodia: Case Study of Union Development Group, Co., Ltd.," December 2015. [https://www.mekonginstitute.org/uploads/tx\\_ffpublication/WPS\\_N1\\_2015.pdf](https://www.mekonginstitute.org/uploads/tx_ffpublication/WPS_N1_2015.pdf).

<sup>204</sup> Bora Ly, "Belt and Road Initiative and Tourism Infrastructure Investment in Cambodia," *Asian Vision Institute* 2 (February 17, 2020). <https://www.asianvision.org/archives/publications/avi-policy-brief-issue-2020-no-02>.

<sup>205</sup> Siphath Touch and Andreas Neef, "Resistance to Land Grabbing and Displacement in Rural Cambodia," Conference Paper No. 16, Chiang Mai University, 2015. [https://landmatrix.org/media/uploads/cmcp\\_16\\_touch\\_and\\_neef.pdf](https://landmatrix.org/media/uploads/cmcp_16_touch_and_neef.pdf).

<sup>206</sup> Andrew R.C. Marshall and Prak Chan Thul, "Insight: China Gambles on Cambodia's Shrinking Forests," *Reuters*, March 7, 2012, sec. Environment. <https://www.reuters.com/article/us-cambodia-forests-idUSTRE82607N20120307>.

<sup>207</sup> Rod Harbison, "Villagers Squeezed out of Homes as Forest Fight Heats Up," *Bangkok Post*, February 15, 2015. <https://www.bangkokpost.com/thailand/special-reports/475380/villagers-squeezed-out-of-homes-as-forest-fight-heats-up>.

<sup>208</sup> US Department of State, "Global Magnitsky Human Rights Accountability Act Annual Report," *Federal Register*, Volume 86 Issue 1 (Monday, January 4, 2021). <https://www.govinfo.gov/content/pkg/FR-2021-01-04/html/2020-29015.htm>.

<sup>209</sup> Siphath Touch and Andreas Neef, "Resistance to Land Grabbing and Displacement in Rural Cambodia," Conference Paper No. 16, Chiang Mai University, 2015. [https://landmatrix.org/media/uploads/cmcp\\_16\\_touch\\_and\\_neef.pdf](https://landmatrix.org/media/uploads/cmcp_16_touch_and_neef.pdf).

<sup>210</sup> Siphath Touch and Andreas Neef, "Resistance to Land Grabbing and Displacement in Rural Cambodia," Conference Paper No. 16, Chiang Mai University, 2015. [https://landmatrix.org/media/uploads/cmcp\\_16\\_touch\\_and\\_neef.pdf](https://landmatrix.org/media/uploads/cmcp_16_touch_and_neef.pdf).

<sup>211</sup> Khut Sokun, "Koh Kong Residents Protest UDG at Chinese Embassy," *VOD*, May 28, 2019. <https://vodenglish.news/koh-kong-residents-protest-udg-at-chinese-embassy/>.

September 2021, 1,333 families in Koh Kong were offered one to 3.5 hectares each to resolve the decade-old land dispute with UDG, though many rejected the settlement offer. Negotiations with these families are still ongoing as of 2022.<sup>212</sup>

UDG has not disclosed information related to these ongoing disputes with locals over land use and compensation. Instead, it has rejected claims that illegal activity is taking place in the zone, instead highlighting purported CSR initiatives. These include a \$6.2 million donation to the Cambodia Red Cross, infrastructure support to local communities, and investment in social development funds.<sup>213</sup> However, these claims are not independently corroborated.

TABLE 22  
Governance

Characteristic	Question	Yes/No/NA
<b>Transparency</b>	Does the company have audit controls, including an internal audit committee?	NA. There is no evidence supporting the existence of an internal audit committee.
<b>Transparency</b>	Does the company utilize third-party audits?	NA. UDG is a private company and therefore is not obligated to disclose this information.
<b>Transparency</b>	Is information on the company's senior management team publicly available?	No. No information on company management is publicly available.
<b>Transparency</b>	For investment projects, is there disclosure of the investment timeline, management, investment partners, contractors, and other information, such as a dedicated online portal for the project?	No
<b>ESG reporting</b>	Does the investing company (or its parent company) issue an annual ESG report?	No
<b>ESG reporting</b>	Does the company provide quantitative metrics on the company's total ESG impact?	No. Quantitative metrics provided on UDG's website have insufficient detail to draw any meaningful conclusions about the project's environmental impact.
<b>ESG reporting</b>	Does the ESG report contain project-level information?	No
<b>Corruption and fraud</b>	Has the company been implicated in corruption or bribery scandals, either within the host country or in other countries, in open-source reports?	Yes. The US Department of the Treasury has alleged that UDG bribed Cambodian military officials. The size of UDG's land concession also appears to violate Cambodian law. <sup>214</sup>
<b>Ownership Disclosure</b>	Does the parent (investing) company disclose its own shareholders in sufficient detail?	No. Under its previous name, the subsidiary project company disclosed its ownership under UDG. <sup>215</sup> However, under the new name of Coastal City Development Group, the project company no longer discloses explicit shareholder information.

<sup>212</sup> Khut Sokun, "Compensation for 1,333 Families at Controversial UDG Project Faces Resistance," *VOD Khmer*, September 2021. <https://vodenglish.news/compensation-for-1333-families-at-controversial-udg-project-faces-resistance/>.

<sup>213</sup> Union Group, "Corporate Social Responsibility." <http://www.union-groupcompany.com/webpage/ch/cms/shzr/shzr.shtml#page4>.

<sup>214</sup> US Department of the Treasury, *Treasury Sanctions Chinese Entity in Cambodia under Global Magnitsky Authority*. <https://home.treasury.gov/news/press-releases/sm1121>.

<sup>215</sup> Union Group, "Project Overview." <https://web.archive.org/web/20220628101347/http://www.union-groupcompany.com/index.php/Ch/Cms/Xmgl/xmgl#page1>.

