

MANAGING OUR ENVIRONMENTAL IMPACT: COMBATING CLIMATE CHANGE



Management approach: We are mindful of the adverse impact of not effectively identifying, assessing and managing environmental related risks and the global issue: climate change. The financial risks and reputational cost linked to environmental litigation has increased. Aligned with our commitment to support UN SDG 13: Climate Change, we are committed to mitigate the negative impacts to the environment by reducing carbon footprint through the following approaches:

1

Environmental governance

2

Environmental risk management

3

Operational eco-efficiency monitoring and improvement, which includes energy efficiency, water management, waste and effluent management as well as emissions



In FY2020, the solar power system at our Factory 18 supplied 1.26GWh of green energy to glove manufacturing, representing savings of 874.44 tonnes of CO₂ and RM500,000 per annum.

LEVERAGING PARTNERSHIP IN ENVIRONMENTAL CONSERVATION:

Through a 9-month campaign with Mr. D.I.Y. and WWF Malaysia, where Top Glove donated RM0.42 to WWF Malaysia for every box of Biogreen Biodegradable nitrile gloves sold at Mr. D.I.Y., Top Glove successfully collected RM30,000 for WWF Malaysia’s environmental conservation funding.

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Environmental Governance

Producing more products with lesser resources is crucial in view of the growing scarcity of natural resources. As environmental related issues are part of the Group’s sustainability areas of concerns, the Chairman of the Board Sustainability Committee oversees climate change in the Company and reports to the Board of Directors. The Sustainability Steering Group, especially the Group Engineering and Industrial Effluent Treatment System (IETS) Department manage and implement environmental initiatives to improve operational eco-efficiency and reduce carbon footprint from our business activities. We recognise the importance of enhancing operational eco-efficiency as it improves competitiveness in terms of cost reduction and reduces environmental liabilities.

We adhere to the Group’s Environmental Policy and are committed to proactively work towards minimising environmental pollution and fully comply with to the Environmental Management System (EMS) under ISO 14001 in a comprehensive, systematic, planned and documented manner. This promotes continuous improvement in environmental performance, clean manufacturing, green technology and automation.

In FY2020, 2 factories were certified with ISO 14001 in addition to existing 5 factories which have already been certified.

Total of 7 factories certified with ISO 14001 as at FY2020

In FY2020, the Company did not receive any fines or penalty due to non-compliance (NC) on our environmental aspect.

In January 2020, we enhanced and revised our audit assessment to include environmental criteria in our supplier audit checklist. Since the revision in January 2020, 100% (279 in number) of our critical suppliers were requested to be assessed with the additional environmental criteria. No supplier was identified to have significant actual or potential negative environmental impacts from the audit process during the financial year under review.

Environmental Risk Management

Other than water risk and flood risk, we identified climate risk as one of the key risks for the Company and incorporated it into the Company’s Risk Management Framework in FY2020.

In FY2020, we voluntarily responded to our investors request on Carbon Disclosure Project (CDP), a global environmental disclosure platform on our climate change and water security data, to provide investors a better understanding on our practices in managing climate change and water security issues.

 Please refer to the Water Management section in page 93 of this Report to understand further on our initiatives in managing water risks.

MANAGING FLOOD RISK:

Climate Management: Flood Mitigation Project

In FY2020, with our improved flood management initiatives, we **successfully mitigated damage from 6 instances of heavy rain**, preventing floods and subsequent interruption to our operations

- Total investment in FY2020: RM 2.1million.

We improved the drainage system within the vicinity of our Klang factories as well as the nearby residential area. Besides, the following has also been implemented to prevent flooding:

- a. Harvest 100 % rainwater, use more recycled water and reduce municipal water usage as much as possible to reduce the release of huge amount of water into drain.
- b. Keep drains of surrounding factories clean and unobstructed to ensure stormwater flows smoothly.
- c. Report any flooding to the person in-charge.
- d. Stay alert and assess flood risk during heavy rain.

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ENERGY EFFICIENCY



Management approach: With business activities in the manufacturing industry and steady annual capacity expansion, we are concerned about the energy consumption which is a cost factor and also impacts on the environment. In our operations, we monitor electricity and natural gas efficiency, improve its intensity with the objective to decrease the consumption intensity amidst expansion. Meanwhile, we continue to emphasise on green energy, namely solar power and implement it in stages into our factories.

