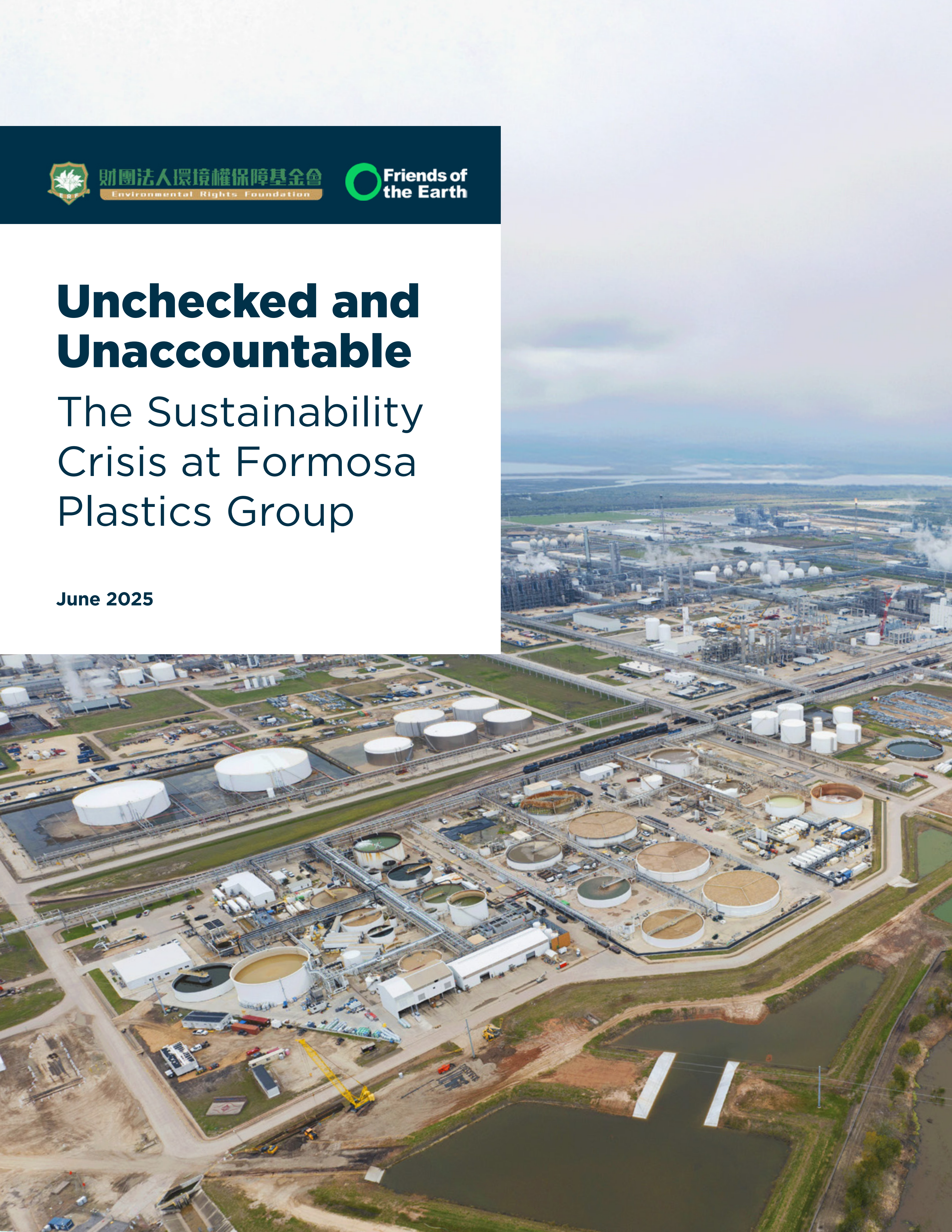

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Unchecked and Unaccountable

The Sustainability Crisis at Formosa Plastics Group

June 2025

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Disclaimer

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Table of Contents

EXECUTIVE SUMMARY

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Formosa Plastics Group (FPG) is Taiwan's largest industrial conglomerate and one of the world's largest petrochemicals and plastics producers. It has received close to US$2 billion in sustainability-linked loans and is included in over 40 ESG-labelled funds.[1] Yet FPG's track record demonstrates that it has been a "serial offender" against environmental regulations, posing a threat to human health, local ecosystems, and the global climate.[2]

FPG's sustainability failures have not helped it financially. The Group's largest companies have lost half of their share value since the start of 2024, while a significant fall in profits and rising debts have triggered downgrades by major credit rating agencies.

This report examines how Formosa Plastics Group performs in relation to environmental, social and governance (ESG) standards. It finds that:

- **Climate.** The conglomerate's objective to "achieve carbon neutrality by 2050" is not matched by its actions, which are "strongly misaligned" with a credible pathway to limiting global warming to 1.5°C. It has fallen short on benchmarks to develop decarbonisation strategies and transition plans. The scope 1, 2 and 3 emissions attributed to FPG's four main companies, which may include some degree of overlap, amounted to 143 MtCO2e in 2022, higher than the greenhouse gas emissions of 165 countries.[3]
- **Environment.** FPG has accrued over US$535 million in financial penalties for 164 separate environmental violations since 2010.[4] It was responsible for Vietnam's worst-ever industrial disaster when a 2016 discharge of toxic chemicals devastated over a hundred miles of coastline, affecting tens of thousands of livelihoods. In 2019, it reached a US$50 million settlement for water violations in Texas, USA, but continues to pollute local waterways and has accrued a further $28 million in fines.[5]
- **Human Rights.** FPG's proposed Sunshine Project in Louisiana, USA, has drawn criticism from UN human rights experts, who condemned this and other petrochemical expansion plans in the region as a form of "environmental racism" that pose a threat to the "right to equality and non-discrimination, the right to life, the right to health, right to an adequate standard of living and cultural rights."[6] The environmental disaster in Vietnam also displaced communities, while protests by the victims have been met with arrests and excessive force.[7]

- **Labor.** Formosa Taffeta has been accused of serious labor rights violations at a textile factory in Dong Nai Province, Vietnam, including coerced labor, wage violations and occupational safety issues.[8] A number of investors, including Norway's Government Pension Fund Global (GPFG), excluded investment in the company as a result.
- **Governance.** FPG's complex network of corporations, subsidiaries, and affiliates involves circular shareholder relationships between and among the constituent companies, which obscures beneficial ownership and control.

We present case studies from Taiwan, United States and Vietnam that highlight a series of failings to uphold environmental, social and governance standards, as well as documenting how the company has emerged as one of Taiwan's leading importers of Russian coal.

The evidence suggests that FPG's failings are not isolated incidents or the actions of rogue subsidiaries — they represent a broader corporate culture that has repeatedly placed attempts to bolster the Group's faltering profitability above people, planet, and regulatory compliance. In this context, FPG poses not only a reputational and regulatory risk, but a clear values misalignment for responsible investors and stakeholders concerned with long-term sustainability, human dignity, and climate action.

The report concludes with a series of recommendations on how financial institutions, ESG and credit rating agencies should engage with Formosa Plastics companies, as well as recommendations on how the Group could improve on its poor track record.

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WHAT IS FORMOSA PLASTICS GROUP?

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Formosa Plastics Group (FPG) is Taiwan's largest industrial conglomerate with total assets of NT$4.015 trillion (~US$132 billion) and annual revenue of NT$2.102 trillion (~US$69 billion).[9] It consists of four principal business units - Formosa Petrochemical Corporation (FPCC), Formosa Plastics Corporation, Nan Ya Plastics, and Formosa Chemicals & Fibre Corporation – as well as close to 100 subsidiaries and associated companies. This complex network of corporations, subsidiaries, and affiliates involves circular shareholder relationships between and among the constituent companies, which obscures beneficial ownership and control.