As a private company, UDG's legal and regulatory disclosure obligations are not as strict as those governing public firms. Accordingly, UDG maintains a website but does not release financial or annual reports.<sup>216</sup> Nevertheless, the lack of disclosure prevents the public from clearly assessing the company's ESG impact on local communities. UDG has allegedly violated multiple Cambodian laws, and as a result it has been sanctioned by the United States for "serious human rights abuse and corruption."<sup>217</sup> The company's close relationship with high-level Cambodian government officials led to accusations of corruption.<sup>218</sup> According to allegations by the US government, UDG has altered its legal identity in multiple circumstances, likely in an attempt to circumvent Cambodian legal restrictions on foreign companies.<sup>219</sup> Disclosure of participation by subcontractors and project sponsors is inconsistent and poorly documented.<sup>220</sup> UDG allegedly engaged in illegal practices to lease a 36,000-hectare plot of land, in excess of what it could legally lease as a foreign company (10,000 hectares).<sup>221</sup> UDG's concession leases portions of the Botum Sakor National Park, which can only be issued by Cambodian royal decree. To circumvent this restriction, UDG registered as a Cambodian-owned company, then reverted to a Chinese entity three years after receiving approval of the concession, according to the Treasury Department.<sup>222</sup> However, the government Council for the Development of Cambodia, which oversees the promotion of foreign and domestic investments, has itself claimed that UDG has been continually registered as a foreign entity and legally acquired its concession land.<sup>223</sup> Additionally, there is no clear disclosure of which companies are operating in the project area.

### 4.3.3 Takeaways

Development adjacent to protected areas is especially sensitive, and lack of disclosure on environmental risks by Chinese investors presents clear threats to biodiversity. Murky host country context and regulatory treatment—including the process behind the Cambodian government's decisions to redesignate protected land in Botum Sakor to be used for the project and the process for resettlement of displaced families—contributed to poor outcomes so far at the site.

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<sup>216</sup> Union Group, "Project Overview." <http://www.union-groupcompany.com/index.php/Ch/Cms/Xmgl/xmgl#page2>.

<sup>217</sup> US Department of the Treasury, *Treasury Sanctions Chinese Entity in Cambodia under Global Magnitsky Authority*, September 15, 2020. <https://home.treasury.gov/news/press-releases/sm1121>.

<sup>218</sup> US Department of State, "Global Magnitsky Human Rights Accountability Act Annual Report," *Federal Register*, Volume 86 Issue 1 (Monday, January 4, 2021). <https://www.govinfo.gov/content/pkg/FR-2021-01-04/html/2020-29015.htm>.

<sup>219</sup> OpenCorporates, "Coastal City Development Group Co., Ltd." <https://opencorporates.com/companies/kh/00034660>; US Department of the Treasury, *Treasury Sanctions Chinese Entity in Cambodia under Global Magnitsky Authority*. <https://home.treasury.gov/news/press-releases/sm1121>.

<sup>220</sup> Neil Loughlin, "Cambodia-China Comprehensive Investment and Development Pilot Zone & Dara Sakor Seashore Resort," *The People's Map of Global China* (blog). <https://thepeoplesmap.net/project/cambodia-china-comprehensive-investment-and-development-pilot-zone-dara-sakor-seashore-resort/>; Weixin Official Accounts Platform, "正恒（柬埔寨）有限公司与柬埔寨顶级安保公司 B.I.C.安全正式达成战略合作 [ZhengHeng (Cambodia) Co., Ltd. Formalizes Strategic Partnership with Top Cambodian Security Firm, B.I.C. Security]." <https://bit.ly/3BPXB4s>.

<sup>221</sup> *Mongabay Environmental News*, "REDD+ Project Struggles to Find Feet as Cambodian National Park Burns," April 22, 2016. <https://news.mongabay.com/2016/04/redd-project-struggles-find-feet-cambodian-national-park-burns/>.

<sup>222</sup> US Department of the Treasury, *Treasury Sanctions Chinese Entity in Cambodia under Global Magnitsky Authority*, September 15, 2020. <https://home.treasury.gov/news/press-releases/sm1121>.

<sup>223</sup> "Kingdom, China Rebut Basis for US Sanctions," *Phnom Penh Post*, September 21, 2022. <https://www.phnompenhpost.com/national-politics/kingdom-china-rebut-basis-us-sanctions>.

## 4.4 Case Study: CART Tire

### 4.4.1 Background

In 2017, a consortium of Chinese investors signed a strategic investment deal to establish the Qilu Special Economic Zone (SEZ). In 2020, Qilu SEZ formed a partnership with Environmental Protection Industry Associations in Cambodia (EPIAC) to establish Cambodia's first green industrial park, with a goal to promote alignment with international environmental standards and corporate responsibility in environmental protection.<sup>224</sup> Sailun Group, a leading Chinese tire manufacturer, was one of the SEZ's earliest investors, pouring \$350 million into its subsidiary of CART Tire Co. Ltd.<sup>225</sup> Construction of the tire factory in Qilu SEZ began in 2021 and the factory reached commercial operations within the year.<sup>226</sup> The main project deployed at CART Tire is a semi-steel radial tire factory with an annual production capacity of nine million tires.

Sailun's investment in Cambodia is part of its broader strategy to increase overseas production capacity and diversify supply chains to reduce exposure to trade restriction risks from advanced economies. The construction of CART Tire in Cambodia followed the establishment of two production facilities in Vietnam, one of which is wholly owned by Sailun and the other of which is a joint venture with US-based Cooper Tire.<sup>227</sup> Sailun also has four factories in China.<sup>228</sup> Cambodia has encouraged the development of Sailun's CART Tire and Jiangsu General Science Technology's Jiangsu General tire factory as industry leaders that help stabilize prices. The Cambodian government hopes that these factories' purchases of local rubber will support secure market conditions needed to grow the industry. As of 2022, domestic rubber producers have been unable to meet factory demand, as they lack technologies for large-scale rubber production. CART Tire has pledged to provide the necessary technology to producers to jumpstart the industry.

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<sup>224</sup> Sohu, "柬埔寨首家环保综合产业园落成 [Cambodia's First Green Industrial Park Completed]," November 2020.

[https://www.sohu.com/na/431822189\\_120917555](https://www.sohu.com/na/431822189_120917555).

<sup>225</sup> Cambodia Ministry of the Interior, *Svay Rieng Provincial Leaders Visit Bavet City*, July 3, 2021. <https://interior.gov.kh/report/detail/8714>.

<sup>226</sup> Chris Anthony, "Sailun's Cambodia Factory Begins Tyre Production," *Tyrepress*, November 15, 2021. <https://www.tyrepress.com/2021/11/sailuns-cambodia-factory-begins-tyre-production/>.

<sup>227</sup> Businesswire, "Cooper Tire and Sailun Vietnam Celebrate First Tire at Joint Venture Plant," November 26, 2019.

<https://www.businesswire.com/news/home/20191126005779/en/Cooper-Tire-and-Sailun-Vietnam-Celebrate-First-Tire-at-Joint-Venture-Plant>.