Electricity

Target: To reduce electricity consumption intensity by 12% (kWh/1,000 pcs gloves) to 6.29 kWh/1,000 pcs gloves by FY2024 (base year: FY2019)

ELECTRICITY CONSUMPTION INTENSITY

(kWh/1,000 pcs gloves)



Year	Absolute electricity consumption (kWh)
FY2017	248,626,368
FY2018	332,170,929
FY2019	381,972,387
FY2020	416,348,887

Progress:

6% reduction in electricity consumption intensity in FY2020 compared with FY2019

Savings of RM9.7 million in FY2020

Low reduction is due to increase in electrical usage and compressed air consumption in automation initiatives. These include:

1. Robots (e.g. Online Autostacking Machines)
2. Automated instruments (e.g. Autonomous Shutdown Valves)

3. Pneumatic driven pumps (e.g. Diaphragm Pumps)
4. Replacement of manpower with compressed air in online quality inspection process (e.g. AI Vision Glove Rejection System)

As electrical motors, air compressors and chillers contribute 90% of electrical consumption in glove production, continuous research of new technologies enables improvement in overall efficiency of compressed air system, chilled water system, motors and drives in the glove production factories. As of FY2020, these initiatives led to overall electrical energy reduction by 3,000MWh/year, which is equivalent to reduction of indirect greenhouse gas emissions by 1,755 tonnes CO₂-eq/year.

GREEN ENERGY

A Solar Power System has been introduced in Factory 18 with a capacity of 1.14MW in FY2019. As at FY2020, with the completion of F18 Solar Project, Top Glove has utilised a total of 1.26 GWh of green energy to manufacture gloves which is equivalent to offsetting 874.44 Tonnes of CO₂ and 22,421.5 trees planted. This also represented RM500,000 of savings in electricity per annum.

With the success of the F18 solar power system project, we aim to expand the project to our factories located in Meru (Phase 1 and 2) and one of our largest factories, F42 (Phase 3) over the next 5 years.

Solar Power System Phase 1 with Capacity of 5.5 MWp which is currently being installed at our factories located at Meru while Phase 2 with estimated capacity of 4.0MWp is currently in the designing stage. We target to implement solar project approximately 10MWp onto one of our largest factories, F42 which consists of 3 Blocks of Hostel, 1 Block of Office, 4 Blocks of Warehouses and 8 Blocks of Production which allows Top Glove save up to 17,592.90 tonnes of CO₂, equivalent to 451,000 of trees planted and utilisation of 25.35 GWh of green energy per annum by the end of FY2025 from solar power system.

Besides Solar Power System, Top Glove is also looking into other renewable energy sources such as Biomass Power Plant which is currently in the planning stage. The 5 MW Biomass power plant is targeted to be implemented at our factories located at Meru area to support the electricity consumption of the glove manufacturing plant. Annually, the biomass power plant targets to supply a total of 40GWh of electricity per annum for production.

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NATURAL GAS EFFICIENCY

Natural gas

Target: To reduce gas consumption intensity by 21% (MMBTU/1,000 pcs gloves) to 0.242MMBTU/1,000 gloves by FY2024 (base year: FY2019)

NATURAL GAS CONSUMPTION INTENSITY (MMBTU/1,000 pcs gloves)



Year	Absolute natural gas consumption (MMBTU)
FY2017	9,667,380
FY2018	11,120,386
FY2019	12,669,638
FY2020	14,275,201

Progress:
8% reduction in natural gas consumption intensity in FY2020 compared with FY2019

The decrease is due to more on-going gas saving projects implemented intensively, such as automated former temperature control at main oven and coagulant oven as well as conversion of old burners to immersion burners with higher efficiency.

Savings of RM41 million in FY2020

Energy efficiency initiatives in various areas such as:

- Heat recovery system via:
 - combined heat and power plant (CHP) system
 - 3Rs water system
- Improvements in equipment efficiency:
 - In the midst of converting the biomass combustion facilities to greener ones with the use of cleaner fuel, namely natural gas, which in turn will generate lower carbon emissions
 - Replacement of low performance burners with advanced technology equipment

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WATER MANAGEMENT



Management approach: Water is an important resource in the glove manufacturing process. Sufficient and clean water supply is critical for our business. We continuously monitor our water consumption intensity and implemented initiatives to recycle and reuse water in all our factories to decrease dependency on municipal water supply.