Founded in 1954, FPG began as a producer of polyvinyl chloride (PVC) and has since evolved into a diversified global enterprise. The Group's supply chain is tightly integrated, particularly within its petrochemical and plastics divisions. It manages the entire lifecycle of production – from raw material extraction and refining through intermediate chemical processing and manufacturing to the delivery of consumer-facing materials and components. Its activities extend to oil exploration and drilling, power generation, transportation, and the manufacture of steel, electronics, fertilizers, pesticides, pharmaceuticals, biotechnology, automobiles, and more.[10]

FPG's client base includes well-known global brands across diverse sectors. These include clothing and sportswear companies such as Adidas and Nike;[11] automotive companies including Hyundai and Toyota;[12] and beverage giants Coca-Cola and PepsiCo.[13]

Financial performance

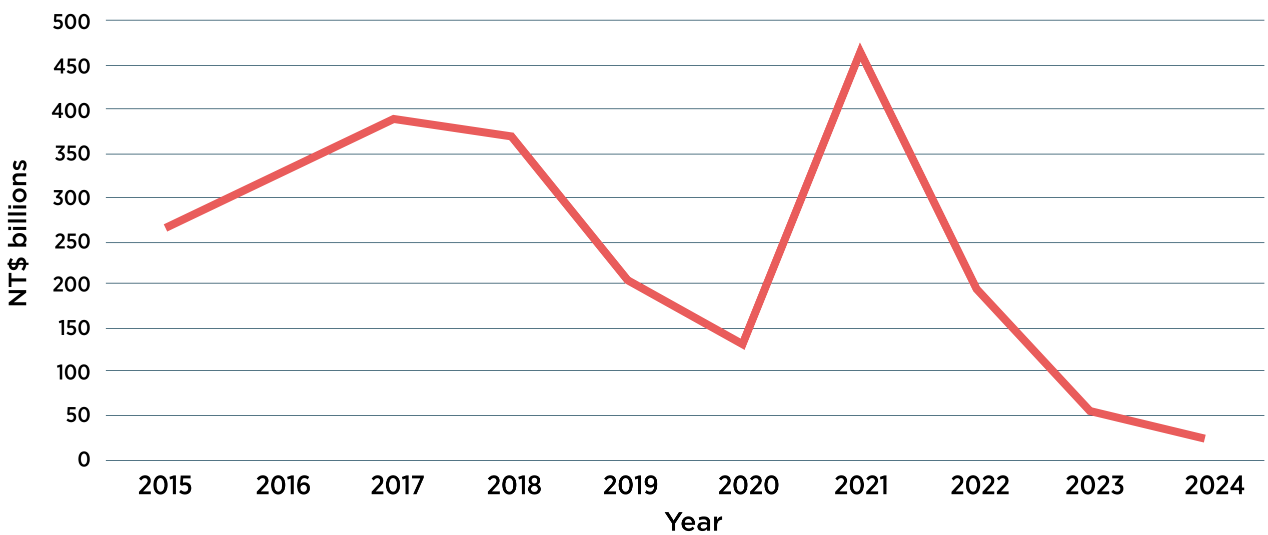
The market capitalization of the four main subsidiaries of the Formosa Plastics Group is NT$995 billion (US$21.8 billion), with these companies having lost more than half of their market value since the start of 2024. Formosa Plastics Group's profitability and stock values have underperformed relative to both the Taiwan Index (TAIEX) and the S&P 500 over this period.

Table 1: Formosa Plastics share prices (NT$), 2024-2025[14]

Company	May-24	May-25	% change
Formosa Petrochemical	71.60	34.95	-51.19
Formosa Plastics	68.80	34.00	-50.58
Nan Ya Plastics	57.40	30,60	-46.69
Formosa Chemicals and Fibre	55.70	24,90	-55.30

FPG reported NT$24.18 billion (US$794 million) in pre-tax profits in 2024, a considerable decline on previous years.[15]

Figure 1: Formosa Plastics Group pre-tax profits, 2015-2024[16]



The four largest FPG group companies have a BBB+ rating from S&P and a Baa1 rating from Moody's. Both ratings agencies assign to these companies a negative outlook.

Table 2: Formosa Plastics Group credit ratings

Company	S&P	Moody's
Formosa Plastics	BBB+ ↓	Baa1 ↓
Formosa Petrochemical	BBB+ ↓	Baa1 ↓
Nan Ya Plastics	BBB+ ↓	Baa1 ↓
Formosa Chemicals and Fibre	BBB+ ↓	Baa1 ↓

S&P cited "persistent pressure on profitability" and debt levels, alongside weak global demand and capacity additions in China, as factors contributing to the negative outlook.[17] It cautions that "aggressive capacity additions", such as the proposed Sunshine Project in Louisiana, would likely lead to a further downgrade.

The 2023 S&P revision projected that the four companies' earnings before interest, taxes, depreciation, and amortization (EBITDA) would be around NT$103 billion in 2023, recovering to NT$133 billion in 2024.[18] The actual performance of the four main FPG companies fell considerably short of these expectations, with their combined EBITDA reaching NT$75.4 billion in 2023 and continuing to fall to just NT$53.9 billion in 2024, less than half the figure projected by S&P.[19]

In January 2025, Moody's downgraded the four companies' ratings to Baa1 with a continued negative outlook, and made a sharp downward revision of its expectations for the company's adjusted debt/EBITDA.[20]

Cash Flow Deficits and the Illusion of Profitability

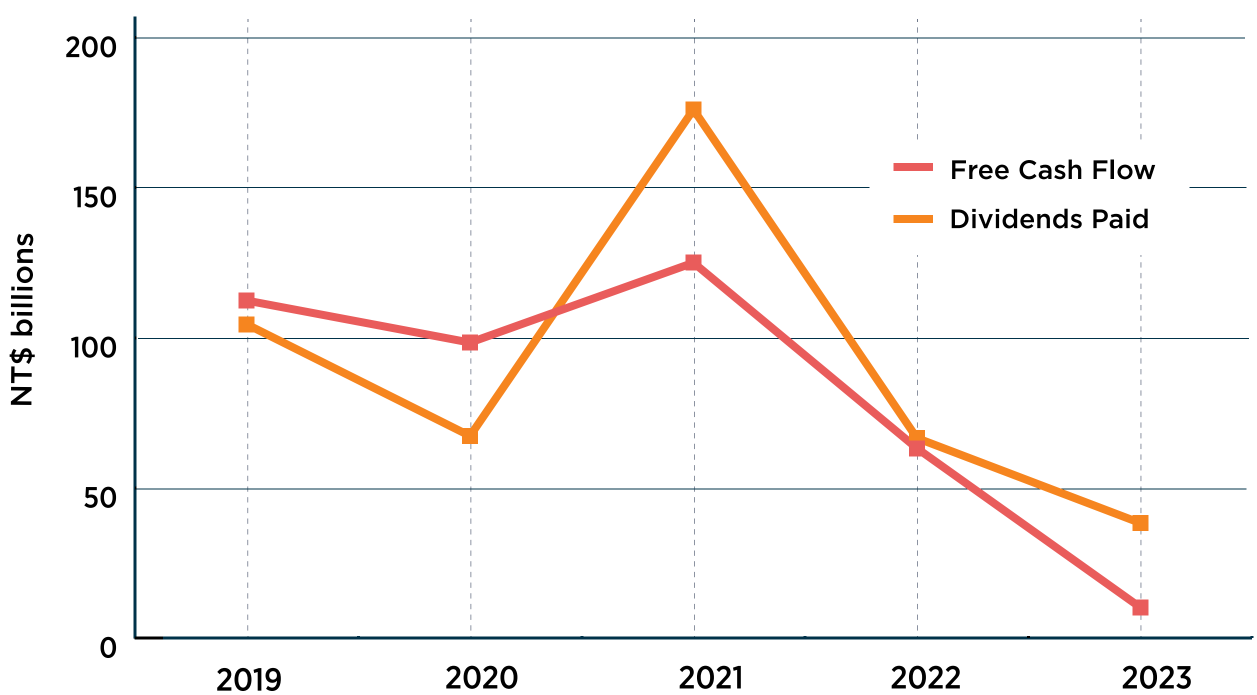
FPG's intricate web of interlocking shareholdings across its major subsidiaries has long obscured true ownership and effective corporate control. This structural opacity raises significant concerns around corporate governance, accountability, and risk oversight—particularly amid recent financial underperformance.

The sharp downturn in FPG's profitability invites scrutiny of its cash flow management. Investors can typically expect companies to use free cash flow (FCF)—profit generated from core operations after deducting operating costs and capital investments—for shareholder returns and to pay down debt.[21] Significant deviations from this standard call for enhanced prudence in management and oversight.

Between 2019 and 2023, the Group's four largest companies distributed approximately NT$452.6 billion (~US$15.1 billion) in cash dividends while generating only NT$402.9 billion (~US$13.4 billion) in total free cash flow—a deficit of nearly NT$49.7 billion (~US$1.7 billion). Formosa Petrochemical was the only entity to maintain a positive FCF balance after paying dividends over this period. The other three—Formosa Plastics Corporation, Nan Ya Plastics, and Formosa Chemicals & Fibre—recorded persistent deficits.[22]

- **Formosa Plastics Corporation** reported a cumulative FCF deficit of approximately NT$34.5 billion (~US$1.1 billion). In 2023 alone, it recorded a negative FCF of NT$21.3 billion (~US$0.7 billion) yet still distributed NT$6.3 billion (~US$0.2 billion) in dividends.
- **Nan Ya Plastics** accumulated a deficit of NT$18 billion (~US$0.6 billion), with four out of five years showing negative FCF.
- **Formosa Chemicals & Fibre** posted a NT$3.4 billion (~US$0.1 billion) shortfall and has recorded three consecutive years of negative free cash flow. Despite a 2023 FCF of -NT$10.2 billion (~US$0.3 billion), it paid out approximately NT$7.3 billion (~US$0.2 billion) in dividends.