<sup>228</sup> Bloomberg, "Sailun Sets Sustainable Standards with Green EcoPoint3 Technology - Clean into the Future with Smart, Innovative and Efficient," May 24, 2022. <https://www.bloomberg.com/press-releases/2022-05-24/sailun-sets-sustainable-standards-with-green-ecopoint3-technology-clean-into-the-future-with-smart-innovative-and-efficient>.

TABLE 23

## Overview of the CART Tire Project

<b>Chinese name</b>	赛轮（柬埔寨）轮胎有限公司
<b>Investment mode</b>	Greenfield
<b>Total investment in project</b>	\$181 million <sup>229</sup>
<b>Year(s) established</b>	2021 <sup>230</sup>
<b>Location</b>	Qilu Special Economic Zone (50 hectares of land)
<b>Formal name</b>	CART TIRE CO., LTD
<b>Capacity</b>	9 million tires/year (initial) <sup>231</sup>
<b>Investors and ownership structure</b>	CART Tire is a wholly owned subsidiary of Sailun Group through Sailun Group Hongkong Co., Limited. <sup>232</sup>

According to the partnership agreement signed between Qilu SEZ and EPIAC in 2020, Qilu is Cambodia's first SEZ that purports to champion environmental priorities.<sup>233</sup> EPIAC, an organization founded by Chinese investors, entered a partnership with Qilu SEZ. EPIAC will provide support to the SEZ to set up environmental standards that align with international ones and plan environmental protection solutions at the SEZ.<sup>234</sup> EPIAC's director has claimed that the SEZ reflects national policy priorities to promote environmental protection and aims to assuage investor concerns over wastewater treatment facilities and technical support that have previously deterred foreign investment in Cambodia.<sup>235</sup>

CART Tire has promised to invigorate local industry by sourcing inputs from Cambodian rubber producers and creating 4,000 jobs.<sup>236</sup> Cambodia is seeking to strengthen its national rubber industry, and CART Tire is expected to purchase 150,000 metric tons of local rubber in its first five years of production to support the manufacturing of nine million tires a year.<sup>237</sup> CART Tire is one of two active tire manufacturers in Cambodia. Jiangsu General Science Technology Co Ltd., another Chinese company, is the owner of Cambodia's second tire factory, built in Sihanoukville Special Economic Zone (SSEZ) in 2022.<sup>238</sup> According to Cambodia Chamber of Commerce Vice-

<sup>229</sup> Sailun, “赛轮集团股份有限公司全资子公司对外投资公告 [Sailun Group Co., Ltd. Announcement of Foreign Investment by Wholly-Owned Subsidiaries],” March 2021. <https://sailuns3.s3.cn-northwest-1.amazonaws.com.cn/upload/portal/20210309/666bb962735c52f6c69d04992d3dc81.pdf>.

<sup>230</sup> Construction of the factory for the nine million semi-steel radial tire project began in March 2021, but establishment of CART Tire Co predated construction start. Sailun, “2021 Annual Report.” <https://sailuns3.s3.cn-northwest-1.amazonaws.com.cn/upload/portal/20220402/37633b5da824c0637b085553a4b34abd.pdf>.

<sup>231</sup> Sailun, “2021 Annual Report.” <https://sailuns3.s3.cn-northwest-1.amazonaws.com.cn/upload/portal/20220402/37633b5da824c0637b085553a4b34abd.pdf>.

<sup>232</sup> Sailun, “赛轮集团股份有限公司关于全资子公司追加投资的公告 [Sailun Group Co., Ltd. Announcement of Additional Investment by Wholly-Owned Subsidiaries],” [http://quotes.money.163.com/f10/ggmx\\_601058\\_7292080.html](http://quotes.money.163.com/f10/ggmx_601058_7292080.html).

<sup>233</sup> May Kunmakara, “Green SEZ Set for Svay Rieng Town.” <https://www.phnompenhpost.com/business/green-sez-set-svay-rieng-town>.

<sup>234</sup> *China Dialogue*, “Is There Such a Thing as a ‘Green’ SEZ in Cambodia?” May 27, 2021. <https://chinadialogue.net/en/cities/is-there-such-a-thing-as-a-green-sez-in-cambodia/>.

<sup>235</sup> May Kunmakara, “Green SEZ Set for Svay Rieng Town.” <https://www.phnompenhpost.com/business/green-sez-set-svay-rieng-town>.

<sup>236</sup> Cambodia Ministry of the Interior, *Svay Rieng Provincial Leaders Visit Bavet City*, July 3, 2021. <https://interior.gov.kh/report/detail/8714>.

<sup>237</sup> Cambodia Constructors Association, “Cambodia's First Tire Factory under Construction Plans to Buy 150,000 Metric tons of Domestic Rubber a Year,” July 2, 2021. <https://construction-property.com/km/cambodias-first-car-tire-factory-under-construction-to-use-over-150000-tons-local-rubbers-in-next-5-years/>.

<sup>238</sup> *Khmer Times*, “Chinese Firm Rolls Out Cambodia Tyre Factory Fund Plans,” August 24, 2022. <https://www.khmertimeskh.com/501138412/chinese-firm-rolls-out-cambodia-tyre-factory-fund-plans/>.

President Lim Heng, purchases by these two factories will support price stability for Cambodian rubber, as the industry currently exports most of its rubber to foreign markets.<sup>239</sup>

#### 4.4.2 ESG Performance

TABLE 24

#### Environmental Sustainability

Characteristic	Rating	Remarks
<b>Low carbon/renewable energy</b>	3	CART Tire is powered by coal but appears to have improved energy efficiency. <sup>240</sup> Power for the factory is sourced from Svay Rieng’s existing coal-fired power plants, with no apparent plans for the construction of renewable energy infrastructure.
<b>Air</b>	3	CART Tire claims to curtail particulate pollution by eliminating hazardous air pollutants (HAPs) and following local and Chinese air quality regulations; however, it only claims compliance with pre-2016 Chinese air quality standards, which are less strict than current domestic rules. <sup>241</sup> Sailun claims to use alternative materials as tire fillers, eliminating the main source of HAPs from tire production. <sup>242</sup>
<b>Land and biodiversity</b>	NA	CART Tire’s site was cleared during the earlier construction of Qilu SEZ; the factory’s small footprint (50 hectares) is unlikely to contribute to additional deforestation or habitat disruption.
<b>Water</b>	3	CART Tire will process wastewater through Qilu SEZ’s existing treatment facilities. <sup>243</sup> CART Tire lies just off the bank of Stoeng Basak river, exposing the waterway to contamination from the operations. These facilities are unconfirmed.
<b>Compliance and reporting</b>	2	Publicly available reporting on environmental safeguards is scattered. CART Tire’s feasibility study (including discussion of environmental safeguards) is publicly available, <sup>244</sup> but the project’s EIA is not publicly available. Parent company Sailun publishes annual corporate ESG reports, <sup>245</sup> but Qilu SEZ’s official website does not publish environmental reporting. <sup>246</sup>