Target: To reduce water consumption intensity by 12% (m³/1,000 pcs gloves) to 0.297 m³/1,000 pcs gloves by FY2024 (base year: FY2019)

Financial Year	FY2017	FY2018	FY2019	FY2020
Water Consumption Intensity (m³/1,000 pcs gloves)	0.317	0.333	0.338	0.280
Water Consumption at Headquarters (m³)	35,024	37,389	38,929	35,436
Grand total of HQ corporate office users (including tenants)	1,374	1,279	1,345	1,843
Water consumption intensity (per occupant)	25	29	29	19
Total water recycled and reused (m³)	1,810,944	2,514,063	4,851,912	2,431,382
ROTP Water	N/A	510,735	1,044,525	1,129,229
IETS	1,810,944	2,003,328	3,807,387	1,302,153
Source of Water Consumption (Total, m³)	13,932,321	18,453,741	22,142,768	18,456,616
Municipal	9,515,296	12,042,759	12,792,175	12,498,389
Pond water	2,606,081	3,787,095	4,294,071	3,305,478
Rainwater	N/A	109,824	204,610	221,366
Recycled water (ROTP & IETS)	1,810,944	2,514,063	4,851,912	2,431,382

Progress:

18% reduction in water consumption intensity in FY2020 compared with FY2019 due to the increase of output during COVID-19 pandemic

THE GROUP'S WATER MANAGEMENT PLAN TO MITIGATE WATER RISK AS BELOW:

Reverse Osmosis Water Treatment Plant

- Total investment: RM42 million
- Advantage: ensuring continuous water supply for factories operation and alleviation of flood issue
- Maximal capability: treating & producing 400m³/hr of clean water (for 2 phases of this project)
- Beneficiary factories: 9 factories
- Flood event can be alleviated by diverting approximately 120 m³/hr (phase 1) and 450 m³/hr (phase 2, commenced in June 2020) water from drain to pond to be treated and supplied to factories

Water recycling

- Water recycling & reuse approach via:
 - In-house water recycling facilities at every factory to treat, recycle and reuse the water in our factories, making it possible for housekeeping purpose such as flushing
 - ROTP initiative
- Total water recycled & reused in FY2020: **2,431,382 m³**
- **Saving of RM5.5 million** in FY2020

Rainwater harvesting

- **221,366 m³** of water saved from rainwater harvesting
- **Saving of RM504,717** in FY2020

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REDUCING CARBON EMISSIONS



Management approach: We track and monitor Scope 1, 2 and 3 emissions and are committed to reduce carbon emissions, especially by managing different resources efficiency and investment in renewable energy in our operations, as the Scope 1 and 2 emissions are the key emission contributors throughout the manufacturing process. Besides the manufacturing activities initiatives, we reduce our carbon footprint for example, through product innovation, promoting vegetarian meals, being mindful with our key material consumption as well as reducing plastic usage.

Target: to reduce GHG emission intensity by 23% (tonnes CO₂-eq/1,000 pcs gloves) to 0.024 tonnes CO₂-eq/1,000 pcs gloves by FY2024 (base year: FY2019)

		CO ₂ -eq emission (metric ton)			
		FY2017	FY2018	FY2019	FY2020
Scope 1	Natural gas	572,212	658,216	749,934	844,938
	Biomass	523,856	768,068	623,465	676,790
	Coal	61,934	56,791	34,853	0
	Total	1,158,002	1,483,075	1,408,253	1,521,728
Scope 2	Electricity	172,547	230,527	265,089	288,946
Scope 3	Flight	80	156	253	175
Total		1,330,628	1,173,758	1,673,595	1,810,849
Intensity (MT/1,000 pcs gloves)		0.0346	0.0347	0.0313	0.0292
Variance (over year)		N/A	0.29%	- 9.78%	-6.88%

Progress:

7% reduction in carbon emission intensity in FY2020 compared with FY2019

Over the years, we are committed to reduce carbon emissions especially with the construction of our new factories. All efficiency improvement projects are rolled out to all factories to be implemented as much as possible to improve the overall group energy efficiency and reduce the CO₂-eq emission intensity. As stipulated in the Energy section, the Group is currently expanding solar power system at factories as green energy to reduce dependency on non-renewable energy.

