



SUSTAINABILITY
HIGHLIGHT
2019

YOUR
INNOVATIVE
SOLUTIONS
PARTNER

INNOVATION

Wattway: the most advanced road surface technology that could disrupt conventional road surface pavement.

From front cover:

Wattway

For decades, TIPCO Asphalt Group has shared our knowledge and expertise with our strategic partner COLAS Group: a major French civil engineering firm specializing in road construction.

Wattway was result of more than 5 years of development commissioned by COLAS Group. This disruptive innovation revolutionizes road infrastructure by adding new function to road surface, that can produce renewable energy. Wattway is designed by Colas' CST (the Colas Campus for Science and Techniques) in partnership with INES (French National Solar Energy Institute). Launched in 2015, it is the world's first photovoltaic road surfacing solution that is able to provide power to streetlights, signs, tramways, as well as residential houses, offices etc.

Roads of tomorrow will possess new functionalities such as producing electricity or developing intelligent road data networks. With our strategic partner COLAS' recent innovations, these are already made possible by Wattway and Flowell solutions. These road systems also allow possible real-time information on traffic, in order to manage traffic dynamically, and to roll out automatic diagnosing programs in the pavement itself.

In the near future, one can also imagine electric vehicles being charged directly on the road surface via induction technology.

Source: COLAS.com



Flowell: Inaugurating the first field trial section of Flowell in the southern French town of Mandelieu. Flowell is modular, intelligent, light-emitting crosswalk, signaling solutions. Designed by Colas' CST and CEA tech to make mobility safe and fluid.

SUSTAINABILITY HIGHLIGHTS 2019

SALES REVENUE*
THB

37,626

Million (Sales Growth 35% on Last Year)

DIVIDEND PER SHARE
THB

1.50*

(Increased 4 times from Last Year 0.30 THB)

* Final dividend of 1.10 Baht per share is subjected to approval at 2020 Annual General Meeting

Financial Highlights

EBITDA
THB

3,953

Million (Growth 61% on Last Year 2,457 M.TH.B)

NET PROFIT
THB

3,123

Million (Growth from Last Year 564 M.TH.B)

NET PROFIT MARGIN
%

8.30

(Growth from Last Year 2.02%)

Annual Report
2019

Sustainability Strategy



Innovation Leader



Eco-Efficiency Operations



Safety Awareness

Sustainability Foundation

Strong Corporate
Governance Transparency

Value for the Future

We **increased the sales volume** of ULA ParaAC* over 22 percent compared to the 2018 baseline.
*ULA Para AC was the Innovation product launched in late 2018

We **reduced our GHG Emissions Intensity in 2019 by 7.6%** (of target 4%) compared to the base year 2018 (Started year).

We achieved the severe operation accident frequency rate is 1.67, the severe truck accident frequency rate is 0.00 and 0 case of Work-related ill Health at all 5 plants in Thailand.



We **achieved** the corporate governance scoring at an "Excellent" level of recognition (5 stars) under the Corporate Governance Report of The Listed Companies 2019 (CGR) project undertaken by Thai Institute of Directors Association (IOD) with support from Stock Exchange of Thailand (SET). This indicates the Company's commitment and achievement in sustainability performance in respect of environment, social and governance (ESG).

We **achieved the training hours above 50 hours / person / year** which is far better than 2019 target of 24 hours / person / year. Our people enjoyed the opportunity to develop their skills to achieve their full potential. They each made their own individual contribution to the spirit of collaborative and innovative culture organization.



ABOUT THIS REPORT | 102-46 | Clause 7.2.1

WE STRIVE *for*

developing this sustainability report for our stakeholders to gain better understanding on our sustainable development principle and our journey toward achieving corporate sustainability goals.

Scope

This annual sustainability report outlines Tipco Asphalt Group's sustainability strategies, initiatives and performances during the calendar year 2019. It is aimed for stakeholders who want to understand our commitment and approach to sustainability. Unless otherwise stated, the information and data cover all main businesses, production and distribution of asphalt activities and plants in Thailand. | 102-50 | 102-52 |

Report contents and significant changes

The report focuses on 18 material issues (see page. 86 for details), which are aligned with our business objectives. Through 2018 materiality assessment exercise, these issues were identified with consideration of sustainability context while these materiality concerns were also reviewed and prioritized. The issues remain unchanged in 2019 report due to their high relevancy to Tipco Asphalt Group and stakeholders (see page. 74). We grouped 18 material issues into 12 material topics with corresponding impacts, risks, goals, and initiatives. In response to our stakeholders' expectations and their better understanding of our sustainable development conducts, we disclose data and information from previous years. We also include examples of actions/initiatives implemented at Tipco Asphalt Group as well as quotes from stakeholders, enabling them to express their views on our sustainability performance. | 102-46 | 102-49 |

Global Reporting Initiative (GRI)

This report has been prepared in accordance with the GRI Standards: Core option. Throughout the report, we use labels to disclose GRI Standards. We list all references to GRI Standards and the corresponding page numbers in the GRI Content Index on page 108 and page 393.

For the GRI Content Index Service, GRI Services reviewed that the GRI content index is clearly presented while the references for all disclosures included fully align with corresponding body section of the report. | 102-54 |

International Organization for Standardization (ISO 26000 : 2010)

Tipco Asphalt Group applied ISO 26000:2010 as guideline for corporate integrating social responsibility into the organization since 2012 and was assessed by external evaluation; MASCI. We exhibited linkages of the relationship among ISO 26000, GRI and UN SDGs on page 108.

Supporting the UN Sustainable Development Goals (SDGs)

Tipco Asphalt Group supports the United Nations Sustainable Development Goals (SDGs) . Our contribution to 10 of the 17 SDGs is the highlighted throughout the report, including indications to measure our performance with respect to these goals

Feedback

We appreciate all feedbacks and suggestions from all our stakeholders upon development of this SD Report. All your comments will be used to further improve our future SD Reports. Please provide your comments/ feedbacks to us via email at

sustainability@tipcoasphalt.com

or by scanning QR Code as below:



or write to us at our head Office:

| 102-3 | 102-53 |

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The most important thing about reporting isn't frameworks or scorecards – it's people. Effective reporting engages, informs and motivates people to build better companies, better economies and a better world

- Wesley Gee -

www.tipcoasphalt.com

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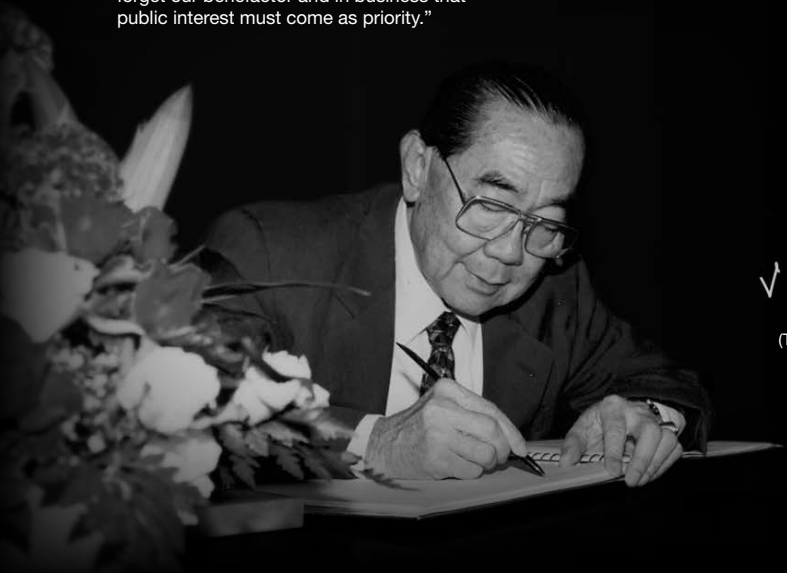
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"My guiding principle is that we must never forget our benefactor and in business that public interest must come as priority."



Prasit Supsakorn

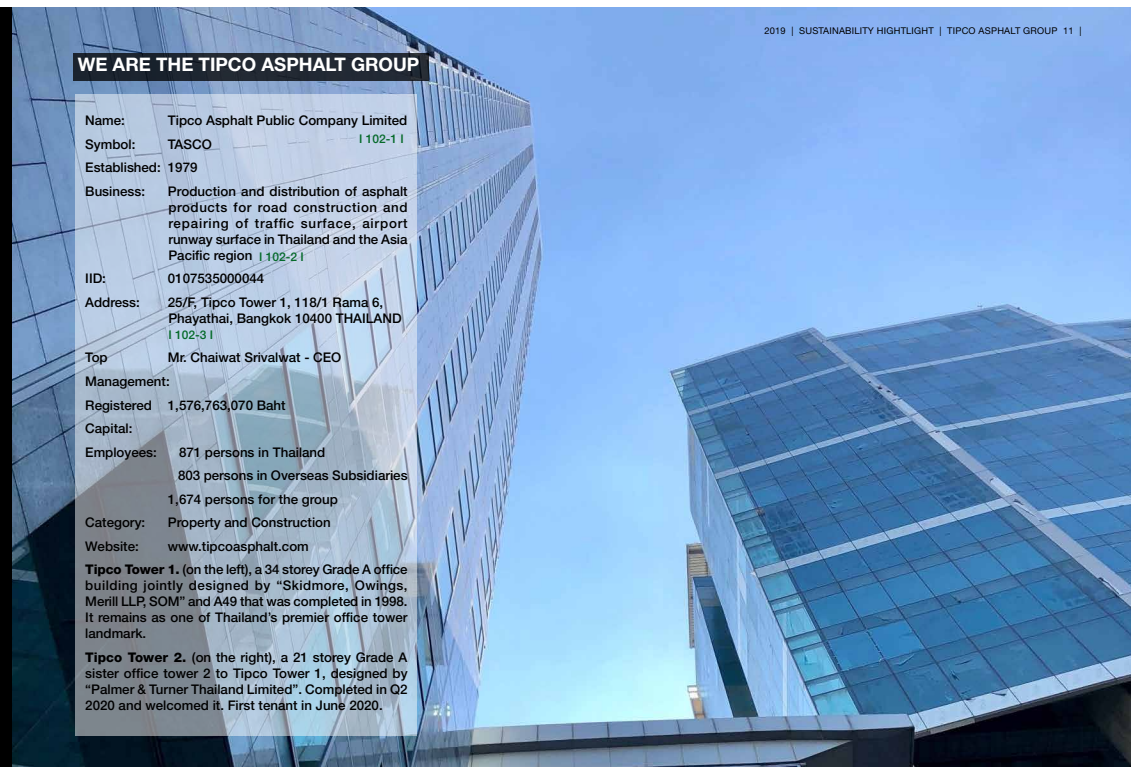
Prasit Supsakorn
(Tipco Group Founder)
Since 1979

WE ARE THE TIPCO ASPHALT GROUP

Name:	Tipco Asphalt Public Company Limited
Symbol:	TASCO I 102-1 I
Established:	1979
Business:	Production and distribution of asphalt products for road construction and repairing of traffic surface, airport runway surface in Thailand and the Asia Pacific region I 102-2 I
IID:	0107535000044
Address:	25/F, Tipco Tower 1, 118/1 Rama 6, Phayathai, Bangkok 10400 THAILAND I 102-3 I
Top Management:	Mr. Chaiwat Srivalwat - CEO
Registered Capital:	1,576,763,070 Baht
Employees:	871 persons in Thailand 803 persons in Overseas Subsidiaries 1,674 persons for the group
Category:	Property and Construction
Website:	www.tipcoasphalt.com

Tipco Tower 1. (on the left), a 34 storey Grade A office building jointly designed by "Skidmore, Owings, Merrill LLP, SOM" and A49 that was completed in 1998. It remains as one of Thailand's premier office tower landmark.

Tipco Tower 2. (on the right), a 21 storey Grade A sister office tower 2 to Tipco Tower 1, designed by "Palmer & Turner Thailand Limited". Completed in Q2 2020 and welcomed it. First tenant in June 2020.



MESSAGES FROM THE CORPORATE GOVERNANCE COMMITTEE | 102-14 |

WE STRIVE for

establishing guidance and execution of corporate sustainability management practices at Tipco Asphalt Group.

We are living in the time when we encounter a multitude of several challenges including drastic climate shift, food and water shortages driven by population increases, rapid resource depletion and energy sustainability, public safety and health concerns, etc. In order to ensure the long-term sustainability of human life on Earth, solutions to these global challenges are urgently needed while companies today are expected to play such a crucial role upon their commitment to the public interest and contributing broadly to society as well as in environmental protection. There has never been a better time to deliver on that commitment.

Since our establishment in 1976, TIPCO Asphalt Group has remained dedicated to our fundamental corporate principle of contributing to society and the environment by engaging in business management designed to benefit all stakeholders, including employees and their families, customers, business partners, local communities, authorities and shareholders.

We see TIPCO Asphalt Group as the leading corporations in Thailand that help solving global issues addressed by the Sustainable Development Goals (SDGs) adopted at the United Nations. Our corporate sustainability principles makes our commitment explicit: "Innovative Solutions for Sustainable Living of all Societies." At TIPCO Asphalt Group, we are living up to this mission by delivering innovative technologies and integrated asphalt solutions that help cope with challenges the world faces when it comes to balancing development and sustainability.

Since 2010 when we formulated our first 5-year long-term strategic plan; namely, Vision 2015, sustainable

development has been an important component to our business mission, with the key focus on society and environmental preservation through various CSR activities. Our current corporate strategy Vision 2025, which we will have in place in 2020, fully integrates the concept of sustainability management into corporate Vision 2025, with great emphasis upon corporate governance and innovation while identifying key SD challenges and setting specific targets for ourselves to help healing the planet.