Figure 2: Free Cash Flow (FCF) versus Dividends Paid by Formosa Plastics Group from 2019 to 2023[23]



Operating profits for these three companies were nearly halved in 2023 compared to the previous year. Yet, all four entities increased their dividend payout ratio to approximately 80%, up from a historical average of around 70%.

While generous dividends can be used to reassure investors during downturns, FPG's payouts appear to serve an internal strategic function as well.

Due to FPG's circular shareholding structure, intra-group dividend payments constitute a substantial portion of reported profits. This allows the Group to present a facade of financial strength even as core business performance deteriorates. In 2023, dividend income represented:

- 52.4% of pre-tax profit at Formosa Plastics Corporation,
- 66.8% at Formosa Chemicals & Fibre,
- 19.8% at Nan Ya Plastics, and
- 8.3% at Formosa Petrochemical.[24]

These figures highlight how dividend flows between related entities mask underlying weaknesses and inflate reported earnings—a practice that undermines transparency and heightens governance risks. **The masking effect may bolster short-term financial optics, but it raises red flags for long-term sustainability, especially when paired with deteriorating fundamentals and negative credit outlooks**.

ESG financing and investments

Formosa Plastics Group companies have received US$1.91 billion in sustainability-linked loans. Seven sustainability-linked loan and credit facilities were made to the four major FPG companies, and to the Formosa Ha Tinh (Cayman) subsidiary, since 2021.[25] The precise details of these loans vary but a common thread is that they have referenced FPG's carbon neutral pledge and climate disclosure policies and pledges.[26]

FPG companies are also included in over 40 ESG-labelled funds, with investments of around US$32 million as of May 2025.[27] This figure is considerably lower than the US$162 million invested by over 50 ESG-labelled funds in the fall of 2024.[28] The difference is accounted for both by divestment and reductions in some funds' weighting of their FPG share holdings. The reason behind these decisions would vary according to the funds' specific investment criteria, although the poor performance of FPG stocks over the past year and reduced profitability are likely to be factors. The "high risk" or "laggard" ESG ratings of some FPG companies can also play a role in excluding their stocks from ESG-labelled funds.

ESG ratings and sustainability benchmarks

Formosa Plastics Group (FPG) and its key subsidiaries generally underperform on major Environmental, Social, and Governance (ESG) benchmarks. ESG rating agencies — including Sustainalytics and MSCI — have raised several concerns regarding the Group's climate alignment, social responsibility, and governance practices, although these have not always been recognized and applied consistently.

Moreover, ESG ratings agencies continue to disregard many of FPG's negative impacts on communities, workers and the environment. In part, this is a symptom of systemic problems in the ESG ratings process, which primarily relies on self-reporting and scoring corporate policies rather than companies' actual impacts.[29] There is significant underreporting, too, of the specific risks posed by the plastics sector.[30] FPG's corporate structure, with its companies cross-owning each other without any individual company typically taking a majority stake, would also appear to shield the rated entities from accountability.

A survey of FPG's performance across other sustainability benchmarks and rankings — Climate Action 100+, World Benchmarking Alliance, and ChemScore — raises some concerns that are not fully captured by ESG ratings agencies, while evidence of further issues arising from the Group's practices is presented in the case studies section below.

Sustainalytics

Sustainalytics assigns ESG Risk Ratings ranging from “Low” to “High” across FPG companies, but offers limited transparency into its methodology. Among the Group’s five core entities:

- **Formosa Petrochemical** and **Formosa Ha Tinh Steel** are rated **High risk**[31]
- **Nan Ya Plastics** and **Formosa Chemicals & Fibre** fall into the **Medium risk** category[32]
- **Formosa Plastics Corporation** is rated **Low risk**.[33]

The Formosa Plastics Corporation rating appears to contradict broader performance trends reported in other benchmarks, and significantly understates the issues observed at its wholly-owned US subsidiary.[34] Formosa Chemicals & Fibre’s assessment appears not to take full account of the issues observed with Formosa Taffeta’s operations in Vietnam, despite it being by far the company’s largest shareholder (~37.5%). These companies’ Point Comfort and Dong Nai facilities are examined in the case studies below.

MSCI

MSCI’s publicly listed ESG Ratings exclude Formosa Petrochemical but cover three other key FPG entities:

Table 3: MSCI ESG ratings

Company	ESG Rating	Climate Target	1.5°C Alignment	Notable Issues
Formosa Plastics[35]	B (“Laggard”)	2050	Strongly misaligned	Structural controversies
Nan Ya Plastics[36]	BB (“Average”)	2050	Strongly misaligned	Labor & human rights violations
Formosa Chemicals & Fibre[37]	B (“Laggard”)	2050	Strongly misaligned	Previously rated CCC

While all three companies have a 2050 climate target, MSCI notes that these are “strongly misaligned” with a 1.5°C climate goal.

In all three cases, MSCI notes that the company “has been involved in one or more recent severe structural controversies that are ongoing” in relation to human rights and local community impacts. This gains the companies an orange performance flag — the second-highest alert level of four. MSCI also finds little evidence of alignment with the UN Sustainable Development Goals, especially in areas of climate, ethics, and labor rights.

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Climate Action 100+

Formosa Petrochemical is included in the Climate Action 100+ Net Zero Company Benchmark.[38] However, it has failed to fully meet any of the 11 benchmark criteria. While it partially meets seven, key deficiencies include:

- No **greenhouse gas emissions target** aligned with the goal of limiting global warming to 1.5°C
- Absence of a credible **decarbonisation strategy** (such as identifying actions, technologies and supply chain measures to meet GHG reduction targets) and no clear plan for aligning capital expenditure with climate targets
- No progress on **just transition planning** or **climate policy engagement.**

World Benchmarking Alliance (WBA)

The World Benchmarking Alliance has made social and environmental assessments of Formosa Plastics Corporation, Formosa Petrochemical and Nan Ya Plastics.

The three companies' performance on social benchmarking was consistently below average on measures of human rights and decent work, and they failed to score at all in relation to positive ethical behaviour on topics such as data privacy, corporate taxation, anti-corruption and lobbying.[39]

Formosa Plastics and Nan Ya Plastics were both rated as below average on the nature benchmark, with particular deficits in relation to:

- **Ecosystems & biodiversity** (9.2/100 and 11.3/100)
- **social inclusion and community impact** (6.7/100 and 2.8/100).[40]

Formosa Petrochemical ranks 77th out of 100 in the WBA's oil and gas benchmark.[41] It notes that "the company has not set a net-zero target or any scope 3 targets, despite scope 3 emissions forming 80% of its total emissions in 2021," and that the company shows "no low-carbon research and development (R&D) spending or capital expenditure (CapEx), [and] there is no evidence that the company is developing any." It also performs poorly on "commitments and disclosure on most human rights and ethical business issues." Formosa Petrochemical scores especially poorly on:

- **Climate transition readiness** (3.6/60)
- **Core social indicators** (1.5/20)
- **Just transition measures** (0/20).

ChemScore

Nan Ya Plastics is included in the ChemScore rankings of how the world's top chemical producers are working to reduce their chemical footprint, receiving a C grade (on a scale running from A+ to D-).[42] This rating reflects the fact that the company has a relatively low known involvement in the production of registered hazardous chemicals, although it remains a provisional judgement because the company performs poorly in terms of transparency and disclosure.

Formosa Chemicals & Fibre was also profiled in the ChemScore rankings until 2022, receiving a D- grade, making it one of the worst performing companies in the sector.[43] Its lack of transparency was highlighted as a concern, alongside "an incident-ridden track record" including environmental, health, safety, and labor violations, and a number of industrial accidents.

Existing Exclusions

Formosa Plastics Group and its affiliates have been excluded by a growing number of institutional investors and financial institutions due to concerns over environmental harm, alleged human rights abuses, and unsustainable business practices. These exclusions cover a broad spectrum of ESG-related issues—including fossil fuel exposure, alleged labor violations, environmental racism, and controversial corporate behavior.

The exclusions span investors in several countries, including Norway, Denmark, the Netherlands, and the UK. Excluded entities include Formosa Chemicals & Fibre Corporation, Formosa Petrochemical, Formosa

Plastics, and Nan Ya Plastics, among others. These decisions have come from pension funds, insurance providers, asset managers, and sovereign wealth funds.

