



INTERCONTINENTAL SPECIALTY FATS SDN. BHD.
ISF CLIMATE ACTION ROADMAP 2023
TCFD REPORT



New Climate Action Roadmap

[GRI 2-9, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16, 2-17, 2-23, 2-24, 3-3]

ISF believes businesses must take decisive action to fight climate change. We support national climate policies that advance the Paris Agreement on Climate Change to limit global temperature increases to below 2°C, ideally no more than 1.5°C above pre-industrial levels. However, we must first understand and evaluate the potential implications of climate change on our business and operating environment to achieve our climate goals.

We developed our Climate Action Roadmap in early 2023 after reviewing our current climate practices and a comprehensive scenario analysis. It follows the four thematic pillars of the TCFD Recommendations and will guide and influence ISF's business objectives and long-term strategic direction.



A. Responsible governance

ISF's ESG Committee is the governing body responsible for sustainability at the company. It is overseen by the Deputy CEO (DCEO), who reports to the Board of Directors. The committee's efforts to develop and drive sustainability strategies, policies, and targets are supported by different departments.

Board-level governance

As part of its sustainability agenda, the Board of Directors oversees and organises ISF's climate-related affairs and strategies, monitoring progress against our climate change goals and targets.



Management-level governance

ISF's ESG Committee is a cross-functional management committee that reports to the DCEO on sustainability matters. It oversees the Group's climate-related implementation strategies and policy reviews as part of its sustainability agenda.

- See our 2022–2023 [sustainability report](#) for more details.





B. Strategy

The food and beverage industry faces significant long-term risks from the disruption of its raw material supply. Floods, droughts, and other natural disasters resulting from climate change can cause prices to rise and crops to fail. We used a scenario analysis tool to build a qualitative and quantitative climate model in 2022 to assess the sustainability of our portfolio and to evaluate the financial implications of external conditions like extreme weather. This model helped us understand and anticipate transition risks we may face in the coming years. We have included climate risks and opportunities in our risk management framework, processes, and reporting.

Our Climate Action Plan outlines our commitment to addressing these challenges head-on. Our approach, underlying assumptions, and qualitative and quantitative outcomes derived from comprehensive simulations are outlined below.

Our climate-related strategies

Mapping our carbon footprint

- We have established baselines for our Scope 1 and 2 emissions and continue to implement measures to reduce them.
- We recently mapped our Group-level Scope 3 emissions for the baseline year 2022. This comprehensive assessment led to a better understanding of the indirect emissions associated with our value chain.

Driving operational Efficiencies and reducing GHG emissions

- The use of rooftop solar installations at our facilities is crucial for our efforts to reduce our dependence on the electrical grid and non-renewable energy sources.
- To date, we have installed 1.34 MWp of rooftop solar panels at our two plants in Malaysia.

Green Electricity Tariff

- ISF purchases energy from the Green Electricity Tariff (GET) to offset our energy usage where electricity requirements exceed our renewable energy generation potential.
- Our plants have achieved 17% renewable electricity across operations using GET since mid-2021.

Investments in climate innovations and technology

- We prioritise investments in energy-efficient machinery and equipment to reduce energy consumption and greenhouse gas emissions.
- We focus on identifying and adopting technologies that use advanced controls, automation, and energy-saving features to optimise resource usage.

Sustainability-linked financing

- Continue to explore potential sustainability linked financial products solutions to propel our sustainability ambitions across our value chain
- We aim to convert other key financial facilities into sustainability-linked financing in the coming years.

- See our 2022–2023 [Sustainability Report](#) for more details.



C. Risk management

As part of the Taskforce on Climate-related Financial Disclosure (TCFD) assessment, we evaluated our existing climate-related financial information and identified gaps and areas of improvement through a rigorous scenario analysis. The consultant also engaged our senior management in effectively managing climate risks within our organisation, performing a quantitative group-wide climate change assessment to help identify our climate-related transitional and physical risks across our Malaysian operations. The assessment provided predictions of the effects of different climate change scenarios until 2050 and evaluated the inherent economic risks of a low-carbon transition.