With creating shared value (CSV) principles TIPCO Asphalt Group implemented, our sustainability commitment is crystallized into 3 areas of long-term SD strategic initiatives focusing on innovation leader, eco-efficiency operations and safety awareness. These initiatives have been executed and progress monitored by top management and Board members.

This Sustainability Development Report presents TIPCO Asphalt Group's great efforts on our SD initiatives and results for the year 2019 and is designed for all of our stakeholders. We hereby would like to invite you to get better acquainted with our strong dedication and commitment on sustainability development through the pages of this report.

Thank you very much.

Mr. Phirasilp Subhapholsiri
Chairman of Corporate Governance Committee



CG Committee:
1) Mr. Jacques Marechalm 2) Mrs. Anne-Marie Machet
3) Mr. Phirasilp Subhapholsiri
Chairman of CG Committee
4) Mr. Chaiwat Srivalwat

“ Our current corporate strategy Vision 2025 ... fully integrates the concept of sustainability into corporate Vision 2025, with great emphasis upon corporate governance and innovation while identifying key SD challenges and setting specific targets for ourselves to help healing the planet. ”

MESSAGE FROM THE CHIEF EXECUTIVE OFFICER (CEO) | 102-14 |

WE STRIVE for

instilling sustainable principles into the culture of the Tipco Asphalt Group

At the Tipco Asphalt Group, sustainability is not viewed as the responsibility of any single individual or business unit. We take the approach of embedding sustainability into our culture, where every single employee takes ownership of sustainability in carrying out every aspect of our business. We do this while considering economic, social and environmental needs of all our stakeholders.

Our sustainability initiatives are underpinned by good corporate governance; where we consciously integrate key risks concerning our stakeholders into our risk management processes. Consequently, we are able to conduct our business in a socially responsible manner for the benefit of all our stakeholders.

Our present sustainable development strategies are built around three key initiatives. Namely, we strive to be an innovation leader, achieve eco-efficiency (that is, efficiency in ecological and economic matters), and safety awareness. We support these initiatives by integrating them into our corporate strategies; as well as setting and monitoring indicators of our performance in the implementation of these strategies.

In terms of public road safety awareness, we aim to help reduce road accidents for the safety of the general public. We support this initiative by utilising our expertise in developing asphalt products as well as road surface repair standards. By doing this, we contribute to improving road

safety for society. This is an initiative that encompasses the national level, where we also collaborate with government authorities such as the Department of Rural Roads.

As our sustainability measures continue to mature, we will continue to instill the underlying principles of sustainability into the culture of our operations in Thailand as well as our foreign subsidiaries.

Good corporate governance and proactive risk management underpins our sustainability initiatives. This allows us to conduct our business in a socially responsible manner for the benefit of all our stakeholders. We take sustainability seriously. I am confident that our Group will be well-positioned to be a leader in the field of sustainability; as we continue to be a socially responsible corporate citizen in a rapidly changing world.

Chaiwat Srivalwat
Chief Executive Officer
(Appointed: 13 August 2019)

“ I am confident that our Group will be well-positioned to be a leader in the field of sustainability; as we continue to be a socially responsible corporate citizen in a rapidly changing world. ”



Scan here for
CEO & Sustainability VDO

WE ARE TIPCO ASPHALT GROUP | 102-21 Clause 7.2 |

We strive for **delivering the best business performance** enhancing our partners superior performances.

STRAIGHT-RUN NAPHTHENIC ASPHALT REFINERY: Located on the East coast of the Malaysian Peninsula. Kemaman Bitumen Company is the **only asphalt-focused refinery** in South East Asia. We produce over 20 grades of asphalt and have laboratory facilities capable of conducting international standard tests for all asphalt and petroleum products of the refinery.

DEDICATED DOMESTIC ASPHALT FLEETS & TECHNICAL SERVICE: We own and operate over 240 asphalt trucks in Thailand & Asian countries, which enables us to service with guaranteeing delivery and self-handling of quality products from plants to our customer sites. This is one of the company's many strengths. Our Technical Support Team, unique to Tipco Asphalt, is to serve our customers by providing professional and advisory assistance services on road construction and maintenance applications, on-site, wherever they are needed.

INTERNATIONAL STANDARDS: We offer a variety of asphalt products with high quality, ranging from conventional grade to premium grades for road, highways and airport runway construction, pavement, repair and maintenance in Thailand and Asia-Pacific region.

OCEAN-GOING ASPHALT VESSEL FLEET: We own, manage and operate state-of-the-art ocean-going asphalt tanker fleet with a total 43,000 DWT, allowing us to safely load and discharge asphalt at our customers' terminals worldwide.

ROAD CONSTRUCTION: Our road construction companies are well-recognized in Thailand as well as the Asia Pacific region with dedicated technical resources to serve all types of road pavement requirements, both domestically and internationally.


Asphalt Refinery



PRODUCTION

The Kemaman Asphalt refinery is in Malaysia. The facility was established since 2007. It is the only naphthenic-based asphalt dedicated refinery in Asia, with the refining capacity of 30,000 barrels per day, or 1.2 million tons asphalt production capacity.

Asphalt Business - Thailand -



SUPPLY & TRANSPORTION

As the leading asphalt company in Thailand with 40 years of experience, Tipco Asphalt provides excellent asphalt delivery services. The Group operates a fleet of 58,000 tons asphalt tankers , and more than 240 trucks. We also further extend our delivery services by collaborating with the network of third-party local transportation partners.

Asphalt Business - International -



INTERNATIONAL EXPANSION

Our international business encompasses footprints across foreign subsidiaries in China, Cambodia, Vietnam, Indonesia, including JVs in Singapore, Lao, Philippines, East Malaysia and a representative office in Myanmar.

We also conduct asphalt import-export business across 20 destination countries.

The overall international business contributes to two million tons per year.


Marine Group



VESSEL FLEET

We act as owners, managers, and operators of quality tonnage which includes not only our own state-of-the-art, ocean-going asphalt tanker fleet but also charterer of external quality tonnage. Our focus is on safe, sustainable, and environmentally-friendly operations including optimization of fuel consumption and alternative fuels with a long-term goal of decarbonization. We take pride in conducting our operations in an efficient manner and always in line with best industry practices.

Construction Business



ROAD CONSTRUCTION

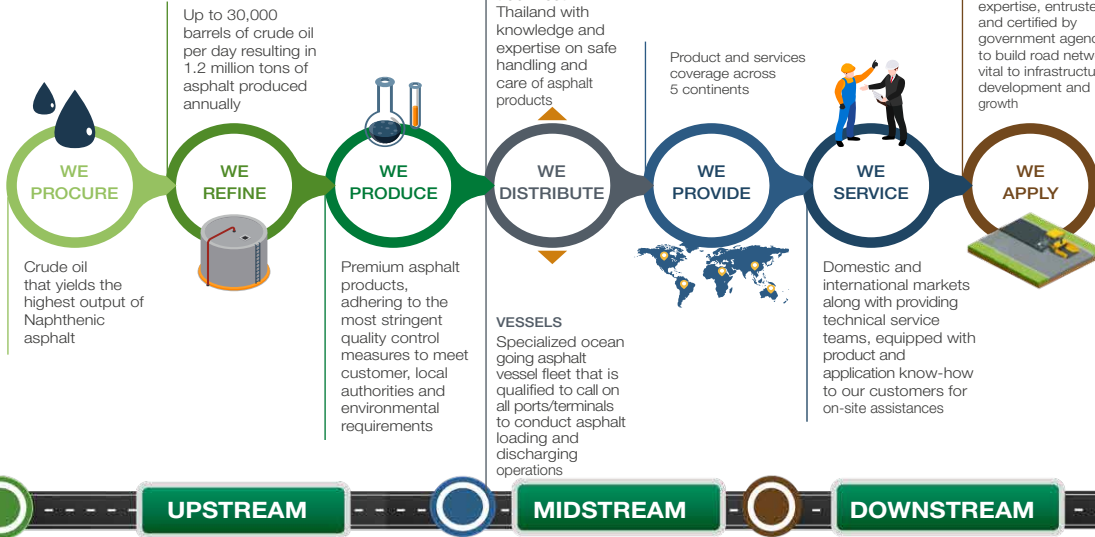
Our road construction business is conducted through two of our sister companies, which are Special class contractors capable of accommodating any government infrastructure development and maintenance projects.

Our unique expertise is on asphalt pavement specialist. We are one of the very few players that can fulfill the requirements on special projects: for instance, airport runway, motorsports racing circuit.

OUR VALUE CHAIN | 102-9 | Clause 7.2 |

WE STRIVE *for*

Operating Across Fully Integrated Asphalt Value Chain



We provide comprehensive solutions to accommodate customer's business needs, with focus on long term sustainable business journey together with them.

Our value chain designs fully integrates all business operations; i.e., from upstream operations where we procure crude oils for further processing at our unique, asphalt-oriented refinery facility in Asia Pacific. In addition to asphalt cement product lineups, our refinery also can produce other high-quality petroleum related products which meet not only international standards but also local environmental requirements.

As for midstream business operations, our distribution logistic services ensure our products being delivered to our customers, with greatest quality and in timely manner across all markets. We provide asphalt logistic solutions with our fleet of asphalt vessels including inland truck logistic services fully equipped with technology for real-time monitoring and tracking of asphalt merchandise.

Our downstream operations focus on asphalt road construction and surface pavement services. Our team of highly skilled and experienced staff are entrusted and certified by government agencies for our works. In addition, our technical service team can support customers on technical advice to ensure best use of our products on road surface application. In addition to normal expressway and roads, we utilize our expertise on special projects that require unique asphalt specifications and construction techniques. Through the Thai Slurry Seal Company Limited; a subsidiary of Tipco Asphalt, we are the only company in this region that could commission the world-class, Formula One standard, Chang International Circuit project in Buriram province, Thailand.

Each operation; i.e., from upstream crude sourcing down to road pavement services, is conducted under strict controls and regular monitoring to ensure top quality services and products delivery to customers.



SUSTAINABILITY STRATEGY AND EMPLOYEES COLLABORATION | 102-15 | Clause 5.2.1 |



embedding Sustainability in Our Culture for moving forwarding to be a SUSTAINABLE ORGANIZATION

Our Alignment

Tipco Asphalt is concerned about sustainability which our strategy covers the 3 dimensions of economic – innovation leader, operations – eco-efficiency operations and social – safety awareness. We are committed to exerting influence through our core values, business culture, and ethics, thus creating opportunities and competitive advantages by creating shared value with all key stakeholders.

Every year, the CEO sets the theme of our SD initiative focus to support our vision and in 2019 the theme was **"innovation"**. All business units had their own key concerned material issues and they also need to exhibit the innovation initiatives they had been done in 2019.



Our employees always engage upon the Groups' strategy formulation and business direction, hence encourage their ownership upon the Group's business accomplishments. The success starts from accountability & passion.

Tipco Asphalt strives for embedding the sustainability in our corporate culture to drive all of our employees to move in alignment and have synergy. We trained the trainers called SD Officers to train each of concerning units to understand the material issues that they need to contribute to SD Strategy. Our staff set the KPIs and need to report on monthly basis.

We essentially groomed the team with understanding and driving the success with passion, then they take the ownership of sustainability and eventually they will make their works better everyday. Having the proper training and systems in place is also critical to enabling everyone to make sustainability part of their job.



We strive to be an **"Innovation Leader"** for making a big change in the organization. In 2019, we made significant progress in many areas, including in strategic programs for Tipco Asphalt such as closed innovation contest – "Innovative Solutions Award and collaboration innovation" with partners to create new innovations. Innovation with sustainability is the essential key for us. More broadly, Tipco Asphalt's updated sustainability strategy for 2025, where we stated clearly one of the six strategies is **"Innovation Beyond product"** which is the guidance for our innovation direction for 2020 and beyond.

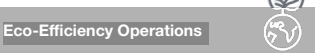
We understand that fundamental of innovation knowledge is very important for our employees, before we make a big move.

Innovation in the next economy is about much more than inventing. It's about figuring out how and where we can add unique value in the whole value chain of our operations. In 2020, we plan for managing innovation boot-camp to train our employees who passionately volunteer to join and would like to leverage their abilities and have a better understanding of innovation knowledge.

We want to bring out the talents of our employees so that they will be proud of their innovations as well as improving corporate operations efficiency which is the sustainable way for creating corporate competencies and increase competitive edges.

By 2025 We aim to achieve the following:

- Establishing an innovation organization for promoting and supporting corporate innovations.
- Promote innovation activities, closed innovation – "Innovative Solutions Award", open innovation and collaborative innovation with partners.
- Encourage more of employees to join the innovation programs every year.
- Develop reliable measurement for encouraging and promoting employee's imagination and also needs excellent communications to promote.



TIPCO Asphalt Group strives for implementing eco-efficiency concept across our business value chain, in particular our operations that focus on economic growth, competitive advantage while being responsible for ecology and environment. These aspirations were fully integrated into the Group's Vision 2020 under the "Grow Through Sustainable Development" strategy that signifies the Group's future growth through sustainable and responsible business practices, and also the "Enhance Efficiency" strategy that focuses on operational efficiency improvements. Those strategies marked a long-term milestone for our business directions and also embedded into our new Vision 2025.