While motivations vary—from climate-related criteria to human and labour rights due diligence failures—many exclusions cite multiple overlapping concerns. Notably:

- **Norway's Government Pension Fund Global** has excluded FPG companies based on human rights violations.
- **Storebrand**, **P+**, and **ATP** cite both climate risks and labor rights concerns.
- **Aviva** and several EU pension funds have divested due to fossil fuel exposure and poor ESG performance.

A full list of exclusions is included in the Annex. These institutional decisions not only reduce FPG's access to responsible capital but also signal reputational risk.

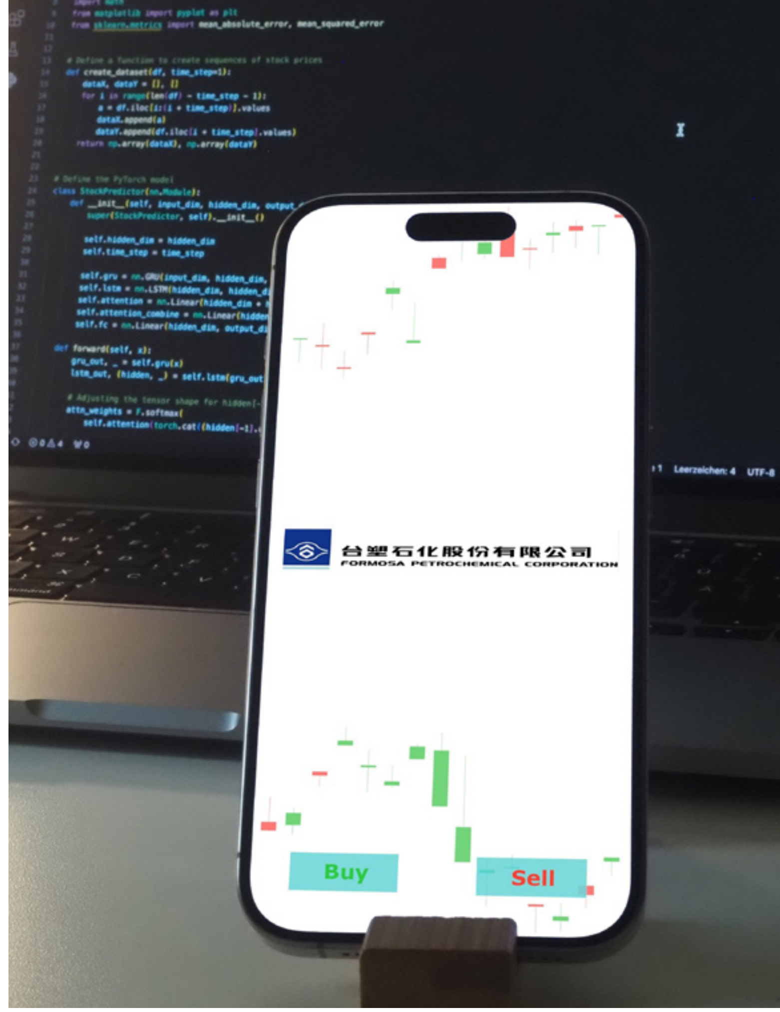

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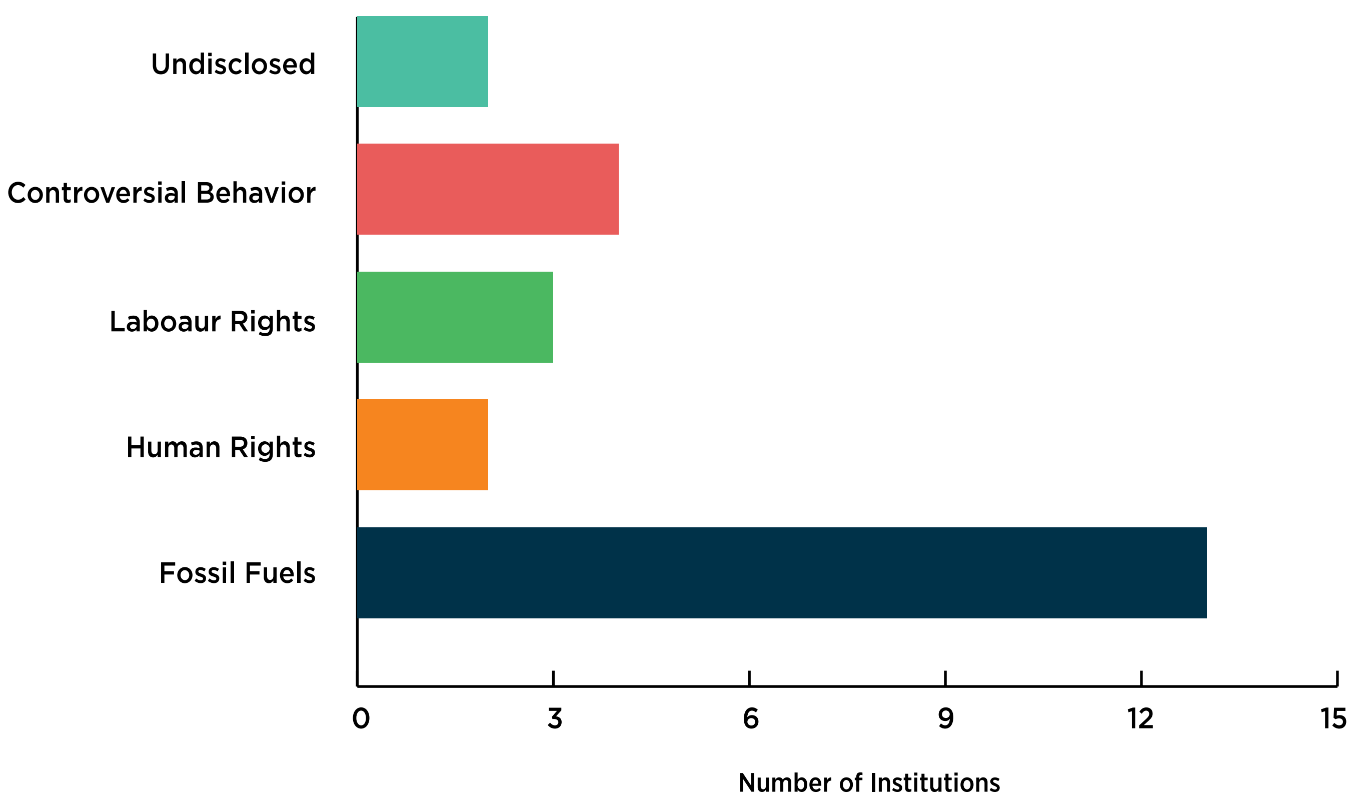
Figure 3. Formosa Plastics Group (principal companies). Financial Exclusions by Issue



A "SERIAL OFFENDER" ON ENVIRONMENTAL, SOCIAL, HUMAN RIGHTS AND GOVERNANCE GROUNDS

Formosa Plastics Group (FPG) has a decades-long record of harmful impacts on people and the planet. Across multiple jurisdictions—from Taiwan and Vietnam to the United States and Cambodia—the Group has been linked to hundreds of cases of toxic air and water pollution, hazardous emissions, environmental racism, and alleged violations of human and labor rights.[44] **The number and severity of these events suggests that they are not isolated incidents but form a recurring pattern that indicates systemic failings in FPG's operations and governance.**

The company's conduct places it in clear conflict with key aspects of several international human rights and sustainability standards, including:

- the UN Guiding Principles on Business and Human Rights (UNGPs),
- the International Covenant on Civil and Political Rights (ICCPR), the International Covenant on Economic, Social and Cultural Rights (ICESCR),
- the ILO Core Labour Conventions,
- the OECD Guidelines for Multinational Enterprises on Responsible Business Conduct, and
- the UN Global Compact, to which many global companies voluntarily commit.