ISF's Enterprise Risk Management

Our sustainability risks are also financial risks. ISF's Enterprise Risk Management (ERM) framework identifies and evaluates climate change risks using a five-level matrix of likelihoods and consequences against the TCFD recommendations. This robust review process ensures we proactively address these risks in alignment with our Sustainability Policy. Our Sustainability Department then works with the relevant teams to develop, implement, and monitor mitigation and adaptation measures for the affected business units and departments.

Climate-change scenario analysis

Our climate-change scenario analysis models 2°C and 4°C average global temperature increases since the Industrial Revolution, identifying the risks and opportunities in both cases and calculating the financial impact of the mitigation measures that would have the most substantial effect on our business operations.

Climate-related risks and opportunities

The assessment concluded that the risks expected to substantially impact our business operations in the 2°C scenario include increased costs from carbon taxes and purchasing carbon (CO₂) emission credits. The risks of the 4°C scenario include increased procurement costs due to reduced raw-material production resulting from the greater frequency and severity of natural disasters. In the latter case, we expect our sales to decline due to reduced production capacity and product supply resulting from floods, power outages, and other incidents at production plants caused by typhoons and other natural disasters. Despite these challenges, we also foresee significant opportunities that can positively impact our business operations, including the stability of raw material procurement. Our analysis showed no significant decline in plant growth in the 2°C or 4°C temperature-increase scenarios, ensuring a stable supply of raw materials.



Risk and opportunities relevant to ISF

Risk classification			Impact on business	Opportunities
Physical Risk 	Acute	Increased incidence and severity of extreme weather events	• Low fresh fruit bunch (FFB) production yield due to climate change events. • Decreased downstream revenue due to potential disruption of raw material supply.	• Improved climate resiliency through the adoption of sustainable agriculture by upstream actors. • Improved business resiliency and adaptability through climate change readiness initiatives (e.g., Business Continuity Plan (BCP)).
	Chronic	Changes in climate patterns	• Decline in FFB yield and quality in the upstream value chain due to changes in climate patterns. • Increased downstream operational costs due to rising raw material prices and damage to assets due to climate change events.	• Increased climate resiliency through innovation, including climate-resilient oil palm seeds. • Improved business resiliency and adaptability through climate change readiness initiatives (e.g., BCP by the downstream sector).
Transition Risk 	Policy & Legal	Increased adoption of environmental/carbon policies and legislation	• Increased upstream costs due to scheme certification. • Increased downstream operational costs due to rising raw-material prices and the implementation of emission control measures.	• Reduced emissions through emission control measures.
		Carbon taxes and emission-pricing mechanisms	• Increased upstream costs due to the implementation of GHG reduction measures. • Increased downstream raw material prices.	• Increased upstream revenue through carbon trading schemes. • Future-proof downstream business through carbon price readiness.
		Exposure to litigation	• Business disruptions due to litigation exposure.	• Improved sustainability practices through compliance initiatives.

Risk and opportunities relevant to ISF [cont'd]

Risk classification			Impact on business	Opportunities
Transition Risk 	Technology	Research & Development	Increased operational costs to fund R&D initiatives.	Increased climate resiliency and profitability through R&D breakthroughs and the development of climate-resilient products.
		Low-carbon technologies	Increased financial risk due to investing in low carbon technologies.	Reduced carbon emissions from operations through the adoption of low-carbon technologies.
	Market	Changing customer preferences	Decreased product demand due to customer preferences shifting towards sustainable products.	Increased revenue through diversifying our business to include low-carbon and other alternative products.
		Supply chain-related transition risk	- A shift away from current upstream practices to more sustainable practices. - Disruption of downstream raw material supply due to disruptions at upstream operations.	Increased business resiliency through diversifying raw material supply.
	Reputation	Scrutiny from external groups like NGOs	Decreased product demand due to unethical practices or association with non-compliant parties.	Improved corporate image and communication through the implementation of sustainable practices.
		Sector stigmatisation	Risk of reputation damage due to association with suppliers contributing to environmental damage.	Improved corporate image and communication through close engagement and collaborative initiatives with NGOs and other stakeholders.