CART Tire’s environmental performance will be a practical test for Qilu SEZ as a “green” SEZ. Despite pledges by the SEZ’s management to provide infrastructure and consulting to support the environmental performance of factories in the zone, the areas in which CART Tire performs best are driven by the factory’s own environmental

<sup>239</sup> *Phnom Penh Post*, “Cambodia Wheels Out 1st Exports of Locally Made Tires,” December 1, 2021. <https://business.inquirer.net/335318/cambodia-nation-wheels-out-1st-exports-of-locally-made-tires>.

<sup>240</sup> CART Tire projects an annual consumption of 27,062.4 tons of coal. Sailun Group Co., Ltd., “Feasibility Study Report for Cambodia Factory with Annual Output of 9 Million Semi-Steel Radial Tires,” June 1, 2021. <https://sailuns3.s3.cn-northwest-1.amazonaws.com.cn/upload/portal/20210601/2b5b9af7a12805d7fb1c9301d898b2f5.pdf>.

<sup>241</sup> Sailun’s CART Tire feasibility study proposes both Chinese and Cambodian regulations as project standards. The Chinese air quality standards cited in feasibility studies are the GB3095–1996 regulations, which are looser than the current post-2016 standards. See Ministry of Ecology and Environment of the People’s Republic of China, *Ambient Air Quality Standards*, January 1, 2016. [https://www.mee.gov.cn/ywgz/jfgbz/bz/bzwb/dqhjbh/dqhjzlbz/201203/t20120302\\_224165.shtml](https://www.mee.gov.cn/ywgz/jfgbz/bz/bzwb/dqhjbh/dqhjzlbz/201203/t20120302_224165.shtml).

<sup>242</sup> Specifically, Sailun claimed it swapped fossil carbon black for silica as tire filler. See *Bloomberg*, “Sailun Sets Sustainable Standards with Green EcoPoint3 Technology - Clean into the Future with Smart, Innovative and Efficient,” May 24, 2022. <https://www.bloomberg.com/press-releases/2022-05-24/sailun-sets-sustainable-standards-with-green-ecopoint3-technology-clean-into-the-future-with-smart-innovative-and-efficient>.

<sup>243</sup> Sailun Group Co., Ltd., “Feasibility Study Report for Cambodia Factory with Annual Output of 9 Million Semi-Steel Radial Tires,” June 1, 2021. <https://sailuns3.s3.cn-northwest-1.amazonaws.com.cn/upload/portal/20210601/2b5b9af7a12805d7fb1c9301d898b2f5.pdf>.

<sup>244</sup> Sailun Group Co., Ltd., “Feasibility Study Report for Cambodia Factory with Annual Output of 9 Million Semi-Steel Radial Tires,” June 1, 2021. <https://sailuns3.s3.cn-northwest-1.amazonaws.com.cn/upload/portal/20210601/2b5b9af7a12805d7fb1c9301d898b2f5.pdf>.

<sup>245</sup> Sailun Group Co., Ltd., “Sailun Group Co., Ltd. ESG Report 2021,” 2021. <https://sailuns3.s3.cn-northwest-1.amazonaws.com.cn/upload/default/20220426/579e54e93040e4985da9faf7909ec51c.pdf>.

<sup>246</sup> Qilu Special Economic Zone, “Cambodia Qilu Special Economic Zone.” [http://www.qlijitq.com/page\\_en/particle3.asp?sid=](http://www.qlijitq.com/page_en/particle3.asp?sid=).

safeguards. Shortcomings in CART Tire’s environmental performance include the use of coal, outdated air quality regulations, reporting transparency, and the factory’s proximity to rivers.

### *Air and water quality impacts*

CART Tire’s feasibility study outlines standards for air particulate and water pollution, suggesting the project will adhere to both Chinese and Cambodian standards.<sup>247</sup> However, the Chinese air quality standards used in CART Tire’s feasibility study follow the outdated MEE GB3095–1996 standards, which were upgraded in 2016 to the stricter MEE GB3095–2012 standards.<sup>248</sup> As the standards update predates CART Tire’s feasibility study, undertaken in 2021, it is unclear why the more stringent emissions standards for industrial processing under GB3095–2012 are not used. CART Tire’s feasibility study also pledges compliance with Cambodian environmental standards,<sup>249</sup> which follow EU air quality directives.<sup>250</sup> The EU standards are stricter than the Chinese standards for industrial processing, but both are below the World Health Organization recommendations for ambient air quality.<sup>251</sup>

EPIAC has emphasized that wastewater treatment solutions will be a focus of the SEZ’s environmental mandate,<sup>252</sup> with Qilu SEZ announcing the intention to build sewage treatment facilities for the park<sup>253</sup> and EPIAC providing support.<sup>254</sup> However, there is limited information on the status of these park facilities. Factories in Qilu SEZ are situated near the Stoeng Basak river, where they source water from. This proximity makes the Stoeng Basak vulnerable to contamination, and CART Tire is one of the closest factories to the river. CART Tire’s feasibility study outlines plans for a drainage diversion system to funnel contaminated water to sewage treatment plants, in adherence with Cambodia’s pollution standards, before it is discharged into a network.<sup>255</sup>

CART Tire’s feasibility study and Cambodian government statements provide information on the depth and quality of the project’s prospective environmental risk mitigation. But as the project began operations at the end of 2021, there has been minimal news coverage of CART Tire’s implementation of environmental safeguards. Cambodian regulatory processes require projects to conduct a preliminary EIA, which may be produced by the developer, and an official EIA, which must be conducted by a licensed Cambodian agency. CART Tire’s preconstruction EIA is available as part of the project’s feasibility study, but the official EIA following the project’s construction is not available to the general public.<sup>256</sup> Per Cambodian law, public consultation and participation in EIA formulation is

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<sup>247</sup> Sailun Group Co., Ltd., “Feasibility Study Report for Cambodia Factory with Annual Output of 9 Million Semi-Steel Radial Tires,” June 1, 2021. <https://sailuns3.s3.cn-northwest-1.amazonaws.com.cn/upload/portal/20210601/2b5b9af7a12805d7fb1c9301d898b2f5.pdf>.