As key component to Sustainable Development Strategy, our Eco-efficiency Operations are based on Environmental Management System (by ISO14001) accompanied by an environmental policy with key focuses on (i) prevention and control of pollutants, (ii) reduce the greenhouse gas emissions, (iii) control of resource usage, 3R (reduce, reuse and recycle), and (iv) reduction of waste disposal.

At present, our operation units have initiated several eco-efficiency support projects; Replacement of Heat Coil for Para-AC Tank at Phitsanulok Plant and Increase of Joint-Sealer Productivity at Nakhonratchasima Plant, to name a few.

By 2025 We aim to achieve the following:

- Educate our employees on eco-efficiency
- Zero municipal water resource usage in production processes
- Zero water effluent across all 5 plants in Thailand
- Reduce the Greenhouse Gas Emissions across all 3 scopes, both direct and indirect emissions
- Promote circular economy initiative through reuse and recycle of total industrial waste



Safety awareness is an important foundation of Safety Culture ternary by 3 pillars; Psychology, Leadership and System. For TIPCO Asphalt Group, we strive for World Class Safety Culture by strengthening on safety awareness of our staff For instance, we have implemented and certified the "Road Traffic Safety Management System - RTSMS" according to ISO 39001 standard, for our truck drivers.

In addition, we aim to enhance safety awareness across all stakeholders who we can induce or directly influence. For instance, we introduced "Safety Brief for Visitors" for all visitors to our plants. We implemented strict basic selection criteria upon contractors/vendors for plant investment projects that they must implement occupational health and safety management and follow our safety protocols. "Safety Introduction for Contractor" shall be provided for contractor's staff by our Plant SSHE prior to any project start.

We also strive for raising safety awareness of local communities nearby our plants. Our Domestic Sale & Marketing (DMK) and Plant SSHE team co-arranged a "Safety Training Courses" CSR project for our customers to support their workers' safety awareness. The "Safety Road for Kids" is another flagship CSR project on safety awareness, which our International Business (IB) department conducted with primary school students.

By 2025 We aim to achieve the following:

- Zero case of fatality and severe accident.
- Occupational Health and Safety Management System are implemented across all oversea subsidiaries
- To raise health and safety awareness of employees
- To cover different risks, hazards and controls associated with the ecosystem

Achieving Goals

To achieve the goal of business sustainability, Tipco Asphalt has been devoting in organizational development and strengthening our competitiveness through our innovation and operational efficiency. We strive for promoting business growth through our innovation, environmental stewardship, and social development.

The CEO is accountable for driving the directions, policies, and governance structure to drive Tipco Asphalt's sustainability strategy. At the working level, the SD team is monitoring Tipco Asphalt's sustainable performance and implementation of policy and plans to ensure that the company achieves its goal in bringing manifest sustainable benefits to all partners and stakeholders via quarterly SD Management Meeting.

Most of us work to preserve the value of things we own. Establishing a sense of sustainability ownership prevents the issue of "someone else's problem" to manage. Everyone's small contributions will lead to big differences: a future-proof company with engaged, productive employees, and a healthier planet.



Small actions on everybody's part will lead to big differences

GOOD CORPORATE GOVERNANCE & OUR COMMITTED COLLEAGUES | 102-4 | Clause 4 & 6.2 |



Code of Ethics, of the Tipco Asphalt Group

Our corporate governance policies and practices are outlined in our Corporate Governance Charter, Supervisory Board Charter, and Managing Board & Executive Committee Charter. These are available in the corporate governance section of our website, at <http://www.tipcoasphalt.com>. The present prosperity, success, and stability of the Tipco Asphalt Group is the result of doing business according to its core values – the ideals that have been held in high regard and put into practice by the Board of Directors, by management, and by the staff of all levels.

This fosters synergy in our people and is one of the building blocks of the Tipco Asphalt Group's corporate governance which generates confidence in shareholders, investors, and all stakeholders.

All of the Tipco Asphalt Group's employees must understand and embody our core values (Teamwork – Integrity – Prudence – Commitment – Open-minded) in the conduct of the Tipco Asphalt Group's business.

Our Code of Ethics is all about our values, which are shared throughout the Company. The principles it contains are the top-level reference for guiding our behavior, decision making, and activities. Compliance is a competitive advantage: It preserves and strengthens the trust and confidence of our customers on a permanent basis. We make sure that compliance is an integral part of all our business processes.

As one of the leaders in the asphalt business in Asia, we have a responsibility to lead by example. Our vision has self-explanation: we want to be everywhere on the road surface bring a positive contribution to people's lives. This must be reflected in everything we do. We believe that conducting our business with the highest standard

of integrity is essential to our long-term success. At Tipco Asphalt's, compliance and ethics are everyone's job and responsibility. | 102-16 |



Code of Ethics; Tipco Asphalt Group

A total of employees who response on Code of Ethics' annual acknowledgement online in Thailand.

All new employees

100%

Completed Code of Ethics Training on their orientation program

YOUR INNOVATIVE SOLUTIONS PARTNER

HANDBOOK CODE OF ETHICS

Strong Corporate Governance Transparency



The Board of Directors and management of the Group commit to good corporate governance practices to maintain the Group's sustainable development. The Group strives to protect and promote the interests of all stakeholders by observing ethical business practices based on transparency and traceability.

Our Corporate Governance pillar focuses on key aspects including rights to shareholders and equitable treatment, role of stakeholders, human rights, intellectual property infringement and information disclosure/transparency.

The Group also established a corporate governance policy for the Board of Directors and the employees to abide by. In addition, the Group adopted the corporate governance code for listed companies 2017 (CG Code) developed by the Securities and Exchange Commission (SEC), which we review the CG Code an annual basis.

The Group was awarded with several recognitions. We became one of top listed companies included in the Thailand Sustainability Investment Index (THSI Index) since 2018. In 2019 we were awarded with the SET Sustainability Award's 2019 (Rising Star Award category for companies with market capitalization of Baht 10-30 billion) and the Sustainability Disclosure Award 2019 from the ThaiPat Institute, to name a few category for companies with market capitalization of Baht 10-30 billion.

Anti-Corruption Practice

The Group strongly commits to our 'zero-tolerance' philosophy toward any type of corruption activities by any person or group associated with the Group. In 2013, the Board of Directors had adopted the Anti-Corruption Policy, with the ultimate aim to prevent corruption across all value-chain activity while maintaining vigilant operations. The policy was revised in 2019, along with the development of the Anti-Corruption Guideline Manual that provides a clear and detailed standard for all staff to follow.

Since 2017, the Group won recognition of "Level 4" membership status from Thailand's Private Sector Collective Action Coalition against Corruption (CAC), hence reaffirming our dedication to fight against corruption. In 2020, we are currently in the process of applying for CAC's Certificate of Membership extension.

In 2019, the company also announced the "NO GIFT" Guideline which was effective promptly.

Speak up and misconduct reporting

We encourage everyone, including external business partners, to express, in good faith, any concerns they might have regarding possible violations of our Code of Ethics, the Company's policies, or the law. Managers are accountable for maintaining a working atmosphere where employees are comfortable about speaking up and expressing their concerns freely. The Company applies the highest standard of confidentiality in the handling of all reports received and ensures that no employee who reports a concern in good faith suffers retaliation in the form of harassment, adverse employment or career consequences.

Value for the Future



The Board of Directors and management of the Group commit to good corporate governance practices in order to maintain the Group's sustainability. The principle is that we strive to protect and promote the interests of all stakeholders by observing ethical business practices based on transparency and traceability.

In 2019 through early 2020, the Group is proceeding to identify and promote behaviors and systems via the corporate Innovation-driven culture formulation. We anticipate behaviors and system that focus on the risk control and managing behaviors of all the organization's members, in particular in reference to the stakeholder relationship management.

The Innovation-driven Culture aims to include the sharing of related values and principles; definition and integration of critical success dimensions in relation to economic, environmental, and social responsibilities.

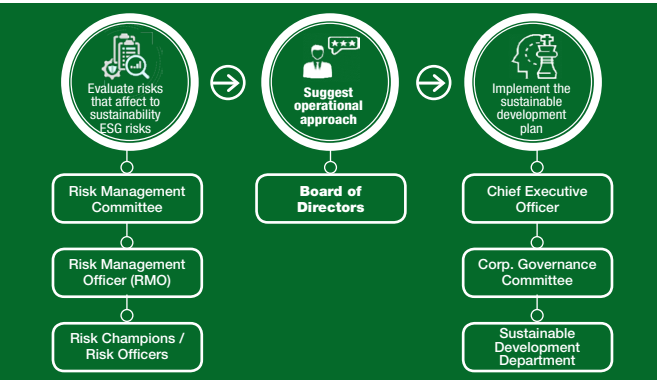
The employee is the key for organization to promptly adapt to new challenges

"People" are the vital foundation of our business. Our staff is the key to the success of adjusting to new changes amidst rapidly changing business environment. We implemented effective enterprise risk management practice while conducting the strategic review on a regular basis, in order to stay up to date on all factors that could assert impacts to our businesses.

EFFICIENT DRIVE STRUCTURE | 102-4 | Clause 6.2 and 7.4.2 |

Tipco Asphalt Group has designed a clear sustainability operation structure to support concrete implementation of sustainable development and to reinforce Tipco Asphalt's Sustainable Development Policy approved by the Board of Directors of Tipco Asphalt Company Limited. The Tipco Asphalt Sustainable Development Policy has been clearly laid out as a management guideline to ensure sustainable development in the long run for the Group and the public at large. It was designed to create greater and more sustainable benefits to all stakeholders within and outside the Group. The policy reflects the corporate values, vision, mission and long-term strategy. The three strategies and two foundations for sustainable development focus on economy, society, good governance and environment, all of which are integrated with Tipco Asphalt Group's operations, with ultimate objectives on delivering good return on investment and long-term, sustainable growth. The policy detail is as follows :

- 1) Manage business under good corporate governance practices and the Code of Ethics
- 2) Respect and support human rights of employees and all stakeholders across the value chain, with zero support to any activities that violate such human rights
- 3) Constantly improve human resources operations, particularly in matters concerning health, security, safety, and environment
- 4) Strategically and continually improve the capability of environmental operations in order to minimize environmental impact in a sustainable manner
- 5) Treat all stakeholders fairly by observing a good code of business conduct



- 6) Treat both current and prospective customers fairly
- 7) Everyone in the Group is encouraged to participate in community development initiatives and contribute to facilitate the sustainable environmental practices
- 8) Strategically integrate social responsibility guidelines into business decision-making process to better define the value chain of the Group
- 9) Regularly review and manage business impacts in line with expectations of all stakeholders as well as environmental changes.

Under this policy, Tipco Asphalt Group's CEO is assigned to formulate related strategies including implementation of related projects and activities. The Corporate Governance Committee is responsible for overseeing sustainable development in line with corporate governance principles, sustainable development standards, and industry's best practices. The Sustainable Development Strategy is part of the business strategy that all Tipco Asphalt Group subsidies have to adopt in accordance with the Group's sustainable development direction.



Scan here for CSR policy





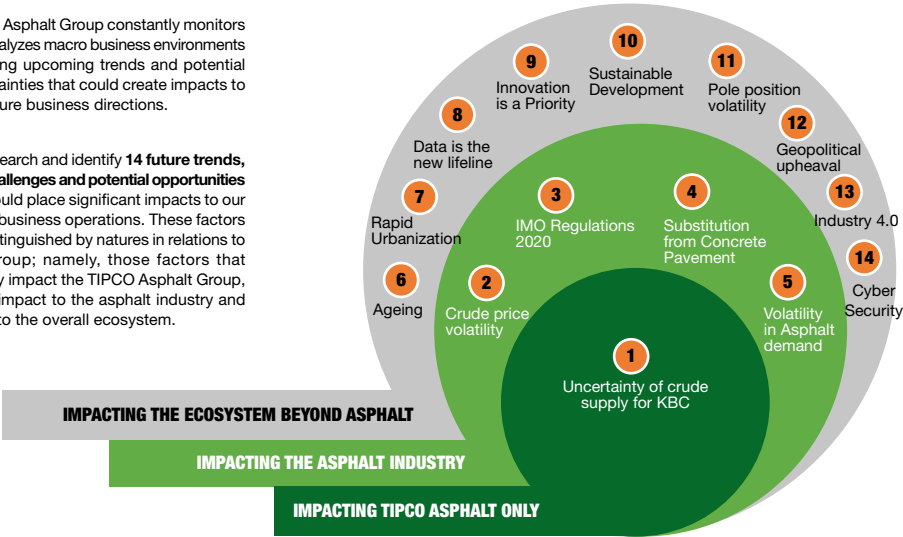
MEGA TRENDS, KEY RISKS & OPPORTUNITIES

OUR SUSTAINABILITY ANALYSIS BEGINS WITH FUTURE TRENDS, KEY RISKS & POTENTIAL OPPORTUNITIES

| 102-15 | Clause 7.4.3 |

TIPCO Asphalt Group constantly monitors and analyzes macro business environments including upcoming trends and potential uncertainties that could create impacts to our future business directions.

We research and identify **14 future trends, key challenges and potential opportunities** that could place significant impacts to our future business operations. These factors are distinguished by natures in relations to our Group; namely, those factors that directly impact the TIPCO Asphalt Group, those impact to the asphalt industry and those to the overall ecosystem.