ISF's adaptation and mitigation impacts and strategies

■ Low: Low chance of occurring; minor impact on ISF's objectives	■ Medium: Possible chance of occurring; moderate impact on ISF's objectives	■ High: Likely to occur; significant impact on ISF's objectives
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Risk Classification			2° C Scenario	4° C Scenario	Mitigation Strategy
			Implication	Implication	
Physical Risk	Acute	Increased incidence and severity of extreme weather events	Extreme weather may reduce palm oil yields, increasing raw material costs.	- Extreme drought and flooding may significantly decrease palm oil yields. - Increasingly severe natural disasters may damage ISF's assets and disrupt our logistics network.	- Diversify raw material supply chain. - Improve business continuity plan.
	Chronic	Changes in climate patterns	- Negative impact on palm oil production. - Loss of coastal land due to sea level rise. - Competition for CPO & CPKO	- Further reduction in palm oil production. - Further loss of coastal land due to sea level rise. - Increased competition for CPO & CPKO.	- Adjust production planning. - Develop and launch disease-resistant crops.
Transition Risk	Policy & Legal	Stricter environmental/ carbon policies and legislation	- Restricted palm oil plantation expansion, limiting supply and raising the price of CPO and CPKO. - Introduction and enforcement of carbon taxes. - Increased risk of litigation due to non-compliance and association with non-compliant palm oil plantations.	- Fewer regulations and policies affecting the palm oil sector. - Expansion of palm oil plantations, increasing raw material supply. - Lack of strict carbon tax enforcement. - Moderate litigation risk due to non-compliance.	Commit to science-based targets and implement plans to meet our commitments.
		Carbon taxes and emission pricing mechanisms			
		Exposure to litigation			
	Technology	Research & Development	- Increased capital expenditures to develop low-carbon products and adopt low-carbon technologies. - Increased risk of disrupted operations and production to implement new low-carbon technologies	New R&D and technical innovation initiatives to increase production efficiency rather than reducing carbon emissions, maintaining the business-as-usual scenario.	- Digitalise and automate production to enhance our manufacturing efficiency. - Adopt cost-effective lower-carbon technology where possible. Prioritise investments in research and development (R&D) to remain at the forefront of innovation.
		Low-carbon technologies			

ISF's adaptation and mitigation impacts and strategies [cont'd]

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Risk Classification			2° C Scenario	4° C Scenario	Mitigation Strategy
			Implication	Implication	
Transition Risk	Market	Changing customer preferences	• Due to the growing demand of plant-based products, there is opportunity for ISF to expand its business into plant-based market. • Stiffer competition with other palm-oil based product manufacturers in the global and local market. • Other industries e.g., aviation that are looking into palm oil as sustainable fuel, creates competition in the supply chain thus the potential disruption or shortage of raw material supply.	• Slow demand and lack of awareness among consumers for plant-based products lessen the momentum for innovation in substituting animal fats to plant-based fats. • ISF may consider exploring the potential for business expansion into plant-based products, albeit with a more targeted approach towards a niche market.	• Work closely with our suppliers to implement our NPDE commitments. • Continue to collaborate widely and invest in scientific research to innovate and create new and improved products.
		Supply chain related transition risk			
	Reputation	Scrutiny from external groups, e.g., NGOs	• Stakeholder disengagement may make it difficult for non-compliant and lagging palm oil companies to obtain funding. • Sectoral boycott campaigns led by NGOs may impact revenue generation.	• No difficulty obtaining funding as stakeholders are less likely to divest from palm oil companies based on climate commitments. • No impact on revenue if climate action is insufficient.	• Transparently disclose comprehensive information that enables stakeholders to confidently assess our sustainability initiatives.
		Sector stigmatisation			

New flood preparedness and response plan

Floods are frequent in Malaysia, especially in the Klang Valley, and are triggered by heavy monsoon rainfalls, rising river water levels, inadequate drainage systems, and other local conditions. We recognise that our operations are in flood-prone areas and saw first-hand how the December 2021 floods impacted employee availability and mobility, particularly at our Port Klang operations.

Understanding the need for proactive measures to mitigate future flood risks, we conducted a thorough risk assessment to identify vulnerable areas and critical infrastructure that may be affected by floods. As a result, a comprehensive flood preparedness and response plan equipped with clear protocols and early warning systems was developed and implemented in December 2022. We monitor weather conditions to ensure a timely emergency response in the event of a flood, including an evacuation if necessary. We also conduct regular drills and exercises to test the effectiveness of our preparedness and response plan and enhance the emergency response capabilities of our staff.