<sup>248</sup> Ministry of Ecology and Environment of the People’s Republic of China, *Ambient Air Quality Standards*, January 1, 2016. [https://www.mee.gov.cn/ywggz/jgbz/bz/bzwb/dqjhjbh/dqhzlzbz/201203/t20120302\\_224165.shtml](https://www.mee.gov.cn/ywggz/jgbz/bz/bzwb/dqjhjbh/dqhzlzbz/201203/t20120302_224165.shtml).

<sup>249</sup> Sailun Group Co., Ltd., “Feasibility Study Report for Cambodia Factory with Annual Output of 9 Million Semi-Steel Radial Tires,” June 1, 2021. <https://sailuns3.s3.cn-northwest-1.amazonaws.com.cn/upload/portal/20210601/2b5b9af7a12805d7fb1c9301d898b2f5.pdf>.

<sup>250</sup> Department of Air Quality and Noise Management, “Air Quality Management in Cambodia,” August 2020. [https://www.unescap.org/sites/default/files/12.%20Air%20Quality%20Management%20in%20Cambodia\\_MoE.pdf](https://www.unescap.org/sites/default/files/12.%20Air%20Quality%20Management%20in%20Cambodia_MoE.pdf).

<sup>251</sup> APV Engineered Coatings, “Tire & Rubber Archives.” <https://www.apvcoatings.com/brand/tire-and-rubber/>.

<sup>252</sup> Environmental Protection Industry Association of Cambodia, “柬埔寨首家环保综合产业园落成 [Cambodia’s First Green Industrial Park Completed],” November 12, 2020. <http://www.epiac.org/xxzx/xhdt/7.html>.

<sup>253</sup> Qilu Special Economic Zone. “齐鲁经济特区简介 [Brief Introduction of Qilu Special Economic Zone],” April 28, 2023. <http://www.qljjtq.com/detail/1682668275289>.

<sup>254</sup> May Kunmakara, “Green SEZ Set for Svay Rieng Town,” *Phnom Penh Post*, November 12, 2020. <https://www.phnompenhpost.com/business/green-sez-set-svay-rieng-town>.

<sup>255</sup> Cambodia Ministry of the Interior, *Svay Rieng Provincial Leaders Visit Bavet City*, July 3, 2021. <https://interior.gov.kh/report/detail/8714>.

<sup>256</sup> Open Development Cambodia (ODC), “Environmental Impact Assessment,” September 15, 2014. <https://opendevdevelopmentcambodia.net/km/topics/environmental-impact-assessments/>; Kingdom of Cambodia, *Sub-decree on Environmental Impact Assessment Process*, No: 72 ANRK.BK \$ (1999). <https://s3.amazonaws.com/rgi-documents/5c527d3e55eff909860db87bb2007439f6ee70ca.pdf>.

mandatory.<sup>257</sup> Remote sensing data and satellite imagery were also studied to evaluate the project’s impact. Perplexingly, Qilu SEZ makes no explicit mention of the SEZ’s environmental focus or measures on its official website as of August 2023.<sup>258</sup>

TABLE 25

**Social Safeguards and Protection**

Characteristic	Rating	Remarks
<b>Labor rights</b>	4	No reports of illegal labor practices or labor disputes, but data may be insufficient. Sailun’s employees in China are nominally unionized under corporate leadership. <sup>259</sup> Qilu SEZ management opened an education and training center for residents and employees. <sup>260</sup> CART Tire initiated local workforce hiring schemes through local universities. <sup>261</sup> Employment also lags behind promised numbers: as of 2021, CART Tire claims to have created 380 local jobs, compared to 4,000 described during planning. <sup>262</sup>
<b>Worker health and safety</b>	4	No reported injuries or fatalities at Sailun factory, and the project’s study provides details on labor and safety standards. Additionally, in response to COVID-19, Qilu SEZ claimed to provide COVID vaccinations and personal protective equipment (PPE) to factory workers. <sup>263</sup>
<b>Community engagement and cultural heritage protection</b>	NA	No specific concerns implicated.
<b>Resettlement</b>	NA	No reported resettlement is necessary for either Sailun factory, as Qilu SEZ’s established land predates the investment.
<b>Compliance and reporting</b>	3	Sailun’s website does not publish information specific to its Cambodia factory or laborers, though it has published a feasibility study and a corporate ESG report. <sup>264</sup>

Since CART Tire’s projects began development in 2021, there have been no reports of adverse social impacts such as illegal labor practices, forced resettlement, or instances of CART Tire’s operations compromising the health and

<sup>257</sup> Royal Government of Cambodia Ministry of Education, Youth, and Sports, *Environmental Assessment Review Framework Kingdom of Cambodia: Upper Secondary Education Sector Development Program*, May 2016. <https://www.adb.org/sites/default/files/linked-documents/47136-003-earfab.pdf>.

<sup>258</sup> Qilu Special Economic Zone, “Cambodia Qilu Special Economic Zone.” [http://www.qljttq.com/page\\_en/particle3.asp?sid=-](http://www.qljttq.com/page_en/particle3.asp?sid=-).

<sup>259</sup> 辽宁省沈阳市铁西区总工会官方微博 [@铁西工会]. (December 21, 2021), “@沈阳工人哥们 12月21日下午，副主席张维君、法律民管部部长沈卫华到赛轮（沈阳）轮胎有限公司进行调研，实地了解了公司工会建设工作及公司生产经营情况。维君副主席就新形势下如何发挥工会作用、引领职工思想、产业工人队伍改革、民主管理和职工权益保障等提出了指导意见。同时，维君副主席向获得沈阳市“助推复工复产、共谋企业发展”奖项的职工丛振兴同志颁发了荣誉证书。[@ShenyangWorkingBrothers On the afternoon of December 21, Vice Chairman, Zhang Weijun, and Minister of Legal and Civil Affairs, Shen Weihua, went to survey Sailun (Shenyang) Tire Co., Ltd. and learn about the company’s labor union’s construction work and the company’s production and operation on the ground. Vice Chairman Weijun put forward guiding opinions on how to fulfill the role of labor unions under new circumstances, guiding employees’ thinking, industrial workforce reform, democratic management, and protection of employees’ rights and interests. Vice Chairman Weijun also issued a certificate of honor to Mr. Cong Zhenxing, an employee who won the Shenyang City award for “helping to resume work and production, and contributing to enterprise development”.” @沈阳工人哥们 12... - @铁西工会的微博 - 微博 [@ShenyangWorkingBrothers12... -@TiexiTradeUnion’sWeibo - Weibo],” December 21, 2021. [https://weibo.com/3635406565/L7bVArVks?refer\\_flag=1001030103\\_](https://weibo.com/3635406565/L7bVArVks?refer_flag=1001030103_).