Several FPG sites emit carcinogenic and toxic chemicals - including ethylene oxide, vinyl chloride, and ethylene dichloride - into the local water and air, as well as significant quantities of particular matter (PM10 and PM2.5) that have known associations with asthma and respiratory distress.[45] Significant environmental and health impacts are an inherent risk in petrochemical production, leading to calls for stricter environmental regulation and investment criteria to be applied to the sector.[46] FPG's practices have marked it out as a sustainability "laggard" even compared to other petrochemical and plastics producers, and "a distinctly bad actor in an industry already rife with risk and harm."[47]

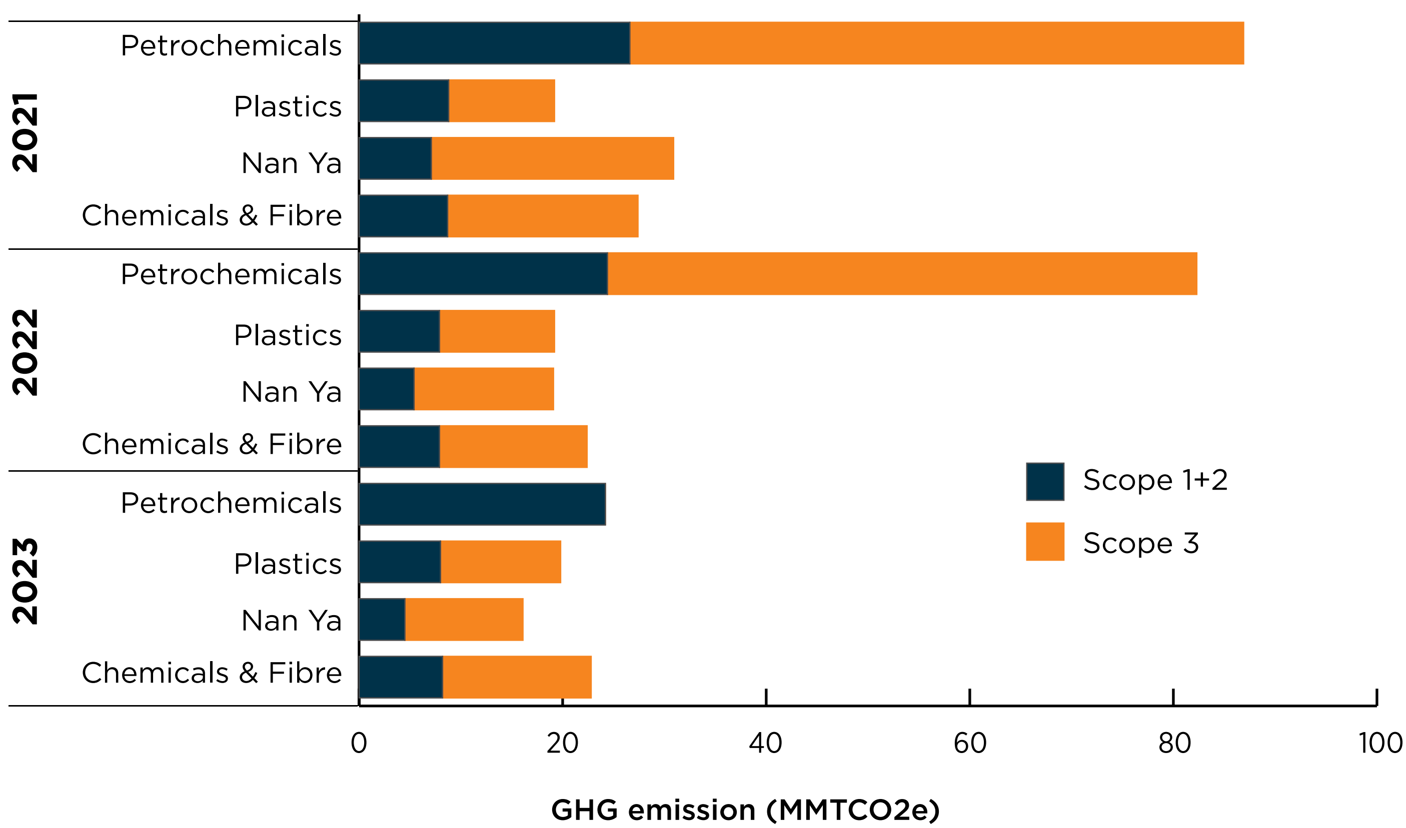
The environmental consequences of FPG's operations extend beyond biodiversity loss and ecological degradation; they also infringe upon a range of internationally recognised rights under UN human rights conventions. These include the rights to health, water, livelihood, a clean, healthy, and sustainable environment, and the right to life. In some cases, FPG has been linked to community displacement—violating the rights to adequate housing and education, undermining cultural rights, and exacerbating racial inequality and discrimination.

FPG's global operations have also been marked by repeated industrial accidents involving toxic releases, explosions, and unsafe working conditions, as well as inadequate respect for freedom of association—reinforcing a broader pattern of non-compliance with international labor standards.

Beyond adverse impacts on the environment and human rights, FPG's climate action is sharply misaligned with international expectations.

FPG has stated that its overall greenhouse gas emissions were 47.29 million metric tons in 2022 and 46.95 millions metric tons in 2023 and claims that this performance sets it on a pathway "towards carbon neutrality by 2050."[48] However, these headline emissions figures obscure more than they reveal as it is unclear whether they include all FPG facilities in Taiwan or globally, all FPG subsidiary companies, and even what scope of emissions is being counted. The sustainability reporting of the main Formosa Plastics Group companies provide a more detailed account with the reported scope 1+2 greenhouse gas emissions of just the four largest FPG companies amounting to 44.82 million tons in 2023, while the total reported scope 1, 2 and 3 greenhouse gas emissions of these companies totalled 143.03 million metric tons in 2022 (the last available figure).[49] The cumulative scope 1, 2 and 3 emissions of FPG's four main companies may include some degree of overlap because they are often each others' upstream or downstream business partners.

Figure 4: Formosa Plastics Group GHG emissions, 2021-2023[50]



The following table summarises key human rights and environmental harms that Formosa Plastics Group and its subsidiaries have allegedly caused, contributed to, or been directly linked with. These incidents raise serious concerns regarding the Group's compliance with internationally recognised standards and obligations under the instruments listed above.

Table 4: Formosa Plastics Group ESG violations

Issue Category		Companies	Key Violations / Risks	Breach of Which Conventions (and Articles)	Independent Assessments / Notes
Environment	**Air & water pollution**	• Formosa Plastics Corp. • Formosa Petrochemical • FCFC • Formosa Ha Tinh Steel (Vietnam) • Nan Ya Plastics	• Toxic air emissions at Sixth Naphtha Cracker, Taiwan • Heavy metal contamination at Formosa Ha Tinh Steel, Vietnam, impacting local fisheries and livelihoods • Hazardous waste disposal at Point Comfort, Texas (nurdles pollution) • High human health risks (RSEI score) in Baton Rouge and Point Comfort[51] • 164 environmental violations, 2010-2025[52]	• UN Global Compact Principles 7–9 • ICESCR Art. 12 (health), Art. 11 (adequate standard of living) • OECD Guidelines Ch. VI (Environment) • UNGPs	• ChemScore rated D- (until 2022), cites "incident-ridden track record" (Formosa Plastics Corp.) • ChemScore rated D- (until 2022) (FCFC) • ChemScore: Grade C, poor disclosure (Nan Ya Plastics) • MSCI severe controversies • UN condemnation (Vietnam marine disaster)
	Climate inaction	• Formosa Plastics Corp. • Nan Ya Plastics • Formosa Petrochemical	• Projected to emit 13.6m tCO2e/ year at Sunshine Project • Climate inaction across all major subsidiaries • Strongly misaligned with 1.5°C goals • Lack of decarbonisation plans despite Climate Action 100+ pressure	• UN Global Compact Principles 7–9 • OECD Guidelines Ch. VI (Environment) • Paris Agreement alignment	• Climate Action 100+ • MSCI ratings • World Benchmarking Alliance scores
Human Rights	**Environmental racism & cultural rights**	• Formosa Petrochemical (Sunshine Project) • Formosa Plastics Corp.	• Environmental racism, insufficient disclosure of graves of enslaved people at Sunshine Project, Cancer Alley, Louisiana • Disproportionate health impacts on Black communities	• ICCPR Art. 2 (non-discrimination), Art. 6 (right to life), Art. 12 (health), Art. 27 (cultural rights) • UNGPs	• UN special rapporteurs' statements on environmental racism

Human Rights	**Community displacement**	• Formosa Ha Tinh Steel (Vietnam)	• Displacement of communities affected by 2016 environmental disaster	• ICESCR Art. 11 (adequate standard of living) • UNGPs (community consultation) • OECD Guidelines Ch. IV (Human rights)	• UN expert commentary • Media investigations
	Non-specific	• Nan Ya Plastics	• MSCI flags multiple ongoing controversies		• “Severe” rating, orange flag
		• Formosa Chemicals & Fibre Corp. (FCFC)	• CCC rating until 2024, involved in community harms		• MSCI: red flags for social impact
		• Formosa Ha Tinh Steel (Vietnam) • Formosa Group (overall)	• Importing high volume of Russian coal, including from sanctioned suppliers • Failure in responsible sourcing practices (Ha Tinh Steel, Vietnam)	• OECD Due Diligence Guidance • UNGPs • UN Global Compact Principles 1–2 (human rights)	• Mighty Earth reporting • Trade records • Sanctions databases
		• Formosa Group (overall)	• Poor performance on global benchmarks		• WBA, MSCI, UN statements
Labour Rights	**Workplace safety**	• Formosa Taffeta/ FCFC • Nan Ya Plastics • Formosa Plastics Corp.	• Lack of freedom of association and decent work conditions (Taiwan) • Industrial accidents at Baton Rouge and other sites • Poor workplace safety standards • 33 workplace/ safety violations resulting in legal penalties since 2019 (Taiwan, USA, Vietnam)[53]	• ILO Core Conventions • UN Global Compact Principles 3–6 • OECD Guidelines Ch. V (Employment)	• MSCI labour rights scores • ChemScore safety concerns • WBA social benchmark (0.5/20) (Nan Ya)
Governance & Disclosure		• Group-wide (all subsidiaries)	• Opaque ownership structures • Governance risks identified by credit agencies	• UN Global Compact • OECD Guidelines Ch. III (Disclosure), XI (Taxation)	• Moody’s, S&P credit ratings • Investor exclusions (Norway GPFG, Aviva)