Ongoing measures in ISF's flood preparedness and response strategy



Sluice gate installation



Installation of **water level indicators** at high-risk/flood-prone areas within our operations



Weekly cleaning and repair of drainage systems on our premises



Establishment of an **emergency parking area**



Food Bank (Identification and preparation of suitable emergency food storage facilities)



Public Address (PA) System upgrade for better communication in emergencies (Hailer systems installed in December 2022)



Establishment of **site-based flood response**, including mock drills and communicating flood procedures to employees



Installation of **water barriers** in high-risk areas



Official heavy rain/tide announcements (Ongoing announcements to relevant person in charge)



D. Target and Metrics

We track key metrics and report against climate-related targets regularly, and disclose the following climate-related metrics in alignment with the 2021 TCFD Guidance on Metrics, Targets, and Transition Plans:

- Scope 1 and 2 greenhouse gas (GHG) emissions
- Scope 3 GHG emissions
- Climate-related opportunities

Our GHG accounting adheres to the globally recognised Greenhouse Gas Protocol.

Material metrics assessed annually:

Metric/unit	Unit	2020	2021	Reporting year 2023	Commitment
Gross direct (Scope 1) GHG emissions	MT CO ₂ e	94,337	94,466	123,221	Reduction of 34% of carbon emission by 2030
Gross market-based energy indirect (Scope 2) GHG emissions	MT CO ₂ e	72,877	71,218	79,355	
Total Scope 3 emissions	MT CO ₂ e	814,981	892,712	1,040,733	Target under development
Total emissions (Scope 1+2+3)	MT CO ₂ e	982,195	1,058,396	1,243,309	Target under development
Total energy consumed	GJ	1,645,860	1,643,703	2,142,719	Maintain energy consumption intensity below 2.99 GJ/MT, 10% below our 2019 baseline

Material metrics assessed annually: [cont'd]

Metric/unit	Unit	2020	2021	Reporting year 2023	Commitment
Energy consumed that is renewable energy (rooftop solar and GET)	%	0.1%	0.2%	3.1%	Target under development
Energy consumed that was supplied from grid electricity (excluding GET)	%	17.9%	17.7%	14.8%	Target under development
Waste generated intensity	kg/ MT product	17,629	17,849	19,060	To reduce 10% by 2030 against 2019 baseline.
Water consumption intensity	m ³ / MT product	487,621	465,074	505,237	

Note: Reporting year 2023 encompasses 15 months of data from calendar year 2022 to Q1 2023 (January 2022 to March 2023).

We are improving our ability to identify and measure emissions, working with suppliers and customers, and exploring new ways to use analytics and automation to enhance decision making and transparency. Further details on sustainability targets can be found in our [2022—2023 Sustainability Report](#).

TCFD index

The following table provides an index of our disclosures against the [Taskforce on Climate-Related Financial Disclosure \(TCFD\)](#) recommendations developed by the Financial Stability Board to guide, improve and increase reporting of climate-related financial information. This is our first year of reporting against the TCFD, and we will continuously work to improve disclosures in line with the recommendations.

TCFD recommendations		Section reference in our 2022—2023 Sustainability Report
Governance	- Board oversight - Management's role	- Corporate and sustainability governance - Stakeholder engagement and transparency - New Climate Action Roadmap
Strategy	- Climate-related risks and opportunities over the short-, medium- and long-term - Impact on business, strategy, and financial planning - Resilient strategy and scenario analysis	- Our approach to sustainability - Materiality assessment 2023 - Managing our material issues - Responsible sourcing and supplier engagement - Traceability - Environment - New flood preparedness and response plan - New Climate Action Roadmap - Carbon footprint
Risk management	- Process for identifying and assessing risks - Process for managing risks - Integration into overall risk management	- Risk mitigation - Responsible sourcing and supplier engagement - New flood preparedness and response plan - New Climate Action Roadmap
Metrics and targets	- Metrics - Scope 1, 2 and 3 emissions and related risks - Targets	- Highlights and targets - Carbon footprint - Energy management - Waste management - New Climate Action Roadmap - Base data



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