<sup>260</sup> National Industrial and Commercial Belt and Road Information Platform, “Qilu Special Economic Zone.” <http://ydylnmgr.acfic.org.cn/app/jwjmhqzqgbzn/yz/jp229/2020080414182155863/index.html>.

<sup>261</sup> Cambodia Ministry of the Interior, *Svay Rieng Provincial Leaders Visit Bavet City*, July 3, 2021. <https://interior.gov.kh/report/detail/8714>.

<sup>262</sup> United Nations Industrial Development Organization Investment and Technology Promotion Office Korea, “COVID-19 Response in Cambodia Economic Policy and Enabling Environment,” February 28, 2021. <http://unidoseoul.org/en/?p=6257>.

<sup>263</sup> National Industrial and Commercial Belt and Road Information Platform, “Qilu Special Economic Zone.” <http://ydylnmgr.acfic.org.cn/app/jwjmhqzqgbzn/yz/jp229/2020080414182155863/index.html>.

<sup>264</sup> Sailun Group Co., Ltd., “Feasibility Study Report for Cambodia Factory with Annual Output of 9 Million Semi-Steel Radial Tires,” June 1, 2021. <https://sailuns3.s3.cn-northwest-1.amazonaws.com.cn/upload/portal/20210601/2b5b9af7a12805d7fb1c9301d898b2f5.pdf>; Sailun Group Co., Ltd., “Sailun Group Co., Ltd. ESG Report 2021,” 2021. <https://sailuns3.s3.cn-northwest-1.amazonaws.com.cn/upload/default/20220426/579e54e93040e4985da9af7909ec51c.pdf>.



safety of workers or the inhabitants of Svay Rieng. However, reporting on CART Tire is dominated by coverage of Sailun's CSR activity and hiring initiatives, with little information on the project's actual social impacts. CART Tire has followed through on promises to offer employment opportunities to locals and addressed worker safety risks in the project's feasibility study. Yet, Sailun's low reporting transparency with regard to the social impact of CART Tire in Cambodia is an obstacle to accountability and prevents monitoring of social safeguards as the project progresses and expands its workforce.

### *Workers' rights and job creation*

Qilu SEZ's management team and CART Tire have emphasized their contributions to job creation in Cambodia.<sup>265</sup> CART Tire initiated hiring schemes at Svay Rieng University and Sen Svay Rieng Techo Polytechnic.<sup>266</sup> By the end of 2021, the UN reported that CART Tire created 380 local jobs.<sup>267</sup> Sailun employees are nominally unionized,<sup>268</sup> but the union is affiliated with corporate management, undermining its efficacy in advocating for worker interests. Other factories operating in Qilu SEZ have an active union presence,<sup>269</sup> but there are no reports of CART Tire's employees unionizing.

### *Feasibility study*

CART Tire's feasibility study conducted a risk assessment of occupational hazards, outlining risk reduction measures. Since the feasibility study was undertaken, CART Tire has not produced publicly available information on the implementation or monitoring of these safety measures. On social media, CART Tire publishes photos of worker housing facilities and advertises training and language classes offered to employees, but there are no images of the factory's interior or reporting on factory conditions.<sup>270</sup> Qilu SEZ provided workers in the SEZ with COVID-19 vaccinations and PPE. Employees of the SEZ also reportedly have access to training courses offered by the Qilu Training and Education Center, but the conditions under which the classes are offered remain unclear.<sup>271</sup>

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<sup>265</sup> China Council for the Promotion of International Trade, "Sihanoukville Special Economic Zone | A Well-Known Chinese Tire Company Invests Nearly 300 Million US Dollars to Build a Tire Factory in Cambodia," January 26, 2022.

<https://oip.cpcit.org/ent/parkNew/29873jsessionid=48FA9071CD2F25D3B75D473D83ADC7E3>.

<sup>266</sup> Cambodia Ministry of the Interior, *Svay Rieng Provincial Leaders Visit Bavet City*, July 3, 2021. <https://interior.gov.kh/report/detail/8714>.

<sup>267</sup> United Nations Industrial Development Organization Investment and Technology Promotion Office Korea, "COVID-19 Response in Cambodia Economic Policy and Enabling Environment," February 28, 2021. <http://unidoseoul.org/en/?p=6257>.

<sup>268</sup> 辽宁省沈阳市铁西区总工会官方微博 [@铁西工会]. (December 21, 2021), "@沈阳工人哥们 12月21日下午, 副主席张维君、法律民管部部长沈卫华到赛轮(沈阳)轮胎有限公司进行调研, 实地了解了公司工会建设工作及公司生产经营情况。维君副主席就新形势下如何发挥工会作用、引领职工思想、产业工人队伍改革、民主管理和职工权益保障等提出了指导意见。同时, 维君副主席向获得沈阳市“助推复工复产、共谋企业发展”奖项的职工从振兴同志颁发了荣誉证书。[@ShenyangWorkingBrothers On the afternoon of December 21, Vice Chairman, Zhang Weijun, and Minister of Legal and Civil Affairs, Shen Weihua, went to survey Sailun (Shenyang) Tire Co., Ltd. and learn about the company's labor union's construction work and the company's production and operation on the ground. Vice Chairman Weijun put forward guiding opinions on how to fulfill the role of labor unions under new circumstances, guiding employees' thinking, industrial workforce reform, democratic management, and protection of employees' rights and interests. Vice Chairman Weijun also issued a certificate of honor to Mr. Cong Zhenxing, an employee who won the Shenyang City award for "helping to resume work and production, and contributing to enterprise development".] @沈阳工人哥们 12... - @铁西工会的微博 - 微博 [@ShenyangWorkingBrothers12... -@TixiTradeUnion'sWeibo - Weibo]," December 21, 2021. [https://weibo.com/3635406565/L7bVArVk5?refer\\_flag=1001030103\\_](https://weibo.com/3635406565/L7bVArVk5?refer_flag=1001030103_).

<sup>269</sup> *Khmer Times*, "Garment Workers Continue Protest," December 13, 2016. <https://www.khmertimeskh.com/63008/garment-workers-continue-protest/>.

<sup>270</sup> Facebook, "CART Tire Cambodia." <https://www.facebook.com/Cart-tire-Cambodia-109784604945678/>.