CASE STUDIES

Hsu Cheng-Tang 許震唐

Taiwan - Sixth Naphtha Cracker

The Formosa Plastics Group's Sixth Naphtha Cracker Complex, located in Mailiao Township, Yunlin County, Taiwan, has been the focus of significant public health concerns and scientific scrutiny since its development. Operating since 1999, the complex is one of Asia's largest petrochemical hubs and is integrated with FPG's refining and power generation facilities. Its environmental and human health impacts have raised serious questions about regulatory oversight, scientific independence, and corporate accountability.

Public Health Impact and Scientific Findings

Between 2010 and 2016, a research team from the College of Public Health at National Taiwan University (NTU), supported by local governments and the National Health Research Institutes, conducted an extensive epidemiological study of the surrounding region.[54] The study found that residents living near the complex had elevated concentrations of heavy metals—including vanadium, chromium, manganese, nickel, copper, arsenic, cadmium, thallium, and lead—in their urine, as well as chemical metabolites such as 1-hydroxypyrene (a polycyclic aromatic hydrocarbon marker) and thioglycolic acid (a vinyl chloride metabolite).

Ten years after the facility began operations, the cancer incidence rate among residents in the surrounding area was found to be approximately twice as high as that of residents in other regions.

Children were especially affected. The study found that elementary school students living near the complex had significantly elevated levels of thioglycolic acid (TdGA), indicating high exposure to vinyl chloride monomer (VCM)—a known carcinogen. As a result, local governments and Taiwan's Ministry of Education initially supported relocating a nearby elementary school.

Suppression of Scientific Findings

However, under pressure from FPG, the National Health Research Institutes commissioned a second research team to review and ultimately overturn the NTU study's conclusions. Following this politically influenced reversal, the previously relocated school was ordered to return to its original site, despite the lingering health risks. The incident has drawn criticism from academics and civil society for undermining scientific integrity and prioritizing corporate interests over public health.[55]

Vietnamese Migrant Immigration Office of the Catholic Diocese of Hsinchu

Legal Action

In 2015, more than 70 residents filed a lawsuit against Formosa Plastics Group, citing the NTU study as evidence of harm and seeking compensation for health damage caused by the complex's operations. The case is ongoing.

Vietnam - Formosa Ha Tinh Steel Marine Pollution

In April 2016, a massive marine pollution disaster along the central coast of Vietnam was traced to Formosa Ha Tinh Steel Corporation (FHS), a subsidiary of Formosa Plastics Group.[56] The incident killed over 100 tonnes of fish, devastated the livelihoods of tens of thousands of people, and triggered one of the largest environmental protests in Vietnam's recent history. The disaster affected four provinces—Ha Tinh, Quang Binh, Quang Tri, and Thua Thien Hue—disrupting the fishing and aquaculture industries and contaminating local ecosystems.

Cause and Response

Vietnam's Ministry of Natural Resources and Environment confirmed that the pollution originated from FHS's steel plant, which discharged untreated toxic waste—including phenol, cyanide, and iron hydroxide—into the sea.[57] FHS eventually accepted responsibility and paid US$500 million in compensation to the Vietnamese government. However, the payment did not resolve deeper concerns over transparency, community consultation, and long-term accountability.

Human Rights and Community Impact

Thousands of fishers and small business owners lost their income sources virtually overnight. Reports also indicate that many were not adequately compensated, and that authorities obstructed public protests and limited press freedom in the aftermath of the incident.[58] With support from environmental and human rights organizations, 7,874 victims filed a lawsuit in Taiwanese courts seeking compensation.[59] The case is ongoing.

In 2024, UN human rights experts sent formal communications to the Vietnamese government and Formosa Ha Tinh raising concerns about ongoing environmental, social, and human rights issues linked to FHS.[60] The experts expressed alarm over alleged reprisals against activists and community members seeking redress, and noted that the lack of remedy and accountability undermines international human rights protections.

Despite the scale of the disaster and international criticism, FHS continues to operate, and questions remain regarding the adequacy of Vietnam's regulatory oversight, as well as Formosa Plastics Group's broader corporate accountability practices.

Vietnam - Formosa Taffeta Labor Rights Violations

In August 2020, Norway's Government Pension Fund Global (GPFG), managed by Norges Bank Investment Management, announced the exclusion of Formosa Taffeta Co. Ltd. and its largest shareholder, Formosa Chemicals & Fibre Corp., from its investment portfolio. This decision was based on findings of serious labor rights violations at Formosa Taffeta's textile factory in Dong Nai Province, Vietnam.[61]

Findings by the Council on Ethics

The GPFG's Council on Ethics conducted investigations into the working conditions at the Dong Nai facility and reported multiple violations of labor rights:

- **Excessive Overtime**: Workers were found to be working overtime up to three times the legal limit.
- **Coerced Labor**: Employees were compelled to work overtime under threat of significant wage reductions.
- **Wage Violations**: The company failed to properly register and compensate overtime work, leading to underpayment of workers.
- **Occupational Hazards**: The factory exhibited unsafe use of chemicals, inadequate personal protective equipment, and insufficient fire safety measures.

These conditions were deemed to pose an "unacceptable risk for violation of human rights," leading to the exclusion of both Formosa Taffeta and Formosa Chemicals & Fibre from the fund's investment universe.

United States - St. James Parish, Louisiana

The Sunshine Project is a proposed petrochemicals complex on a 2,400-acre site in St. James Parish, Louisiana that would produce polyethylene, polypropylene and ethylene glycol.[62] The project was proposed in 2019 with a first phase to be completed in 2025 but it has been delayed indefinitely.[63]

Human rights, environmental racism and the right to health

The Sunshine Project poses a grave threat to the health and safety of residents in St James Parish and other local communities. It will be located within an 85-mile stretch of the Mississippi River between New Orleans and Baton Rouge that is widely known as Cancer Alley.[64] In the 10-mile radius around St. James Parish there are already twelve toxic petrochemical facilities, with a cancer incidence rate far higher than the US national average.[65]

Based on air pollution permits sought for the Sunshine Project, it could double levels of toxic air pollution in St. James Parish.[66] The proposed complex could release up to 7.7 million tons of ethylene oxide every year, as well as several other known carcinogens.[67]

United Nations human rights experts have called for a halt to the construction of new petrochemicals plants in Cancer Alley, including Formosa Plastics' proposed Sunshine Project, stating that "this form of environmental racism poses serious and disproportionate threats to the enjoyment of several human rights of its largely African American residents, including the right to equality and non-discrimination, the right to life, the right to health, right to an adequate standard of living and cultural rights."[68]

Ted Auch/FracTracker Alliance

Climate impact and climate risk

The St. James Parish complex would emit 13.6 million tons of CO2e (greenhouse gases) per year, equivalent to the annual emissions of three coal-fired power plants.[69] In combination with existing facilities, UN experts found that this would mean the annual greenhouse gas emissions of St. James Parish could exceed those of 113 countries.[70]

The rising intensity of seasonal storms poses elevated risks to Formosa Plastics' proposed project site, which is located in a natural floodplain. Major flooding caused significant damage in St. James Parish in 2016 and again in 2021.[71]

Social risk

The Sunshine Project has faced intense public opposition due to its potential harm to the environment and public health impacts. It has also drawn criticism because it would be built on top of gravesites of formerly enslaved ancestors.[72]

Legal and regulatory risk

Formosa Plastics' local, state and federal permits have faced a series of legal challenges from the community and public interest organizations. In September 2022, the Sunshine Project's air permits were withdrawn by a Louisiana judge, citing "environmental justice issues," but reinstated on appeal in 2024.[73] These air permits expire in 2025 and a new application is under review.[74] The water permits were also revoked by US regulators and not reissued.[75]

The Trump administration's international international trade tariffs raise considerable new economic uncertainty over the viability of the proposed complex, as the US is a significant net exporter of ethylene polymers (US$12.2 billion net exports), the largest share of which are to China.[76] Over the longer term, with China continuing to add domestic production capacity even as key markets show signs of oversupply, the demand for US exports looks likely to decrease.[77]

United States - Point Comfort, Texas

Formosa Plastics Corp USA, a wholly owned subsidiary of Formosa Plastics Corporation, operates a 2,500-acre complex in Point Comfort, Texas, which converts shale gas (ethane) into up to 2,760,000 tons of ethylene per year.[78] It produces polyethylene, polyvinyl chloride (PVC), olefins, caustic soda and various other products used for the production of plastics, fibres, automotive and consumer goods.