Source: TIPCO Asphalt Group Strategy 2025 Workshop, December 2019

MEGA TRENDS, KEY RISKS & OPPORTUNITIES WITH CONCERNING MATERIALITIES | 102-15 | Clause 7.4.3 |

	Risks	Opportunities	Concerning Materiality	
<div><div></div><div>Uncertainty of crude supply</div></div>	<ul style="list-style-type: none">Significant risk to business continuity and profitability.	<ul style="list-style-type: none">Managing consistent availability of crude supply will provide a competitive edge over competitors facing similar	28) Developing suppliers to be reliable business partners	p.306-317
<div><div></div><div>Crude price volatility</div></div>	<ul style="list-style-type: none">Unpredictability in crude margins and overall profitability.	<ul style="list-style-type: none">Capitalize on trading of crude oil	7) The use of resources and new materials	p.176-187
<div><div></div><div>Changes in Regulations</div></div>	<ul style="list-style-type: none">Regulation on switch to LSFO could place impact on maritime transportation costs		13) Compliance with relevant environmental requirements	p.169-175
<div><div></div><div>Product Substitution</div></div>	<ul style="list-style-type: none">Loss of business to competitors such as cement pavement or Plastic road	<ul style="list-style-type: none">Diversity into non-asphalt road pavement application	3) Developing safe transportation networks and reducing cost	p.155-165
<div><div></div><div>Volatility in Asphalt demands</div></div>	<ul style="list-style-type: none">Demands fluctuation across markets due to government budget reductions or delays	<ul style="list-style-type: none">Diversity into non-asphalt road pavement application	31) Quality and responsibility for products & services	p.216-243
<div><div></div><div>Aging workforce</div></div>	<ul style="list-style-type: none">Loss of experience and knowledge of retiring employeesReduction in manpower and productivity if new blood is not introduced	<ul style="list-style-type: none">Wealth of knowledge beneficial to the organization if managed and transferred appropriately.Groom next generation of talents to succeed the business	15) Human Management and retaining staff	p.351-365
<div><div></div><div>Rapid Urbanization</div></div>	<ul style="list-style-type: none">Risk of losing market share if our business is not agile or cannot expand fast enough as compared to competitors	<ul style="list-style-type: none">Increase in infrastructure / road projects leading to greater asphalt demands	18) Promoting staff training & education	p.366-379
			1) Creating innovation & promotion the development of national infrastructure	p.125-153

Our Group identifies key challenges across our business value chain: beginning with the crude business that we focus mainly on the **consistent supplies of heavy crude** for the refinery of asphalts and related products. At the same time, we also monitor the **volatility of crude price** as well as **asphalt demands** across markets amidst changing regulations that could place impacts not only to our businesses but also to the asphalt industry level.

At the same time, we take into considerations of other mega trends that indirectly impact our future business direction. **Aging workforce** not only places concern on loss of experience and knowledge of retiring employees but at the same time encourages us to recruit and groom next generation of our talent staff to succeed in business.

Rapid urbanization, especially in those developing markets in Southeast Asia, not only offer great potential opportunity to the Group upon infrastructure developments and hence more asphalt sales but also assert some risks of losing market shares to our competitors if our business cannot enter the markets fast enough.

Please note that each of these factors also got mentioned through our **Materiality Analysis Survey** conducted during 2018 and 2019, hence reaffirming their significances and potential impacts to TIPCO Asphalt Group.

Impacts TIPCO ASPHALT only

Impacts ASPHALT industry

Impacts Ecosystem beyond Asphalt

Strategic Risk








Operational Risk




Compliance Risk

Reporting Risk

Sources: TIPCO Asphalt Group: Vision 2025 Strategy Formulation Workshop (December 2019) and inputs from Risk Management Office (RMO)

MEGA TRENDS, KEY RISKS & OPPORTUNITIES WITH CONCERNING MATERIALITIES

	Risks	Opportunities	Concerning Materiality		
 Data is the new lifeline	<ul style="list-style-type: none"> Risks to customer data management & protection 	<ul style="list-style-type: none"> Build an Insight-Driven Organization for more informed and effective decision making. 	6) Fair business practice	p.276-288	<p>One of the key weakness factor which our Group needs to improve upon is the lack of data utilization. We aim to build an insight-driven organization led by data analytics for generate great information that leads to better decision making.</p>
			1) Creating innovation & promotion the development of national infrastructure	p.125-153	
 Innovation is a priority	<ul style="list-style-type: none"> Opportunity losses. Loss of market share with competitors catching up with similar or better products, services and business models. 	<ul style="list-style-type: none"> Leverage ecosystem partnerships to drive customer loyalty and offer more client-centric value-added solutions 			
 Sustainable Development	<ul style="list-style-type: none"> Need to focus more on innovation 	<ul style="list-style-type: none"> Position itself as an innovator in new business opportunities in SDGs that goes beyond just compliance. Boost and recognition to Tipco Asphalt's brand image by being a leader in Sustainable Development Leverage existing leadership position in the market to shape/dominate the future of the market as a pioneer with new and innovative ideas 	8) Energy usage efficiency	p.169-175	<p>Meanwhile, sustainable development and innovation become our top priority as our Group needs to leverage on innovative ideas within the group into new products and services development before our competitors. More importantly, we are integrating these SD components into corporate strategy to ensure long-term success and stable pole position.</p>
 Geopolitical Upheaval	<ul style="list-style-type: none"> Loss of market share and risk to business continuity in the long run due to multitude of factors, such as competitions. 	<ul style="list-style-type: none"> Opportunity to reassess portfolio strategy and ensure the business is well-prepared and responsive 	11) Climate change	p.169-175	
 Pole position volatility	<ul style="list-style-type: none"> Political instability will cause reduction in industry consumption and overall economic growth, which can adversely affect asphalt demand 		12) Significant spills & waste management	p.176-187	
 Industry 4.0	<ul style="list-style-type: none"> Competitors may adopt disruptive technologies (e.g. IOT, AI, etc.) that help them drive higher productivity and lower costs in the long run 	<ul style="list-style-type: none"> Offer more service-led business model that utilize technology or digital means 	1) Creating innovation & promotion the development of national infrastructure	p.125-153	<p>The use of new technologies could in fact plays crucial role upon driving higher productivity in the long run while our Group these potentials and offers more service-led business model that utilize these technology or digital means. Nevertheless, the Group will take into serious consideration of the associated risk of cyber attack/cyber securities that come with these new technologies.</p>
 Cyber Security	<ul style="list-style-type: none"> Risk on cyber attacks/ ransomware etc. 	<ul style="list-style-type: none"> Inspire confidence and trust in your customers and enable more secured digital transactions/platform. 	25) Respecting Rights of community	p.244-275	

 Impacts TIPCO ASPHALT only
 Impacts ASPHALT industry
 Impacts Ecosystem beyond Asphalt

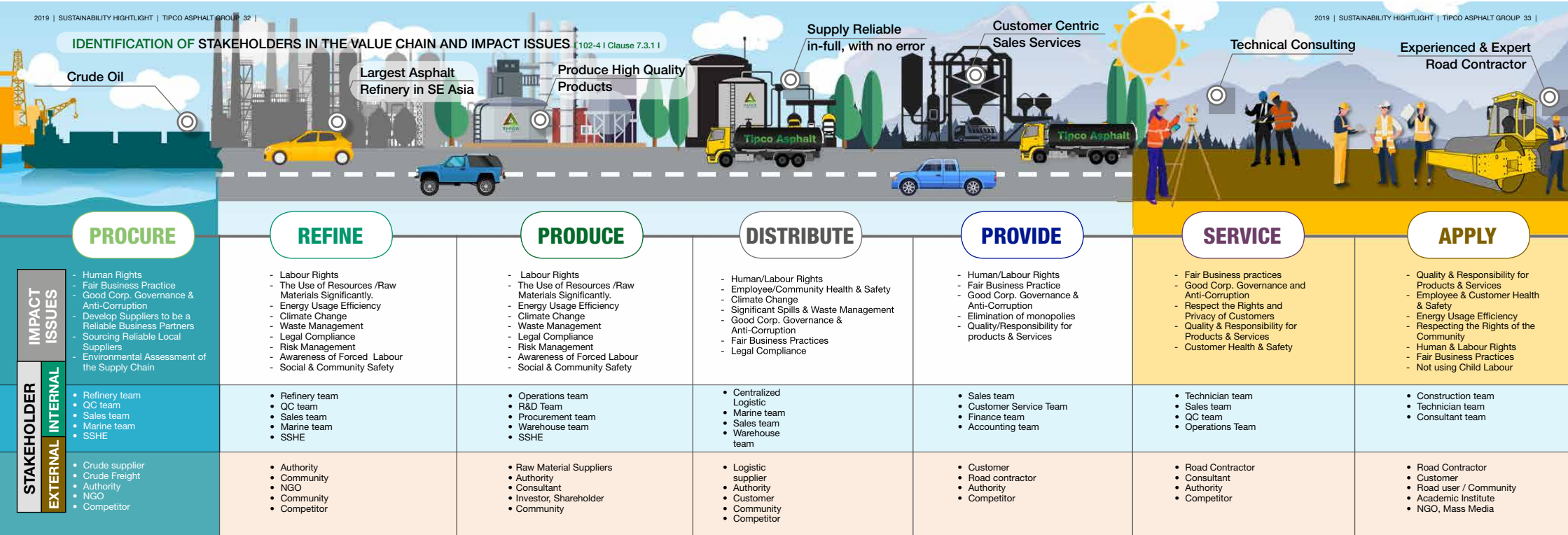
 Strategic Risk
 Operational Risk
 Compliance Risk
 Reporting Risk

Sources: TIPCO Asphalt Group: Vision 2025 Strategy Formulation Workshop (December 2019) and inputs from Risk Management Office (RMO)

MATERIALITY ASSESSMENT & STAKEHOLDERS MANAGEMENT



IDENTIFICATION OF STAKEHOLDERS IN THE VALUE CHAIN AND IMPACT ISSUES (102-4 | Clause 7.3.1 |





OUR BUSINESS ECOSYSTEM | 102 – 40 | Clause 5.3 and 7.3.2 |

Our Stakeholders



STAKEHOLDERS MANAGEMENT

STAKEHOLDER MANAGEMENT | 102-4 | Clause 5.3 and 7.3.2 |

WE STRIVE *for*

building lasting relationships through stakeholders' engagement in various communication platforms

Management Approach

Establishing a framework for sustainable development, an organization must understand the relationship between businesses and related stakeholders, in conducting business with considerations to economic, social and environment aspects. Business operations should be able to respond to stakeholder's purposes & goals with social responsibility.

To develop our framework, the Group conducted a study on all stakeholders across value chain, followed by Stakeholder Engagement. This allows our business plan to minimize adverse impacts while encouraging cooperation, and shared values between the company and stakeholders. This concept allows all stakeholders; whether they are employees, customers, business partners, society and communities, can live together with common shared value while the Group can operate without their objections (i.e., License to operate).

The Group also brought the requirements to formulate into sustainability strategy, which the Group believes that doing business with understanding will strengthen confidence, trustworthiness and make a difference while enhancing competitive advantage for our business.

Stakeholder Engagement Strategy

We improve everyone's life in our ecosystem

- 1) Objective of stakeholder involvement
- 2) Knowing our stakeholders better & deeper
- 3) Prioritize our stakeholders by impact & influence
- 4) Mapping stakeholders needs & priority
- 5) Dissemination & Communicate closely

Stakeholder Engagement Process

Our stakeholders comprise board members, employees & families, customers, communities, suppliers/partners, investors, governances and other entities that can affect or be affected by our activities, products and services. Maintaining an open dialog with our stakeholders is essential to understanding their needs and expectations. Every Tipco Asphalt operations perform specific actions depending on its activity, size, location and culture, and all operations have regular exchanges with local stakeholders, such as local authorities, schools and universities.

| 102-40 | 102-42 | 102-43 | 102-44 |

Engagement process as follows:

- 1) Stakeholder identification: we used value chain to identify who involved in each process (p.76-77)
- 2) Issues Identification: used value chain to identify issues between business and stakeholders (p.76-77)
- 3) Prioritization of stakeholder and issues
 - 3.1) Prioritize importance of stakeholders (p.83)
 - 3.2) Prioritize importance of issues (materiality p.89)
- 4) Stakeholder diagram illustrated related issues with stakeholders (p.85)
- 5) Defining purpose & objective of stakeholders for formulating right strategies (p.84-85)
- 6) Planning for response to stakeholder on key concerns to improve our efficiency (p.85)
- 7) Enhancing ability to respond to stakeholder issues for improving corporate efficiency.
- 8) Implementation of stakeholder's engagement plan to build relationship and trustworthiness.
- 9) Stakeholder engagement evaluation:

Stakeholders and Impact issues

Sustainable Development Team reviews impacts in the process throughout entire value chain every year to identify stakeholders and key issues through processes internal evaluation, process. The Group has also arranged annual discussion forum where community members can meet with Tipco Asphalt to express their comments and recommendations. The team identifies work hazards and environmental impact assessment from work and products in a life cycle manner using evaluation methods involving employees at all levels.

In addition to the annual hearing forum Sustainable Development Officer from our operating plants and, HCM officers also play crucial roles. They will ensure we respect the rights of community and persuade local community to share their voices to improve their living condition in such a way that Tipco Asphalt could support them in long run through projects or activities.

In addition, the Group provides alternative channels for stakeholders to express their opinion such as webpages, etc., while information provided will be used to identify sustainability issues to specific group of stakeholders using criteria for considering all stakeholders in the Tipco Asphalt value chain.