Product innovation

Through our R&D team, we innovate and produce more green products to diversify our product range. Following our first Biogreen Biodegradable nitrile gloves launched in FY2019, we have increased our green product range to 4 products in total in FY2020, which includes biobased CPE gloves, biodegradable CPE gloves and gaskets.

RUBBER RECLAIM PROJECT

Commenced in September 2020, the rubber reclaim project aims to reclaim nitrile torn gloves into other value-added rubber products.

As at September 2020, we developed in-house former gaskets, for which projected sales revenue generated will be more than RM16,000 in October 2020. Other ongoing developments include safety shoe outsoles, rubber mats and nitrile reclaim rubber bales.

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REDUCING CARBON EMISSIONS

Producing more with less material

We are mindful to avoid wastage in our material consumption in view of increasing scarcity of resources and to ensure cost efficiency. We constantly monitor our glove weight in the manufacturing process and are committed to produce lighter weight gloves.

LATEX CONSUMPTION

(kg/1,000 pcs gloves)



Increase of latex consumption in FY2020 due to more order from European customers, which size ratio is bigger

NITRILE CONSUMPTION

(kg/1,000 pcs gloves)



Healthy vegetarian meals to reduce carbon footprint

To advocate being vegetarian to reduce carbon footprint as well as promote a healthy diet amongst employees and our stakeholders, 100% of Top Glove corporate events such as daily management lunch, birthday lunch celebration, annual dinner, meeting refreshment etc. serve vegetarian meals since March 2019. The menus are reviewed by our corporate nutritionist team. 3 of our Board of Directors, Tan Sri Dr Lim Wee Chai, Puan Sri Tong Siew Bee and Dato' Lim Han Boon are vegetarian, setting a great example for the Company's workforce.

Besides, since the implementation of the Movement Control Order (MCO) in Malaysia due to the COVID-19 pandemic, with the objective of minimizing employees' potential risk of travelling outside working premises for food, the Company has since 20th March 2020 launched a Subsidised Vegetarian Meal Programme for all employees Top Glove. Under this Programme, the company subsidises RM5 and RM3 for each lunch and breakfast meal respectively.

273,083 healthy vegetarian meals have been subsidised

for staff and workers since the Movement Control Order due to the COVID-19 pandemic

RM1.6 million investment

in both complimentary and subsidised vegetarian meals in FY2020

27,855 complimentary healthy vegetarian meals have

been provided to staff during Birthday Lunches in FY2020

Reduce usage of single-use plastic containers by 27,855

in FY2020

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PROPER WASTE AND EFFLUENT MANAGEMENT



Management approach: We recognise the severe impact of improper and inefficient waste and effluent management. Guided by the EMS ISO 14001, we are committed to comply with regulatory laws to ensure our waste and discharge does not harm the eco-system.

Target: to reduce generation of scheduled waste by 5% by 2029 (base year: FY2019)

Financial Year	FY2017	FY2018	FY2019	FY2020
Scheduled waste generated (tonnes)	3,301.78	5,362.78	6,401.86	7,786.04
Total Water Discharged (m ³)	5,460,480	7,886,592	15,229,547	9,854,505
Discharge intensity (m ³ /1000pcs gloves)	0.178	0.202	0.342	0.159

Progress:
54% discharge intensity reduction in FY2020 compared with FY2019

The significant reduction is due to all factories implementing more chemical and water recycling system.

We manage scheduled waste in compliance with the Malaysian Department of Environment’s (DOE) regulations, where disposal methods include incineration, sanitary landfill, on-site storage, recovery and recycle by DOE certified scheduled waste collectors. No waste has either been imported or exported in FY2020. There were 2 cases of chemical spillage incidents at our factories in the financial year. Immediate remediation action was taken and preventive measures enhanced to avoid possible occurrence in future. There were no legal cases involving non-compliance of discharge in the same reporting year.

Discharge is treated using chemical treatment and carbon filter. The discharge quality meets the Department of Environment’s (DOE) Standard B parameter and is discharged to the drain which flows to Pintu Air Klang.