<sup>271</sup> National Industrial and Commercial Belt and Road Information Platform, "Qilu Special Economic Zone." <http://ydylngr.acfic.org.cn/app/jwjmhzqgbzn/yz/jpz29/2020080414182155863/index.html>.

### *Community consultations*

Community consultations and resettlement policies are particularly relevant during the land acquisition and clearing phases of the project. Therefore, these protocols would have fallen under Qilu SEZ management's scope of responsibility, rather than CART Tire's. Qilu SEZ does not publicly report on local stakeholder engagement or cultural heritage protection. As per Cambodian regulations, Sailun conducted a preliminary SIA as part of the project's feasibility study. However, the feasibility study SIA focuses entirely on worker health and safety risks, omitting discussion of project impacts to Svay Rieng locals. CART Tire's final environmental assessment and environmental permit are not publicly available.

CART Tire's feasibility study is the extent of its documentation of the project's social risks. Press on Qilu SEZ has not addressed labor conditions at CART Tire, nor has it examined the factory's community impact. In the absence of follow-up disclosures and lack of media reporting on factory conditions, it is difficult to assess CART Tire's compliance with its own safety standards. CART Tire has an active social media presence, providing insight into resources provided to employees. Qilu SEZ's official website provides no information or reporting on social safeguards undertaken at the SEZ level. While Sailun has an ESG report, there is no specific mention of CART Tire or its investment in Cambodia. Sailun's corporate reporting does not discuss wage policies, hiring policies, or union activity.

TABLE 26

**Governance**

<b>Characteristic</b>	<b>Question</b>	<b>Yes/No/NA</b>
<b>Transparency</b>	Does the company have audit controls, including an internal audit committee?	Yes
<b>Transparency</b>	Does the company utilize third-party audits?	Yes
<b>Transparency</b>	Is information on the company's senior management team publicly available?	Yes, disclosed in annual report.
<b>Transparency</b>	For investment projects, is there disclosure of the investment timeline, management, investment partners, contractors, and other information, such as a dedicated online portal for the project?	Yes. Project timeline, management, and third-party contractors are disclosed in annual reports and periodic public announcements. However, aside from a Facebook page with limited information, Sailun does not host a dedicated page for CART Tire on the company's website.
<b>ESG reporting</b>	Does the investing company (or its parent company) issue an annual ESG report?	Yes
<b>ESG reporting</b>	Does the company provide quantitative metrics on the company's total ESG impact?	Yes. It includes total emissions, pollutant levels and standards, pollution treatment facilities use, and others.
<b>ESG reporting</b>	Does the ESG report contain project-level information?	No. All data are at the company level; no specific data exist on Sailun's Cambodian factories.
<b>Corruption and fraud</b>	Has the company been implicated in corruption or bribery scandals, either within the host country or in other countries, in open-source reports?	No, based on available reports.
<b>Ownership disclosure</b>	Does the parent (investing) company disclose its own shareholders in sufficient detail?	Yes

Overall, Sailun performs better in governance than the companies in the three other case studies, fulfilling eight out of the nine criteria. The lack of disclosure at the project level in Cambodia is the main drawback. There are no known legal issues surrounding Sailun's governance of CART Tire. Sailun demonstrates transparency in reporting on corporation-level ESG initiatives and has released its GHG emission report, one of the first Chinese tire companies to do so. As Sailun owns 100 percent of shares in CART Tire, the assessment of the project company's governance performance draws from Sailun's corporate reporting. Sailun conducts and discloses corporate ESG reporting, though these reports do not cover the company's operations abroad in detail, and its general policies defer to local ESG regulations for international operations. There have been no reports of either CART Tire or Sailun engaging in corruption or bribery.

While there is no record of a third-party audit of CART Tire, Sailun has an internal audit committee and results are published in the company's audit reports. Internal control reports and assurance reports are also publicly available. Sailun's assurance report describes tax rates for the project but does not disclose the amount of tax payments made to the Cambodian government. Under Qilu SEZ's preferential policies, CART Tire is exempt from corporate income tax payments for the project's first nine years of revenue-generating operations.

Sailun has advertised that CART Tire’s tire production will invigorate Cambodia’s rubber industry by using more than 150,000 metric tons of local rubber in its first five years of production.<sup>272</sup> However, these ambitious plans have been put on hold, as the Cambodian rubber industry lacks the technological capacity needed to produce compounded rubber. CART Tire has since pledged to provide Cambodian producers with equipment needed to refine domestically produced raw rubber, the form in which almost all Cambodian latex is currently exported.<sup>273</sup> It is too early to evaluate the corporate governance performance of Sailun’s participation in Cambodia’s rubber supply chain, but this will be a key area to monitor in the future.

Sailun’s corporate reporting includes annual reports, audit reports, internal control reports, and assurance reports as the main source of information to evaluate the project’s governance performance. Shareholder information and ownership shares of CART Tire are recorded in Sailun’s annual reports. Reporting from Cambodian government sources substantiated regulatory information about Qilu SEZ and preferential policies available to CART Tire. We did not find evidence of formal corruption or bribery cases via open sources.

#### 4.4.3 Takeaways

Qilu SEZ is a China-owned and operated SEZ that publicly aspires to being a “green industrial park” adhering to elevated environmental standards with support from the Cambodian government. At the same time, Qilu SEZ and EPIAC’s lack of public disclosure after the feasibility and initial scoping stage—especially on pollution controls—makes it difficult to evaluate compliance with these standards in practice. Future research should evaluate other projects in Qilu SEZ to determine if the SEZ has successfully systematized solutions to reduce the environmental degradation propagated by Cambodia’s expanding industrial zones.

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<sup>272</sup> Cambodia Constructors Association, “Cambodia’s First Tire Factory under Construction Plans to Buy 150,000 Metric Tons of Domestic Rubber a Year,” July 2, 2021. <https://construction-property.com/km/cambodias-first-car-tire-factory-under-construction-to-use-over-150000-tons-local-rubbers-in-next-5-years/>.

<sup>273</sup> RubberWorld, “Cambodia’s Rubber Latex Exports Flat for First Two Months of 2022,” April 4, 2022. <https://rubberworld.com/cambodias-rubber-latex-exports-flat-for-first-two-months-of-2022/>.