STAKEHOLDERS ENGAGEMENT | 102 – 43 | Clause 5.3 and 7.3.2 |



identifying the stakeholder engagements using stakeholder matrix criteria and mapping

Following identification of the stakeholders, it is crucial to understand :

- The level of influence a stakeholder has on organization activities
- The level of impact the organization activities has on stakeholders

Rating	Impact	Influence	Stakeholder Matrix Criteria
Hight	Organizations activities directly impacts stakeholder (s) in that stakeholder (s) will experience significant change.	Stakeholder (s) has significant influences on the organization understanding, support, commitment, and involvement. Can formally instruct change	Involve Extensively <ul style="list-style-type: none">Significant influence over others and have potential to aid or disrupt change adoption.Will be significantly impacted by changeCommunication: Aim to involve them; keep or develop them as allies and should emphasize frequent personal contact and face-to-face communication.
Medium	Organizations activities directly impacts stakeholder (s) in that stakeholder (s) will need to moderately adjust to minor changes.	Stakeholder (s) has some capacity but limited to formally instruct change to the organization strategy.	Address Concerns <ul style="list-style-type: none">Significant influence over others and have potential to aid or disrupt change adoption.Important to anticipate their objections and adverse reactions when planning communications.Communications: Aim to sustain and expand their support but do not need to be as resource-intensive or frequent as the need for them to change is low.
Low	Organizations activities results in little to no direct impact on stakeholder (s) but may result in some indirect impact.	Stakeholder (s) has limited influence to formally instruct change.	Enlist as Needed <ul style="list-style-type: none">Stakeholders will be significantly affected by the outputs of our work but have less influence over others and less potential to disrupt the processCommunications: Should be strongly proactive and pre-emptive, utilizing more influential stakeholders to influence their acceptance Keep Informed <ul style="list-style-type: none">Stakeholders who are neither highly influential nor greatly impacted by the changesCommunications: Minimal communication activities are required; mass communications are usually sufficient, and the main aim is to keep them informed.

STAKEHOLDERS MAPPING | 102 – 44 | Clause 5.3 and 7.3.2 |

High

Level of influence the stakeholder(s) has on the organization activities	Address Concerns (High Influence/Low Impact) Shareholders / Investors / Analysts	Involve Extensively (High Influence/High Impact) Company Directors Customers (Road Builders) Government Agencies & Public Organizations Employees & Families Communities / Societies
	Keep Informed (Low Influence/Low Impact) Competitors Press/Media	Enlist as Needed (Low Influence/High Impact) Suppliers / Partners Road Users

Low

Level of how impacted is the stakeholder (s) by the organization activities











High

WE PRIORITIZED AND FOCUSED ON STAKEHOLDER ‘INVOLVE EXTENSIVELY’ GROUP | 102 – 42 |

We places top priority on “Involve Extensively Stakeholder (High Influence / High Impact)” stakeholder groups that we used as the key concerning requirements

- Internal Stakeholder; Company Directors
- External Stakeholder; Customers (Road Builders)
- Employees & Families
- Communities / Societies
- Government Agencies & Public Organizations

STAKEHOLDER ENGAGEMENT AND SUSTAINABLE CO-VALUE CREATION | 102 – 43 | 102 - 44 | Clause 5.3 and 7.3.2 |

icon	Stakeholder	Purpose and Objective	Stakeholder Mapping	Modes of Engagement	Frequency	Key Concerns Raised	2019 Performance Summary
	Company Directors	Legalization and correct in accordance with the code of ethics, transparency	Involved Extensively	<ul style="list-style-type: none"> Board Meeting Corporate CSV/CSR activities 	<ul style="list-style-type: none"> Quarterly Monthly 	1. Good corporate governance according to the policy and strictly enforced 2. Embedded Sustainability in Corporate Strategy & Business Plan	1. CGR Score = 5 Stars 2. CAC = Level 4 3. Sustainability = SET Sustainability Excellence: Rising Star Awards
	Employees & Families	Good quality of life, job security, Fair compensation and Human Rights	Involved Extensively	<ul style="list-style-type: none"> Employee Engagement Survey Staff Meeting with CEO e-mail and Intranet Whistleblowing 	<ul style="list-style-type: none"> 3 year/time Annually 	1. Happy and Safety Workplace with Work-life balance 2. Skills & Potentials Development Continuously 3. Promotion, Salary and Career Advancement 4. Communicate Corporate Activities Transparently 5. Foster Innovation Culture that increase productivity, creativity	1. Zero fatality and lost time injury accident 2. Training average 30.63 hours/person/year (Function and Managerial Training only). 3. Employee Promotion 3.1% 4. Reviewed Salary Structure and effective from January 2020 5. Established "Annual Innovative Solution Award" competition and bootcamp
	Customers	Best quality goods and services at reasonable prices, Privacy and Security, and Fair Operating Practices	Involved Extensively	<ul style="list-style-type: none"> CRM/CSR Activities Seminar Programs Customer Satisfaction Survey 	<ul style="list-style-type: none"> Annually 	1. Rely on delivering high-quality products on time and in-full quantity 2. Respond to the customers needs in all dimensions; product 3. Provide feedback, request, complaint effective channels 4. Customer relations activities, seminars and roadshows	1. Customer Satisfaction Survey resulted 87% (Target 85% / 2018: 84.5%) 2. Responded to complaints 20 cases with 100% issues fully solved. 3. Complaints about customer confidential information being leaked = 0% 4. "Road to the Future" Seminars for road contractor customers 4 times, all regions
	Government Agencies & Public Organizations	Follows all laws & regulations, Anti-corruption and bribery	Involved Extensively	<ul style="list-style-type: none"> Meetings / Seminar Joint CSR Activities Plant Tour 	<ul style="list-style-type: none"> As required 	1. Support collaboration projects to achieve committed SDGs 2. Sharing new technology, innovation 3. Pay local taxes and emphasize on local employment	1. Support 2 collaboration projects for the country to achieve committed SDGs 1.1 SDG#3: "CPR-Lives Saving" with CP Group, Suratthani CSR etc. 1.2 SDG#9: "Patching Pothole Project" with DDR, Mitr Phol Group etc.
	Suppliers / Partners	Fair trade and prompt in-term payments, Human Rights	Enlist as Needed	<ul style="list-style-type: none"> Supplier performance feedback Annual Supplier Meeting Co-operate CSR activities 	<ul style="list-style-type: none"> Annually 	1. Reassure safety working environment for suppliers 2. Strengthening relationships by sharing information 3. Collaboration projects for business growth& expansion 4. Knowledge sharing for the maximum operational efficiency	1. Screening 1 new supplier with ESG criteria – plastic bag for premix supplier 2. ZERO accident for sub-contractors in Tipco Asphalt workplaces 3. Co-Value activity with partner: CPR life-saving training with suppliers
	Communities/ Societies / Academic Institutes	Pollution free environment	Enlist as Needed	<ul style="list-style-type: none"> CSR Activity Programs Open House Event Whistleblower 	<ul style="list-style-type: none"> As CSR activity plan 	1. Collaboration and support for sharing knowledge & expertise 2. Enhance quality of life and safety using corp. knowledge 3. Listen to community needs & complaints by heart	1. Overall CSR (Community) Survey resulted 89% (Target 85% / 2018: 82%) 2. ESG complaint from community = 0 case 3. Well-accepted for 6 signature CSR/CSV projects and others 52 projects for communities / societies
	Road User	Safety Travel	Enlist as Needed	<ul style="list-style-type: none"> CSR Activity Programs Website, social medias 	<ul style="list-style-type: none"> Annually As needed 	1. Safety road at all times 2. High quality road pavement which durable road surface.	1. CSV/CSR: Patching pothole activity for Road Safety across 5 regions 2. CSV/CSR: CPR & AED life-saving trainings for 956 persons
	Shareholders/ Investors / Analysts	Financial stability, steady flow of income, possible capital growth and sustainable business	Address Concerns	<ul style="list-style-type: none"> Annual General Meeting (AGM) Analyst Meeting 	<ul style="list-style-type: none"> Twice a year As needed 	1. Higher financial returns 2. Manage business growth carefully 3. Operational transparency / Reputation & Public Acceptance	1. Dividends paid per share = 1.50 Baht 2. Book value per share = 8.50 baht 3. The 2019 revenue = 37,626 M.TH.B, representing 35% growth from 2018
	Press / Media	Disclosed information in an accurate, precise and timely manner	Keep Informed	<ul style="list-style-type: none"> Corp. events; press conf. Analyst Meeting 	<ul style="list-style-type: none"> As required 	1. Disclosing information accurately, and in timely manner 2. Promote critical and creative media usage	1. Receive news for publishing Including the image of the organization in a consistently good manner & transparent / trusted information for publishing 2. 7 press visit company's activities 3. 35 interviews and press conferences
	Competitors	Fair Business Practices, Anti-trust and Transparency	Keep Informed	<ul style="list-style-type: none"> Exhibition / Conference Website, Social Medias 	<ul style="list-style-type: none"> As needed 	1. Follow the Code of Ethics to manage business fairly and in transparent manner	1. Continuously conduct fair business practices and competition: No complaint 2. Comply with Anti-competitive Behavior: No complaint

MATERIALITY ASSESSMENT

MATERIALITY ASSESSMENT | 102-46 | 102-56 | Clause 5.2 and 7.3 |



evaluating key sustainability issues related to internal and external business practices in accordance with GRI Standards.

Material issues are topics that reflect most significances pertaining to the Group as well as key external stakeholders' point of view; from economic, environmental and social aspects. We repeat this materiality exercise on a regular basis to reaffirm the significance of these materiality concerns while capturing potentially new materiality issues that might emerge from the survey.

Our materiality process aims to identify and analyze the topics that influence the Group and our external stakeholders, and whether these topics presents any potential risks or opportunities in relation to our business strategy. It is therefore an important way of evaluating our ability to create and sustain values.

Identification of material topics

Material topics for 2019 was compiled partly from the material topics identified from the 2018 assessment and re-confirmed from our management that they are still valid, and partly from additional topics gained through the expanding priority focus scope of our materiality survey. Staying focused on what really matters to both for our business and stakeholders is the essence of our sustainability strategy.

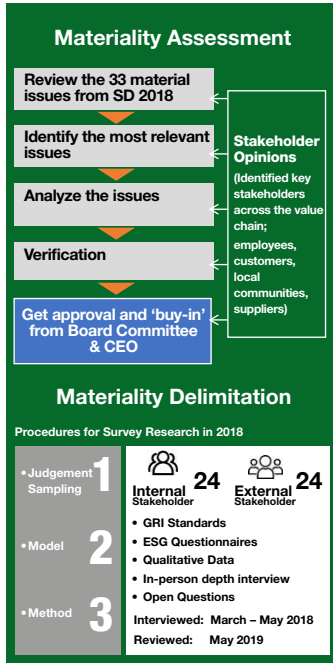
For each material issue selected, we grouped similar topics together into material category which allow us to get a clearer picture to formulate initiative programs and set up suitable performance indicators. For 2019, we came across 7 new material issues, hence make it a total of 18 material issues, which we combined into 12 material presented throughout this report.

The Process of Materiality Assessment and Prioritization in Accordance with the Global Reporting Initiatives (GRI) Standardscategories

The Group reviewed sustainability issues in 2019 using the materiality survey results from the 2018 report based on the GRI Standards and ranked them by the impacts to both internal and external stakeholders. In addition, we considered the corporate's key risks, current global situation, ongoing trends, impacts analysis (with external experts from strategy workshop, the Monitor Deloitte). We also identify, prioritize, verify, and inspect issues in line with sustainability context, materiality, thoroughness, and stakeholder tolerance.

Process of Materiality Assessment

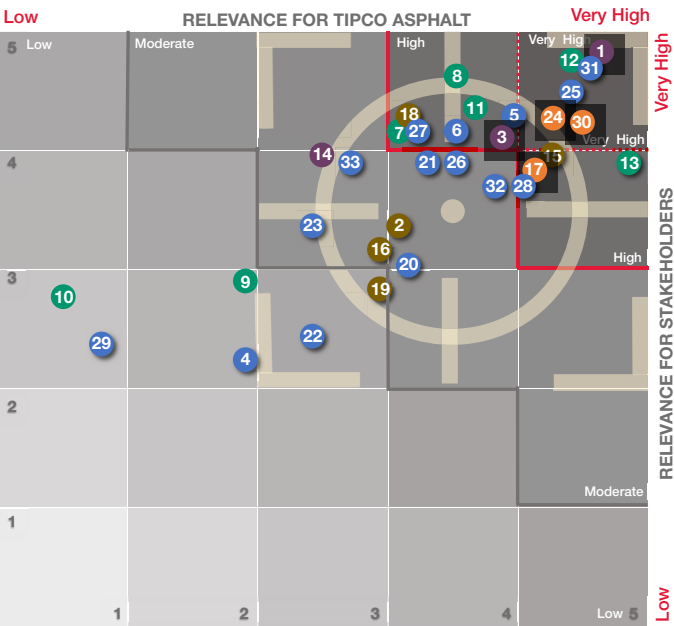
1. Identify and analyze sustainability issues across the value chain, encompassing steps from raw material procurement to production, transportation, distribution, use of products and services, together with analysis of sustainability issues in related industries
2. Analyze issues that matter to stakeholders through various means comprising in-dept survey with full explanation and prioritize the material issues
3. Verify material issues and align with enterprise risk management framework
4. Validate the material issues on regular basis



MATERIALITY ASSESSMENT | 102-42 | 102-44 | 102-47 | Clause 7.3.4 |

In 2019, we used the materiality Assessment 2018 results was used as reference, with top management confirm its result validation. Then, SD working team re-classified the amteriality issues, in accordance with GRI criteria and The Group's Corporate Strategy perspectives.