Diane Wilson

Water and air pollution

The Point Comfort complex has been regularly penalized for unpermitted water and air pollution. In 2019, Formosa Plastics Corp agreed to a US$50m settlement for illegally discharging plastic pollution into Texas waterways, the largest ever reached in a citizen-brought case under the Clean Water Act. [79] The judge labelled the company a "serial offender" of clean water regulations in Texas and ordered it to prevent all future discharges of plastic pellets from its Texas plant. This has not happened and, as of April 2025, FPC has accrued a further $28 million in fines for 766 additional violations.[80] Citizens organizations are now calling for enhanced monitoring of the toxicity of Formosa Plastics' discharge into Lavaca Bay in accordance with recommendations from a study by the Harte Research Institute at Texas A&M University-Corpus Christi (HRI).[81]

Formosa Point Comfort is the third largest source of vinyl chloride air pollution in the U.S., responsible for at least 105 reports of unintended vinyl chloride releases at the plant between 2010 and 2024.[82] Its most recent violations include a US$550,000 fine for air pollution in 2024.[83] Formosa Point Comfort's unauthorized emissions events are reported to have released a variety of pollutants, including carcinogens like benzene, ethylene oxide and 1,3-butadiene, as well as lung irritants like nitrogen oxides and other ozone-forming organic compounds.[84]

Formosa Point Comfort is also a leading source of other chlorinated pollutants related to the production of PVC, releasing carbon tetrachloride and chloroform at higher rates (per chlorine throughput capacity) than any other site in the US.[85]

Health, safety and waste disposal violations

The Environmental Protection Agency lists the Formosa Point Comfort facility as a "significant non complier" with provisions of the Resource Conservation and Recovery Act, which governs the disposal of solid and hazardous waste.[86] In 2021, Formosa Plastics agreed to pay US$2.85 million in federal fines for injuring its workers and endangering public health during a series of explosions, fires and toxic chemical releases at Point Comfort.[87] It has accrued a further US$805,184 in penalties for 22 workplace safety or health violations at the petrochemicals complex since 2000.[88]

Expansion

Local and national citizens organizations and environmental groups continue to organize in opposition to Formosa Plastics' expansion plans in Point Comfort.[89] These include the construction of a 2,500-acre reservoir on property owned by Formosa Plastics, which would divert 31 billion gallons of water per year from the Lavaca River.[90] The company is also seeking additional permits to expand its PVC production at the site.[91]

Russian Coal Imports

Since the beginning of Russia's full-scale invasion of Ukraine in February 2022, Formosa Plastics Group has emerged as the leading Taiwanese importer of Russian coal, raising serious concerns regarding climate impact, energy ethics, and complicity in financing armed conflict.[92] While other buyers—including Taiwan's state-owned electricity utility, Taipower—ceased Russian coal imports in 2022, FPG entities continued and even expanded their purchases.

Scale of Imports

From February 2022 to May 2024, Taiwan ranked as the fifth largest buyer of Russian coal globally, with FPG companies being one of the leading buyers of post-2022 imports. In per capita terms, Taiwan ranked second worldwide, with the average citizen effectively "buying" US$147 worth of Russian coal during this period. Formosa Petrochemical Corporation and Formosa Plastics Corporation together became Taiwan's dominant buyers after Taipower's exit.[93]

FPG has defended its purchases by citing cost and calorific efficiency, stating publicly that Russian coal offers a better energy value at lower price.[94]

International Sanctions and Human Rights Concerns

FPG's Vietnam-based subsidiary, Formosa Ha Tinh Steel, has also continued importing Russian coal, including shipments from entities linked to JSC Stroiservis, a company sanctioned by the U.S. Department of State for its role in financing Russia's war on Ukraine. According to Mighty Earth, FHS received over US$450 million worth of Russian coal between 2022 and 2024, contributing to record coal use and carbon emissions in Vietnam.[95]

These purchases directly undermine international efforts to isolate Russia economically over its war crimes and human rights violations in Ukraine, and risk breaching the ESG standards of many responsible investors.

The decision to prioritize cost-efficiency over ethical and environmental standards underscores broader concerns about FPG's unwillingness to adapt to evolving ESG expectations in a time of global crisis

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CONCLUSION

Formosa Plastics Group presents a consistent and systemic pattern of environmental harm, human rights issues, and governance failures across its global operations. From severe marine and air pollution in Vietnam and Taiwan, to documented cases of environmental racism and cultural disregard in the United States, to coerced labor practices in its textile operations, the Group's track record raises deep concerns under both international law and modern ESG standards.

These are not isolated incidents or the actions of rogue subsidiaries—they represent a broader corporate culture that has repeatedly placed attempts to bolster the Group's faltering profitability above people, planet, and regulatory compliance. FPG's ongoing reliance on circular dividend flows and opaque ownership structures further obscures accountability and sustainability, even as its financial fundamentals weaken.

FPG's practices are clearly misaligned with elements of key international frameworks, including the UN Guiding Principles on Business and Human Rights (UNGPs), the International Covenant on Civil and Political Rights (ICCPR), the International Covenant on Economic, Social and Cultural Rights (ICESCR), the ILO Core Labour Conventions, the OECD Guidelines for Multinational Enterprises, and the UN Global Compact. Multiple independent ESG ratings and benchmark assessments confirm this misalignment, and a growing number of institutional investors have already responded by excluding the Group from their investment portfolios.

Formosa Plastics Group poses a reputational and regulatory risk to responsible investors, and its track record of repeated harm to the climate, human health and the environment should be of concern to anyone working towards a cleaner and fairer world.

RECOMMENDATIONS

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For Institutional Investors and Financial Institutions

1. Divestment or Exclusion

Given the Group's persistent violations of international norms and the absence of meaningful reform, investors should consider excluding Formosa Plastics Group and its key subsidiaries from portfolios aligned with ESG, human rights, or climate-related mandates. Specifically:

- Divest from Formosa Petrochemical Corporation, Formosa Plastics Corporation, Nan Ya Plastics, Formosa Chemical & Fibre Corporation and other Formosa Plastics Group companies.
- Refrain from issuing sustainability-linked loans to FPG companies and affiliates.
- Sell and refrain from underwriting or purchasing bonds issued by FPG companies and affiliates.
- Cease all underwriting or asset management activities related to FPG equities or debt, including ensuring these companies are excluded from sustainability-linked funds.

2. Enhanced Due Diligence

For those maintaining exposure, require robust due diligence that addresses FPG's:

- Involvement in environmental and human rights controversies,
- Continued purchase of Russian coal post-2022,
- High-risk sites like Ha Tinh Steel, Sixth Naphtha Cracker, Point Comfort and the Sunshine Project.

3. Engagement and Conditionality

Engage FPG with clear, time-bound expectations, including:

- Full alignment with the UN Guiding Principles on Business and Human Rights (UNGP) and OECD Guidelines for Multinational Enterprises on Responsible Business Conduct,
- Adoption of 1.5°C-aligned climate targets, including for Scope 3 emissions,
- Suspension of dividend payments during periods of negative free cash flow.

Stephanie Keith/Greenpeace

4. Transparency and Disclosure

Urge FPG to publish regular, independent disclosures on:

- Human rights due diligence and grievance mechanisms,
- Environmental emissions, including hazardous substances and GHGs,
- Governance structure and related-party transactions.

For Formosa Plastics Group

1. Conduct Robust Human Rights and Environmental Due Diligence

In accordance with the UNGP and the OECD Guidelines for Multinational Enterprises, FPG should implement comprehensive human rights and environmental due diligence (HREDD) across all subsidiaries and supply chains. This should include regular risk assessments, meaningful engagement with potentially affected stakeholders, and public disclosure of identified risks and mitigation measures.

FPG should also establish and operationalize effective, accessible, and transparent grievance mechanisms at both corporate and site levels, in line with international standards, to ensure that individuals and communities can seek remedy for harms caused or contributed to by the Group's operations.