# Conclusions and Policy Implications

Chinese firms' activities in Southeast Asia are changing, and ESG principles are an increasingly important consideration as they explore new opportunities in Indonesia, Cambodia, and beyond. As our case studies illustrate, how these Chinese firms investing in Southeast Asia implement ESG principles in practice is far from uniform. In some cases, costs to local populations, ecosystems, and governance modes have been significant. The experiences of Indonesia and Cambodia in tracking and managing China's investments—and their ESG impacts—mirror the larger challenge for countries in the region, as issues of state capacity and enforcement can hamper projects that aim to have a fundamentally positive and sustainable impact, whether in alternative energy, sustainable manufacturing, or other sectors.

Our data and analysis suggest that China's engagement in the region is fundamentally shifting to new sectors, with a different ESG profile compared to past Chinese investments in the region. Examining four case studies in Indonesia and Cambodia, we see how China's firms are considering ESG in their overseas operations and responding to global ESG trends.

First, **Chinese companies are paying increasing attention to ESG concepts**, formulating ESG policies and increasingly disclosing firm-wide ESG activity. However, much of their focus remains on corporate charity and CSR. For recipient countries to know their investment partners, much more is needed, including a comprehensive (and, according to Chinese law, required) system of company-wide disclosure with clear standards and mandatory compliance.

Second, **there is no single story of China's investment in Indonesia and Cambodia, and ESG impacts vary**. Some investments are highly opaque, posing clear concerns for corruption and negative social and environmental outcomes, like Dara Sakor. Others overtly embrace “green” and sustainable principles, like the CART Tire plant in Qilu SEZ. The confounding effects of Chinese (and international) industrial zones make it even more difficult to distinguish positive or negative ESG contributions from individual firms, raising the stakes for policymakers and regulators to ensure zones are well planned, well managed, and well supervised to ensure positive ESG outcomes.

Third, **host country context in Indonesia and Cambodia matters for ESG outcomes**. China's legal regime for foreign investors, which places most of the ESG regulatory burden on host countries, means that local conditions and practices are important for understanding ESG outcomes. Even where Chinese firms aim (or claim to aim) for higher standards or better compliance, as long as Indonesian and Cambodian regulations lag behind international or Chinese standards, companies will have fewer incentives to perform beyond baseline.

Fourth, **transparency remains a recurring issue for the firms in our case study**. This implicates the Chinese firms covered in our case studies as well as Indonesia and Cambodia's transparency and disclosure regimes, which appear to contain major gaps. For example, without ready access to impact assessments, it is very difficult to determine how effectively firms understand and address (or fail to address) ESG risk.

Fifth, in terms of environmental sustainability, across countries and industries, our case studies observe **recurring challenges, including questions regarding the protection of waterways, marine areas, and protected land**. The investments in our case studies are all located near sensitive zones that do not appear to have received sufficient consideration and, in some cases, appear to have developed in contravention of Indonesian or Cambodian law or

best practices. In the case of Dara Sakor, the legal status of protected land did not serve as an effective safeguard to prevent the development of protected areas.

Sixth, the **green future comes with costs and risks** to countries that will play key roles in global supply chains. The battery materials and geothermal power station explored in this report exhibit poor environmental performance in one or more areas, including water safety and pollution controls, even as the technologies they advance become increasingly important for wider environmental outcomes.

Our research has several implications for policymakers and the philanthropic community.

First, **increasing the transparency of China’s overseas investment patterns and investors remains a key challenge even in this next phase of Chinese overseas investment.** Tracking and confirming Chinese outbound investment projects remains challenging, and tightened capital controls and greater national security scrutiny have further increased existing transparency problems. These issues are particularly acute in Southeast Asia because of governance problems, large informal sectors, and other factors. Understanding the ultimate ownership of Chinese overseas investments is also critical for identifying the ESG risks a proposed investment may pose for potential partners, national and local authorities, and civil society groups. Creating tools to improve the capacity for data collection and due diligence among local stakeholders should be a primary goal for philanthropies and international organizations. Importantly, transparency in China’s overseas investments is deteriorating, not improving.

Second, **improving corporate-level ESG disclosure and reporting is another important pillar for more robust ESG impact assessment in both China and potential partner countries, even at an aggregate level.** The reporting available from our sample Chinese firms does not include quantifiable metrics, even on the company’s aggregate impact. Specific ESG standards and frameworks like the Sustainability Accounting Standards Board (SASB) standards and the Global Reporting Initiative are a starting point but have not been uniformly adopted, even by firms that report ESG. Adopting specific ESG criteria allows ESG impact to be distinguished from traditional CSR, offering a more detailed insight into company impact. Beijing’s appetite for greater foreign portfolio investment and offshore fundraising offers a window of opportunity to work with major institutional investors and impactful ESG funds to accelerate that process and create positive spillovers for other Chinese companies. Chinese firms’ attempts to build global consumer-facing brands provide greater incentive for ESG compliance.

Third, **improving country capacity to review and monitor project-level environmental and social impact assessments and conduct ongoing reporting is important to ensuring better outcomes in Indonesia, Cambodia, and beyond.** Our research confirms findings of previous studies: in Cambodia and Indonesia, responsibility for reviewing and enforcing regulations may be spread across different agencies or levels of government that lack sufficient staffing or expertise to handle complex ESG issues. Importantly, improving recipient institutional capacity improves officials’ ability to deal effectively with investor firms from all countries, not just China, and attract investment from other destinations.

Fourth, **engaging communities affected by an investment early, often, and meaningfully** is difficult but critical. Even where consultations are nominally held, they may be held too late, may lack sufficient community participation, or may be unable to affect project design or outcomes, even following project-related accidents or negative outcomes. Traditional CSR initiatives involving donations or agricultural training do not offset these needs. Chinese firms’ reliance on joint ventures, local partners, or secondary consultants for impact assessment and engagement may compound these risks.

Fifth, **it is important to tread carefully with large land concessions, SEZs, and industrial zones.** These are particularly complex to supervise and manage from an ESG perspective. It can be difficult to distinguish how individual firms adhere to ESG principles. On the other hand, shared zones offer opportunities for shared infrastructure and collaboration on ESG outcomes.

Sixth, **these changes in China's engagement with Southeast Asia and regional supply chains offer an opportunity for Indonesia, Cambodia, and outside investors to share best practices and improve ESG outcomes.** Cambodia's draft overhaul of environmental laws is an encouraging start, and China continues to roll out new voluntary guidelines and standards that can serve as a blueprint—if not a binding guide—for its overseas firms. New activity in next-generation sectors presents a chance to improve ESG outcomes at all levels, but it will require a concerted effort—from regulators, investors, and other groups—to achieve consistently strong ESG outcomes in foreign investment.

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