No.	Materiality Issues
1	Creating Innovation and Promoting the Development of National Infrastructure
2	Compensation, welfare, and employee satisfaction
3	Developing Safe Transportation Networks and Reducing Costs to Expand for Various Communities
4	Local Supplier: Sourcing Reliable locally
5	Good Corporate Governance Transparent and Against Corruption
6	Fair Business Practices
7	The use of Resources and Raw Materials Significantly
8	Energy Usage Efficiency
9	Water Management
10	Conservation of biodiversity
11	Climate Change
12	Significant Spills & Waste Management
13	Compliance with Relevant Environmental Requirements
14	Environmental assessment of the supply chain
15	Human Management and Retaining Employees
16	Good relations between employees and supervisors
17	Employee Health and Safety
18	Promote Staff Training and Education
19	Promote diversity and equal opportunities for employees
20	Respect for differences and equality
21	Elimination of discrimination or monopolies
22	Not using child labour in the business, including suppliers in the supply chain
23	Motivation and awareness raising for forced labour
24	Establishing Safety Rules and Regulations
25	Respecting the Rights of the Community
26	Respect for human rights
27	Participation and Community Development
28	Developing Suppliers to be a Reliable Business Partners
29	Policy for political participation
30	Customer Health and Safety
31	Quality and Responsibility for Products and Services
32	Respect the rights and privacy of customers
33	Increase social and economic participation in communities



- Innovation Leader
- Eco-efficiency Operations
- Safety Awareness
- Strong Corp. Governance
- Value for the Future

12 TOPICS HAVE RESULTED FROM THE 18 MATERIALITY ISSUES | 102-44 | 102-47 | Clause 7.3.4 |

From the Materiality Assessment, that we ever had prioritized and selected the 11 significant material issues in "Very High" quadrant for reporting in the SD Report 2018. And then in 2019, we have expanded the scope of selected significant material issues to be reported in this year in order to cover furthermore the "High-Very High" quadrant also, that there are 18 significant material issues into 12 topics of 5 categories for SD Report 2019.

Significant Topics			Innovation Leader	Eco-efficiency Operations	Safety Awareness	Strong Corp. Governance	Value for the Future
1	Foster Innovation Culture	7	Give Respect, Earn Respect				
2	Responding to Road Safety Issues	8	Ethics is everyone's Business				
3	Towards the Circular Economy	9	Valuable Trusted Partners				
4	Save the World	10	Good Citizens				
5	Safety is in Group's DNA	11	Well-Being at Work & Work-LifeBalance				
6	Most Trusted Asphalt Products & Services	12	SMART People				

SUSTAINABLE DEVELOPMENT

“Do your little bit of good where you are; it's those little bits of good put together that overwhelm the world.”

Archbishop Desmond Tutu



SUSTAINABLE DEVELOPMENT APPROACH | 103-2 | Clause 7.4 |

WE STRIVE *for*
efficient delivery of innovative solutions for sustainable living of all societies.

Since 2018, sustainable Development has played an important role upon driving TIPCO Asphalt Group's business direction. Since then, our Group not only has experienced rapid growth of financial performance growth but also has developed the organization across all three key pillars; economic, social and environment while taking into consideration on operational excellence and environmental concerns throughout work operations including realization of potential impacts on communities/society.

Since 2017, Tipco Asphalt's strategy has moved towards on sustainability with the "Creating Shared Value - CSV" Framework. We are committed to delivering better business solutions that help solving social problems through proactive development of new products and markets that contribute to improved organization and society at large.

Successful implementation of the Sustainable Development policy focuses on constant monitoring and evaluation of the Group's efficient operations across the economy society and environmental aspects. This requires a set of measurable indicators which serve as important information in determining continuous and sustainable organizational development journey. The Group is confident that the policy will be fully implemented and abided by employees and executives at all levels, both at the TIPCO Asphalt company including all affiliates.

Dimension	Creating Shared Value (CSV)	Sustainable Development Strategy
ECONOMIC	Re-conceiving needs, Products & Customers	INNOVATION LEADER
ENVIRONMENT	Redefining productivity in the value chain	ECO-EFFICIENCY OPERATIONS
SOCIAL	Enabling local cluster development	SAFETY AWARENESS

Embedded Sustainability in Our Culture for moving forwarding to be a SUSTAINABLE ORGANIZATION

Strategies formulated to drive sustainable development are fully consistent inconsistent with the Group's major goal to become Innovation Leader, and to ensure sustainable business growth. The Group emphasizes business management to ensure most efficient competitive edges with minimal impacts to the environment (eco-efficient operations) in order to achieve resource and environment management as well as community safety awareness. We focus on participation upon community development, promotion of sustainable society through good welfare and safety, along with developments in line with constantly-changing, external/internal factors.

In addition to aforementioned Sustainable Development strategies, the Group implements good corporate governance principle upon our business conducts, with focus on transparency and anti-corruption practices while consistently promoting and developing our valuable human capitals for the Group and the society.



The Group recently revisited our Mission/Vision under new 5-year strategic plan (Vision 2025) and fully integrated the concept of sustainable development as part of the corporate strategy including action plan for implementations. This hence allows sustainable development to explicitly become part of corporate strategy, encouraging mutual cooperation within the Group. This direction becomes policy from the top management to all staff to abide, to raise their awareness upon their works and common objectives, and to further communicate to external parties.

We already brought you how we came-up with the CSV Strategy and we addressed in our Sustainability Report 2018/2019. If you would like to learn more about our fundamental concept, please go via the QR Code














2019 SUSTAINABILITY INITIATIVE HIGHLIGHTS | 102-15 | Clause 6.2.3 and 7.4.3 |

WE STRIVE *for*

delivering the best sustainability business performance.

Year 2019 marked another great milestone for our sustainability development practices. With our 3 SD strategic initiatives combined with strong corporate governance principle and value for the future foundations, we achieved great progresses as evidenced through lead matrices and targets listed the table below.

Sustainability Topic	Innovation Leader  	Eco-Efficiency Operations  	Safety Awareness   	Strong Corporate Governance Transparency  	Value for the Future  
Objective	Instill Corporate Innovation Culture	Reduction of GHG Emission Intensity	Reduce Severe Injury Frequency Rate	Enhance Good Corporate Governance in Organization	Attract, Develop & Retain Valued Employees
KPIs	Sales Growth, Process Improvement Rate from Innovation projects	Reduction of GHG Emission Intensity > 4%	Severe Operation Accident FR < 1.84 Severe Truck Accident FR < 0.34	To be par or above average in term of Corporate governance assessment	Resignation Rate (> P4) Number of hours in Training & Development
Performance 2019	Sales Growth for ULA Para AC increased 22%	GHG Emission Intensity = 0.038 T.CO2-e/Ton Production Reduction = 7.6%* (*Base Year 2018)	Severe Operation Accident FR < 1.69 Severe Truck Accident FR < 0.00	CGR: 5 stars AGM checklist: 97%	Resignation Rate : 9.66% Training hour : 50.7 hour / person / year
Performance 2018	92,120 Tons*	GHG Emission Intensity = 0.041 T. CO2-e/Ton Production	Severe Operation Accident FR = 0.00 Severe Truck Accident FR = 0.20	CGR: 5 stars AGM checklist: 98%	Resignation Rate : 10% Training hour : 42.9 h/p/y
2030 Commitment	Sales Growth generated from Innovations > 25%	GHG Emission Intensity are cover to Scope 1,2 & 3 Reduction > 20% (*Base Year 2018)	ZERO Fatality and Severe Operation & Truck Accident	To be par or above average in term of Corporate Governance Assessment	Each employee participates in one or more innovation project each year

* Based on sales volumes of 3 Innovative products including ULA Para AC

ECONOMIC

The nation's infrastructure developments and mutual benefits shared to all stakeholders.

We are one of the world's leading companies with great expertise on asphalt and road construction services. With our innovations and business model, we greatly contribute to not only infrastructure developments in Thailand and countries where we operate, but also mutual benefits shared to all related stakeholders in sustainable manner.

Climate change is the one of top risks at both global and local level. Since 2015 we focused on carbon footprint reduction and implemented the GHG Management by GHG Protocol in 2018. In addition, as responsible consumer, we focus on natural resource.

ENVIRONMENT

We live on the same planet, so we must respect and care of the nature the same way we love our home.

SOCIAL

8,970 residences in local communities benefited from our CSR initiatives in 2019

Public safety initiative has been executed through series of CSR activities such as CPR training, patching potholes for travel safety, knowledge sharing of traffic rules/laws for a good driver, alcohol testing in-out from factory and digital platform for drive warning system. All these CSR programs are conducted with external parties, with more than 8,970 community members benefitted from these projects, accordingly.

CONTRIBUTING TO SUSTAINABLE DEVELOPMENT GOALS (SDGs)



Tipco Asphalt Group begins our SD process by mapping the 17 UNSDGs with our material topics and business strategies. We then selected and focused on 9 goals that are most relevant to our sustainability strategic initiatives for 2019.

To deliver **sustainable values** and “**INNOVATION**” in line with business ethics, we launched sustainable initiative projects across our value chain.

Our performance indices against these SDGs are highlighted throughout this report.

SDG 3: Ensure healthy & Safety lives and promote well-being for all.

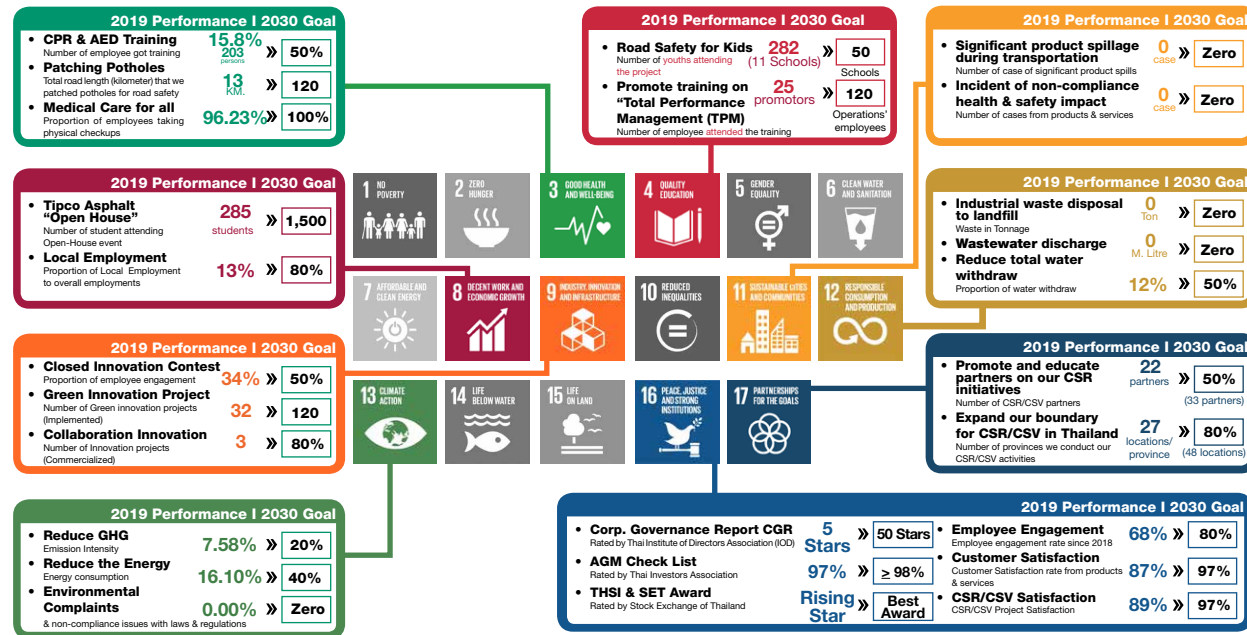
- Training CPR & AED practices
- Promote patching potholes for the road safety of community
- Annual medical/physical checkup to ensure great health of employees

SDG 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

- We sponsor road safety edutainment activities for youths across communities nearby our operations.
- We enhance employees' competency through combination of multiple approaches

SDG 8: Promote inclusive and sustainable economic growth, productive employments and decent works for all

- Our annual Tipco Asphalt Open House event is conducted as channel for us to meet local students who may have become potential future candidates for our staff in the future
- Local employment is our priority, to support communities



SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

- We launched the Closed Innovation Contest for employees within Tipco Asphalt Group
- We are in the process of launching an Open Innovation Contest with local universities
- Collaboration on Innovation with partners

SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable

- We comply with health & safety regulations to ensure great health & safety of community/society.

SDG 12: Ensure sustainable consumption and production pattern

- We aim to manage all resources efficiently; i.e., raw materials, energy and water. These include optimizing operation processes that minimize environmental impacts
- We move towards in-process recycling and also aim for upcycling our wastes in the future.

SDG 13: Committed to energy saving and carbon reduction

- We aim to achieve zero waste in landfill, reduce our consumption of chemicals while eliminating hazardous materials.

SDG 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

- We maintain highest records on good corporate governance transparencies.
- We create great journey experiences for internal & external stakeholders.

SDG 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

- We expand our CSR/CSV projects through our partners network.

Innovations on asphalt products and services, with road surface paving technologies which are **‘safe and save’**

INNOVATION LEADER





WE STRIVE *for* fostering Innovation Culture



“Innovation distinguishes between a leader and a follower.”