2. Remedy Harms and Acknowledge Responsibility

Victims of pollution, displacement, labor abuses, and cultural harm should receive fair and timely compensation. Independent community consultation must be restored.

3. Align Corporate Strategy with Global Climate Goals

FPG must adopt a science-based decarbonisation strategy—including Scope 3 emissions—and end reliance on high-carbon inputs such as Russian coal.

4. Reform Corporate Governance and Ownership Transparency

Simplify and disclose its ownership and shareholding structures, and halt intra-group dividend flows that distort financial health and accountability.

5. Rethink Expansion Plans

Reverse controversial expansion plans, most notably the Sunshine Project, that would harm the health and environment of local communities, as well as being bad for business.

For ESG and Credit Rating Agencies

1. Reassess ESG Ratings Based on Systemic Risk Indicators

Rating agencies should re-evaluate the ESG performance of Formosa Plastics Group companies, looking beyond self-reported policies and activities to documented patterns of harm to the environment and human health, labor violations, opaque governance, and failure to align with international standards. These systemic, real-world effects merit greater weighting in ESG scoring methodologies.

2. Account for Group-Wide Governance Structures and Risk Exposure

Ratings should reflect the interconnected ownership and operational linkages across Formosa Plastics Group entities, particularly the role of intercompany dividend flows and shared strategic control. ESG assessments should not treat subsidiaries in isolation where risks and practices are effectively consolidated at the Group level.

3. Enhance Transparency and Accountability

Agencies should clearly disclose how key incidents (e.g., pollution events, human rights violations, regulatory fines) are incorporated into scoring decisions, explicitly evaluate what redress measures and remedies have been offered by Formosa Plastics Group entities, and provide justifications when assigning low-risk ratings despite ongoing controversies or exclusions by major institutional investors.

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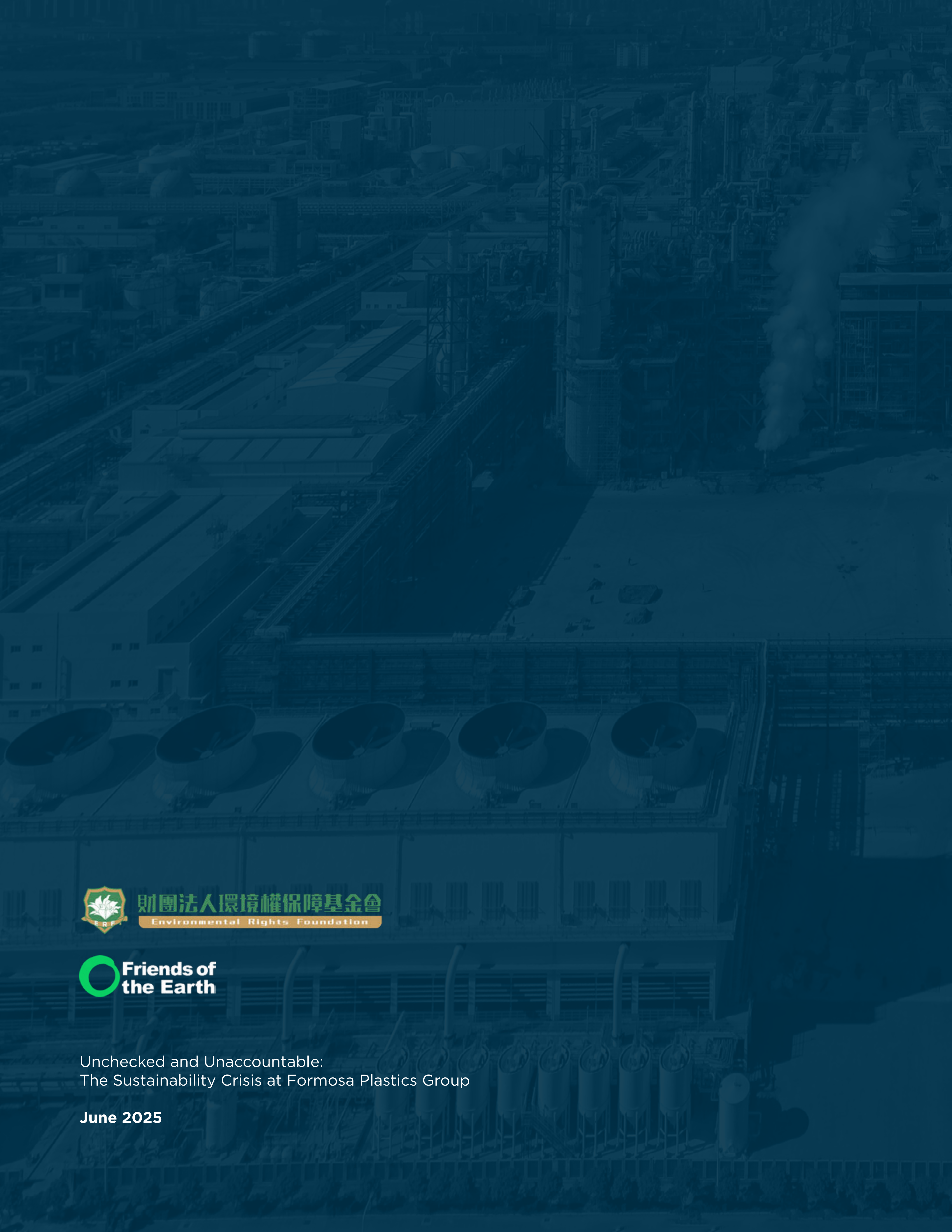
ANNEX

Hsu Cheng-Tang 許震唐

Financial exclusions of Formosa Plastics Group companies. Source: Financial Exclusions Tracker

Financial Institution	Investor country	Category	Sub-category
Formosa Chemicals & Fibre Corporation			
VGZ	Netherlands	Business Practices	Controversial behaviour
Government Pension Fund Global	Norway	Business Practices, human rights	Controversial behaviour, human rights
Storebrand	Norway	Climate	Fossil fuels
Kommunal Landspensjonskasse (KLP)	Norway	Human rights	Human rights
ATP Group	Denmark	Human rights	Labour rights
P+ Pension Fund for Academics	Denmark	Human rights	Labour rights
Danske Bank	Denmark	Human rights	Labour rights
DNB	Denmark	Undisclosed motivation	Undisclosed motivation
Formosa Heavy Industries			
Aviva	United Kingdom	Climate	Fossil fuels
Fonds de Reserve Pour Les Retraites	France	Climate	Fossil fuels
Formosa Petrochemical			
Basellandschaftliche Pensionskasse (blpk)	Switzerland	Climate	Fossil fuels
Pensioenfonds Rail & Openbaar Vervoer	Netherlands	Climate	Fossil fuels
Storebrand	Norway	Climate	Fossil fuels

Pensioenfonds Rail & Openbaar Vervoer	Netherlands	Climate	Fossil fuels
Ireland Strategic Investment Fund (ISIF)	Ireland	Climate	Fossil fuels
Lærernes Pension	Denmark	Climate	Fossil fuels
VGZ	Netherlands	Climate	Fossil fuels
Sampension	Netherlands	Climate	Fossil fuels
Menzis	Netherlands	Climate	Fossil fuels
P+ Pension Fund for Academics	Netherlands	Climate	Fossil fuels
Pensionskassernes Administration (PKA)	Denmark	Climate	Fossil fuels
Pensionskasse Basel-Stadt (PKBS)	Switzerland	Undisclosed motivation	Undisclosed motivation
Formosa Plastics			
VGZ	Netherlands	Business practices, climate	Controversial behaviour, fossil fuels
P+ Pension Fund for Academics	Netherlands	Climate	Fossil fuels
Nan Ya Plastics			
VGZ	Netherlands	Business practices	Controversial behaviour
Pensioenfonds voor Huisartsen (SPH)	Netherlands	Tobacco	Tobacco
Mai-Liao Power Corp			
Aviva	United Kingdom	Climate	Fossil fuels
Banco Bilbao Vizcaya Argentaria (BBVA)	Spain	Climate	Fossil fuels
Fonds de Reserve Pour Les Retraites	France	Climate	Fossil fuels
Ireland Strategic Investment Fund (ISIF)	Ireland	Climate	Fossil fuels
Hwa Ya Power Corp			
Aviva	United Kingdom	Climate	Fossil fuels
Banco Bilbao Vizcaya Argentaria (BBVA)	Spain	Climate	Fossil fuels
Fonds de Reserve Pour Les Retraites	France	Climate	Fossil fuels
Ireland Strategic Investment Fund (ISIF)	Ireland	Climate	Fossil fuels



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Environmental Rights Foundation

Friends of the Earth

Unchecked and Unaccountable:
The Sustainability Crisis at Formosa Plastics Group

June 2025

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