Steve Jobs

Materiality Issue		#1) Creating Innovation and Promoting the Development of National Infrastructure
Report Topic	Fostering Innovation Culture	
Impact & Risk	Innovation is a priority: Opportunity losses. Loss of market share with competitors catching up with similar or better products, services and business models	
Social Issue	Infrastructure Issues (i.e. Road Condition etc.)	
GRI Standards	-	ISO Standards -
SDGs	SDG 4, SDG 8, SDG 9, SDG 12, and SDG 17 	
Policy	Corporate Innovation Policy	Please go to view the policy on page. 130via QR Code Scanning
Stakeholder	- Internal: Employees - External: Community close-by plants, Educational Institutes	
Objective	1.) To create innovation development processes in the organization 2.) To stimulate the alertness of employees to come up with new creative ideas 3.) To create a corporate innovative culture for the exchange of ideas, knowledge, and take action to develop it to come true 4.) To have innovations that can be used and to maximize benefits for customers and organizations	
Responsible	HCM / Corporate Branding & CSR Department	
Strategy	Innovation leads to the future	
Execution	- The number of prototype projects that can be put into practice at least 25% of all innovation works - Number of projects submitted increase at least 10% every year - Number of projects submitted from support functions increase by 15%	

Legend

Impacts:

Low Moderate High Very High








Strategic Risk

Operational Risk

Compliance Risk

Reporting Risk

FOSTERING INNOVATION CULTURE

Future Value 2030	2025 Target	2018 Performance	2019 Target (interim)	FY 2019 Performance
TIPCO ASPHALT 4.0 : Embed 'Innovation' into the corporate culture for leveraging our working capability and earn revenue or increase efficiency from innovation programs. • Upgrade infrastructure and retrofit industries to make sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and operational processes with corporate taking action in accordance with their respective capabilities. • Support technology development, research, and innovation in developing communities, countries, including by ensuring a conducive policy environment for industrial diversification and value addition to commodities 	Smarter Working Sustain profitable growth, being the regional leader in Asphalt business, products & solutions	1) Preparing for Innovation Culture 1.1) Introduction activities by using podcast 10 issues for "trigger the ideas" 1.2) Knowing Corporate Innovation by inviting key speaker from Mitr Phol for sharing Innovation experience 1.3) Promote OKM & TPM 2) Promoting innovation with external stakeholders 2.1) Cooperated with MTEC and supplier to develop Ammonia Para AC 2.2) Develop Super Premix product but delayed from schedule to 2020 3) Improve Work Processes 3.1) Improve production process of Emulsion Asphalt	1) Closed Innovation 1.1) Employee Engagement Rate > 10% in first year 1.2) Innovation project submission > 50 projects 1.3) Satisfaction rate > 80% 2) Open Innovation 2.1) Employee Engagement Rate > 10% in first year 2.1) Innovation project submission > 50 projects 2.3) Satisfaction rate > 80% 3) Collaboration Innovation 3.1) Develop Premix plastic packaging with MTEC 3.2) Develop Eco-Packaging 4) Green Innovation 4.1) Develop Green innovation ideas > 10 projects 4.2) Develop Green Product/ Service that implemented in 2019 > 5 projects	 1.1) Employee Engagement Rate 34% (235 employees from 1,280 excluded seafarers 396) 1.2) Innovation project submission 133 projects 1.3) Satisfaction rate 94.7 %  We delayed to 2020 because the readiness of team to have quality time to work with academic partners  3.1) Developed "Dust Control" product and official launch in 2020 3.2) Developed "CSS-1 & CRS2 packaging for new customers  4.1) Green Innovation: ideas = 20 projects 4.2) Green Innovation: implemented 32 projects

Progress Tracking Legend:

 Meeting interim targets, maintain performance towards meeting 2025 targets

 Fall short of interim target for three quarters; review current practices

 Missing interim target for more than one consecutive year; review and revise targets (if necessary)

OUR AMBITION ON INNOVATION 2025 | Clause 6.1 | Clause 6.5, 6.6 and 6.8 |

WE STRIVE *for*
fostering innovation culture for leveraging working capability

Management Approach

The company places great emphasis upon the importance of innovation that plays a crucial role in the business. Since 2019, the company initiates the innovation development process at employee level throughout the organization. In the past, most product innovation developments were conducted from the research and development department (R&D) or results of collaboration with external parties / partners. Also included were work procedure enhancements, but these initiatives were limited to a very specific, niche functions.

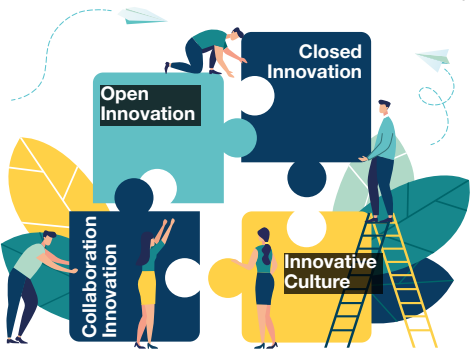
After the announcement of the company's Innovation Policy in 2018, the company implemented a process to strengthen employees' innovation mindset via various activities. These activities aim to enhance employees' participation while encouraging them to express their opinions/ideas properly.

In addition, the company recently launched **Innovative Solutions Award** contest, which greatly received participations from the employees: total 133 innovation project submissions from 320 applicants, representing 34%. With this small initiative, employees were encouraged to shift their mindset and thought process, and hence could utilize them for further development.

Consequently, the successful contest was officially included as one of the company's key annual activities to enhance the company's personnel capability development sustainably.



Scan here for Innovation Policy



CREATIVE IDEAS – INNOVATION – TEAMWORK - COLLABORATION
Innovation focuses particularly on safety, environmental preservation and road related issues.

Our management realized the importance and priority to institutionalizing "Innovation" across the organization by establishing a proper unit responsible for corporate innovation.

In late 2019 during our Strategic Formulation 2025 workshop, the set-up of **"INNOVATION OFFICE"** was initiated. This special unit will create an environment for innovation and cultivating our staff toward proactive thinking, technological growth and advancement. This team will also set up the "Innovation Sandbox" that will serve as a platform to explore and test the viability of new ideas in a controlled environment in terms of execution, resources and timescales.



INSTILLING AN INNOVATION CULTURE ROADMAP

Innovation Plan	2018	2019	2020	2021	2022	2023 - 2025
	Motivate	Aware	Understand	Behave	Commit	Influence - Sustain
1.) Ownership & Accountability	Innovation Policy	Branding & HCM - Culture	Settle Innovation Team	Inno Team/Branding/HCM	Inno/Brand/HCM/BU Heads	Inno/Brand/HCM/BU Heads
2.) Communication / Activities	Inspiring Innovation for Tipco Asphalt	Trigger to think/Contest#1 Innovative Solutions Award	Inspiration Stage/Contest#2 Innovative Solutions Award	Inspiration Stage / Contest#3 Innovative Solutions Award	Inspiration Stage / Contest#4 Innovative Solutions Award	Inspiration Stage/Contest#5 Innovative Solutions Award
3.) Skills / Re-Skilling / Up-Skilling	TPM Training (TPM=Total Productive Maintenance)	TPM Training (TPM=Total Productive Maintenance)	Innovation Boot Camp#1 Creative Thinking and Innovation Management Program	Innovation Boot Camp#2 Design Thinking and Innovation for all employees	Innovation Boot Camp#3 Acceleration Program	Innovation Boot Camp#4 Acceleration Program
4.) Project Performance Measurement	Metric Identification	> 10% Engagement	> 50% Engagement	> 65% Engagement	> 80% Engagement Score	100% Engagement Score
5.) Implementation / Commercialization				> 10 Projects	> 15 Projects	> 20 Projects

Constantly improve production process
to achieve maximum efficiency, with **'save'** on ecosystem of the community

ECO-EFFICIENCY OPERATIONS



“

We cannot solve a crisis
without Treating it as a crisis.
And if solutions within the
system are so impossible to
find, then maybe we should
change the system itself.




”

- Greta Thunberg-

Cleaning Li-Let Campaign, Surat Thai, Thailand

WE STRIVE *for*
Saving
the World



Materiality Issue		#8) Energy Usage Efficiency	#11) Climate Change
		#13) Compliance with Relevant Environmental Requirements	
Report Topic	Save the World		
Impact & Risk	• Impact of non-compliance to regulations, which are the license to operate. (Compliance Risk)		
	• Environmental impact on climate change and energy resources depletion. (Operational Risk)		
Social Issue	Environmental responsibility on GHG emissions and energy resources.		
GRI Standards	GRI 302 / GRI 305 / GRI 307	ISO Standards	ISO 14001 ISO 26000: clause 6.5.3 / 6.5.5
SDGs	SDG 4, SDG 7, SDG 9, SDG 12, SDG 13 and SDG 17		
Policy	Integrated Management System Policy		
Stakeholder	- Internal: Employees - External: Government, Community		
Objective	- Natural resources usage. - Prevent and control of pollutions effluent to air, water and soil.		
Responsible	Operations (All plants) / SSHE&SD		
Strategy	Operational Efficiency / Eco-Efficiency Operations.		
Execution	- Install new hot oil boiler and renovate storage tank and piping system - Replace the heating coil and re-design new agitators of mixing tanks - Increase productivity of Joint Sealer production process - Renewable energy by Bio Diesel for Hot Oil Boiler		

Legend

Strong Corporate Government

Impacts:

Low Moderate High Very High

Strategic Risk

Compliance Risk

Operational Risk

Reporting Risk

SAVE THE WORLD

Future Value 2030	2025 Target	2018 Performance	2019 Target (interim)	FY 2019 Performance
<p>Focus to reduce the global environmental impacts on climate change and natural resource depletion that may causes by company.</p> <ul style="list-style-type: none">Support on new technology and innovative solution to enhance the efficiency of resource usage for operationsReduce and remove the greenhouse gas emission to environment.	Reduce the energy consumption and heating cost by enhancing the operational efficiency	The energy consumption 2018 is 251,387 G.J.	Reduce the energy consumption at least 10% from previous year.	 The energy consumption 2019 is 210,975 G.J. Reduce 16.1%
	Reduce and remove the GHG Emissions by GHG Management (GHG Protocol)	The GHG Emissions Intensity (Scope 1 & 2) 2018 is 0.041 Ton CO2e/ Ton Produced	Reduce the GHG Emission Intensity at least 4% (comparing to based year 2018)	 The GHG Emissions Intensity (Scope 1 & 2) 2019 is 0.038 Ton CO2e/ Ton Produced Reduce 7.58%
	Zero environmental complaint and non-compliance with environmental law & regulations	1 case of environmental complaint. Non-compliance with environmental law & regulations in 2018	Zero environmental complaint & non-compliance with environmental law & regulations in 2018	 No case of environmental complaint & non-compliance with environmental law & regulations in 2019 Zero Case

Progress Tracking Legend:

Meeting interim targets, maintain performance towards meeting 2025 targets

Fall short of interim target for three quarters; review current practices

Missing interim target for more than one consecutive year; review and revise targets (if necessary)

ENVIRONMENTAL MANAGEMENT



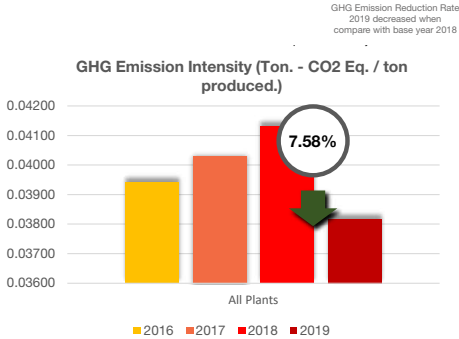
Management Approach

Tipco Asphalt Group has established and implemented the Environmental Management System according to ISO 14001, and have been certified across the Head Office and all 5 plants in Thailand by certification body since 2003. The Group continues to develop environmental management and maintain the certifications until today. Pursuant to our Integrated Management System Policy, the Group aims to protect our environment by preventing/controlling the pollutants from our business activities that may impact environment such as greenhouse gas emission, water discharge, reducing the waste and control the resource usage, etc. In additional, We also have established the Energy Conservation Policy for usage as framework and direction for operations on energy conservations that we aim to improve the energy efficiency continuously by technology and best practices that suitable for our business.

Greenhouse Gas Emission | 305-1 | 305-2 | 305-4 | 305-6 | Clause 6.5.5 and 7.4.2 |

Since September 2018, we have implemented the GHG Management in compliance with the GHG Protocol - A Corporate Accounting and Reporting Standard. GHG has been implemented across all 5 plants in Thailand with the scopes of a report of Direct GHG Emissions and Electricity and Indirect GHG Emissions In 2019, we achieved 7.58% GHG reduction, with detailed action plans to reduce the greenhouse gas emissions summarized below:

- Installed new hot oil boiler at Phrapradaeng terminal to increase the heat efficiency and reduce the fuel consumption;
- Replaced new heating coil and re-designed the agitators of two Para Asphalt Cement Tanks at Phitsanulok plant to reduce fuel consumption for heating products and minimize production lead time;
- Changed production process of Joint Sealer at Nakhon Ratchasima plant by double production capacity from 15 ton/batch to 30 ton/batch with reduction of fuel consumption about 100-150 liters/batch for heating asphalt material and;
- Switched fuels from diesel to be bio-diesel (B20) for hot oil boilers at Thathong plant that help reducing GHG emission.

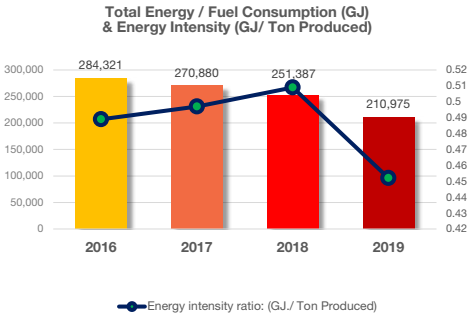


Energy Conservation | 302-1 | 302-3 | 302-4 | Clause 6.5.4 and 7.4.2 |

In 2019, the Group constantly explored innovations, ideas and initiatives on fuel and energy saving. In addition to initiatives on GHG Emission Reduction, there are additional initiatives on energy saving in 2019 as follows:

- Implemented the Centralize Logistic Center at Phrapradaeng terminal to reduce backhaul cost, cut fuel consumption and improve truck utilization;
- Implemented the Oracle Transportation Management module (OTM) and Truck Tracking System Technology to optimize transport routes, delivery distance and time;
- Renovated storage tanks and the piping system at Phrapradaeng terminal to reduce heat loss of piping system; and
- Improved the power supply system at Rayong plant to enhance power efficiency.

We achieved remarkable energy saving results: the total energy/ fuel consumption stood at 210,975 GJ. In 2019 consumption declined 16% as opposed to that of 2018. Total energy intensity stays at 0.452 GJ./ Ton Produced, a 11% reduction as opposed to that of 2018.






Next Step

Since August 2019, The operations team has focused on the renewal energy : we switched to biodiesel (B20) as a fuel for the existing hot oil boiler at Thathong plant Suratthani province. We also plan to use for the new hot oil boiler at PD in 2020. In addition, we are currently exploring the possibility of switching to biodiesel to fuel transportation trucks starting at Rayong and Nakhon Ratchasima plants by early-2020. If successful, this initiative can reduce fossil fuel (diesel) usage by more than 30% as compared to the previous year .

WE STRIVE *for* moving Towards the Circular Economy



“
The ultimate goal
of the
CIRCULAR ECONOMY
is to create
RESOURCE EFFICIENCY
”

Materiality Issue		#12) Significant Spills & Waste Management		
		#7) The use of Resources and Raw Materials Significantly (Water)		
Report Topic	Moving Towards the Circular Economy			
Impact & Risk	• Impact of non-compliance to regulations, which are the license to operate. (Compliance Risk)			
	• Environmental impact on waste pollution and natural resources depletion. (Operational Risk)			
Social Issue	Energy & Raw Material Usage, Efficiency Operations, Environmental Responsibility			
GRI Standards	GRI 303, GRI 306		ISO Standards	ISO 14001 ISO 26000: clause 6.5.3 / 6.5.5
SDGs	SDG 4,SDG 7, SDG 9, SDG 12,SDG 13 and SDG 17 			
Policy	Integrated Management System Policy			
Stakeholder	- Internal: Employees - External: Government, Community			
Objective	- Natural resources usage. - Prevent and control of pollutions effluent to air, water and soil.			
Responsible	Operations (All plants) / SSHE&SD			
Strategy	S8 - Operational Efficiency / Eco-Efficiency Operations.			
Execution	-Truck driver training “Defensive Driving Course” for prevention on road traffic accident and product spill during transportation. -Sourcing the new waste service provider for industrial waste disposal by another method except the landfill			

Legend

Impacts:

Low Moderate High Very High

Strong Corporate Government

Strategic Risk

Compliance Risk

Operational Risk

Reporting Risk

MOVING TOWARDS THE CIRCULAR ECONOMY

Future Value 2030	2025 Target	2018 Performance	2019 Target (interim)	FY 2019 Performance
<p>Aim to minimize the wastes disposal and resource usage by 3R Principal which are reduce, reuse and recycle.</p> <ul style="list-style-type: none"> Adopt new technology and innovative solution to reduce, reuse and recycle the waste and resource usage of operations Expand the circular way in order to create shared value with relevant stakeholders in business ecosystem and products life cycle. 	Zero significant products spill	The significant products spill during transportation process in 2018 is 0 case	Zero significant products spill during transportation process	 The significant products spill during transportation process in 2019 is 0 case Zero Case
	Zero industrial waste to landfill	The industrial waste disposal to landfill in 2018 is 0.98 Ton.	Zero industrial waste to landfill	 The industrial waste disposal to landfill in 2019 is 0 Ton. Zero Ton.
	Zero wastewater discharge	3 production plants have none wastewater discharge	All 4 production plants have none wastewater discharge	 3 production plants have none waste water discharge. On Progress.
	Reduce total water withdrawal	Total water withdrawal in 2018 is 62.38 M.Litre.	Reduce total water withdrawal 5% from previous year	 Total water withdrawal in 2019 is 54.92 M.Litre. Reduce 12 %.

Progress Tracking Legend:

Meeting interim targets, maintain performance towards meeting 2025 targets

Fall short of interim target for three quarters; review current practices

Missing interim target for more than one consecutive year; review and revise targets (if necessary)

ENVIRONMENTAL MANAGEMENT



Management Approach

Refer to our Integrated Management System Policy in which waste reduction and resource usage control are mentioned, despite the fact that all 5 manufacturing plants in Thailand are located in the area of abundant water supply sources while our manufacturing process consumed relatively low quantity of water; the Group pursue and optimize water consumption through the use of “3Rs” concept; i.e., Reduce, Reuse and Recycle. We also recognized the importance of waste management so we adhered to further improve our waste management using the 3Rs principles as well as water resource management, that we have targeted to reduce the industrial (hazardous) waste to landfill to be zero in 2019.

Water Resource | 303-3 | Clause 6.5.4 and 7.4.2 |

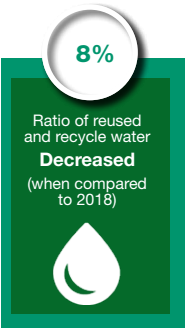
4 out of 5 of our plants capitalizes on rainwater in ground reservoir, and they had collected wastewater in the plant to do water treatment and re-use them in asphalt emulsion production process.

In 2019, these can be summarized as follows:

- Conducted survey and design new water drainage system at Phitsanulok plant;
- Improved wastewater pump and piping system to optimize wastewater usage for asphalt emulsion production at Nakhon Ratchasima plant.



Scan here for integrated management system policy

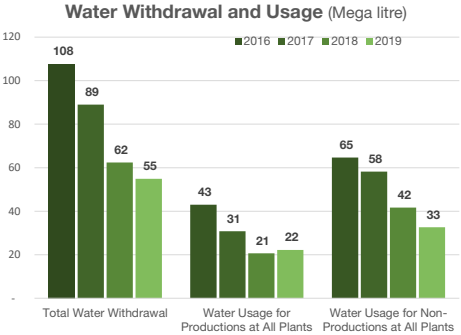


The ratio of reused and recycled water has decreased from 13% in 2018 to be 8% in 2019 due to the sale volume of Asphalt Emulsion in 2019 is decreased about 11% when comparing to the previous year.



In 2019, we achieved the reduction of total water withdrawal about 12% when comparing to 2018, the cause of reduction is coming from we had reduced the water usage for non-production process about 22% in 2019.

As for wastewater discharge, each of 3 out of 4 of our plants have sufficient size of ground reservoirs to collect all wastewater, so they achieved “Zero Wastewater Discharge Project”, except for Thathong plant where there is only wastewater tank which was unable to store all wastewater, so the plant is still in progress of improvement on wastewater discharge. In 2019, Thathong plant has conducted a feasibility study on wastewater treatment unit establishment by Sequencing Batch Reactor (SBR) technique to support the “Zero Wastewater Discharge Project” and not only the water be used for asphalt emulsion production, but this project also aims to seek the possibility of recycling water in other usages, such as watering plants or cleaning shop floor and trucks.



Waste Management | 306-2 | Clause 6.5.3 and 7.4.2 |

This is to ensure the reduction of environmental impact, improvement of efficiency in waste treatment and reducing the cost of disposing of wastes. We have not achieved the target of ZERO industrial (hazardous) waste disposal to landfill across all 5 plants in 2019. Nevertheless, we have reduced the weight of industrial (hazardous) waste disposal to landfill in 2019 about 60% when compared to that of 2018, that the initiative plans were summarized as follows:

- Promoted on reduction of ‘single-use’ plastic at Head Office and all 5 plants.
- Reviewed the waste inventory and disposal method of each type of waste.
- Established the Waste Disposal Vendor List for control the disposal method for each waste item.
- Phitsanulok plant has signed the Memorandum of Understanding (MOU) with the Provincial Industry Office on cooperation of waste management.

Total weight of waste and total weight of reuse and recycle waste, declined from 2018 around 4% and 6% respectively. Meanwhile, the ratio of reuse and recycle waste rose from 89% in 2018 to be 91% in 2019.








Promote local community members upon skill development/ knowledge training on **‘safety’ issues** as well as healthcare for better quality of life

SAFETY AWARENESS



WE STRIVE *for* creating Safety in Group's DNA



Materiality Issue		#24) Establishing Safety Rules and Regulations		#30) Customer Health and Safety
		#17) Employee Health & Safety		
Report Topic	Creating Safety in Group's DNA			
Impact & Risk	Potential accidents and personal injury, life loss from work environment & product use, environmental impacts, damage to corporate resources, disrupted business operations			
Social Issue	Safety & Health Issues (Employee & Customer)			
GRI Standards	GRI 403 / GRI 416		ISO Standards	ISO 26000: clause 6.4.6 / 6.7.4 ISO 39001 ISO 45001
SDGs	SDG 3, SDG 4, and SDG 17			  
Policy	Road Traffic Safety Management Systems & Integrated Management System Policies			
Stakeholder	<ul style="list-style-type: none">- Internal: All Employees- External: Government, Visitor, Supplier, Contractor, Customer, Community & Road User			
Objective	<ul style="list-style-type: none">- Prevent and reduce the work relates accident and ill health of employee and all stakeholder- Fulfill the road user requirement and satisfaction on road traffic, products and service safety			
Responsible	Operations (All plants) / SSHE & SD / HCM			
Strategy	Safety Awareness			
Execution	<ul style="list-style-type: none">• Safety Distribution Knowledge Center• Valve Status identification and Interlock System on SCADA			

Legend

Impacts:
Low Moderate High Very High

Safety Awareness

Strategic Risk

Compliance Risk

Operational Risk

Reporting Risk

CREATING SAFETY IN GROUP'S DNA

Future Value 2030	2025 Target	2018 Performance	2019 Target (interim)	FY 2019 Performance
<div>Embed 'Safety' into the corporate culture for good health and well being of all stakeholders.</div> <ul style="list-style-type: none">Create and develop safety leadership at all level of employees. Not limits to work related, but also cover to their private life. Not care only our employee, but led to the safety of communities and society.Enhance safety awareness of employees and all stakeholders through the company's OKM, training, campaign, recognition and communication program.Improve and develop the OH&S Management System which are fundamental of consistency on safety culture for all. <div> 3 GOOD HEALTH AND WELL-BEING 4 QUALITY EDUCATION</div>	<div>Reduce to 'ZERO' Target</div> <ul style="list-style-type: none">Zero fatality and lost time injury accidentReduce severe operation accident frequency rate to zeroReduce severe truck accident frequency rate to zeroZero incidents of non-compliance concerning the health and safety impacts of products	<ul style="list-style-type: none">Implemented ISO 45001 to replace OHSAS 180014 out of 5 plants in Thailand awarded Outstanding Safety Award for a prototype establishment Occupational health and working environment 2018 from Department of Labour Protection and WelfareRayong Plant got award for promoting for reducing severe operation accident to zero (Zero Accident campaign) from Thailand Institute of Occupational Safety and Health (Public Organization) TOSHZero fatality and lost time injury accident in 2018 is 1 caseThe severe operation accident frequency rate in 2018 is 0.00Incidents of non-compliance concerning the health and safety impacts of products and services in 2018 is 0 case	Zero fatality and lost time injury accident	<div> </div> <div>There was 1 fatality case and 1 lost time injury accident case in 2019</div> <div>1 Fatality and 1 LTI case</div>
			Severe operation accident frequency rate less than 1.84	<div> </div> <div>The severe operation accident frequency rate in 2019 is</div> <div>1.67</div>
			Severe truck accident frequency rate less than 0.34	<div> </div> <div>The severe truck accident frequency rate in 2019 is</div> <div>0.00</div>
			Zero incidents of non-compliance concerning the health and safety impacts of products	<div> </div> <div>Incidents of non-compliance concerning the health and safety impacts of products and services in 2019 was</div> <div>0 case</div>

Progress Tracking Legend:

Meeting interim targets, maintain performance towards meeting 2025 targets

Fall short of interim target for three quarters; review current practices

Missing interim target for more than one consecutive year; review and revise targets (if necessary)

OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT



Management Approach | 403-1 | Clause 6.4.6 and 7.4.2 |

Tipco Asphalt Group has established and implemented the Occupational Health and Safety (OH&S) Management System by OHSAS 18001 and have been certified by certification body since 2006. The Group still maintained and constantly improved our operations. In 2019 we transferred from OHSAS 18001 to ISO 45001 standard, with certificates awarded at HO and all 5 plants, under the existing framework of Integrated Management System Policy. This helps reduce and prevent risks associated with potential diseases and accidents to employees and related stakeholders.

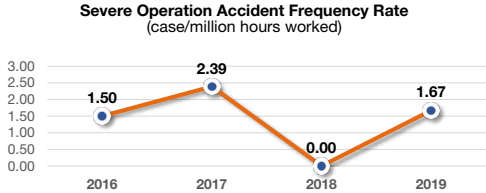
Employees' Health and Safety | 403-9 | 403-10 | Clause 6.4.6 and 7.4.2 |

In 2019, the Group achieved significant improvement on plant operations and road traffic safety in product delivery process with details as follows:

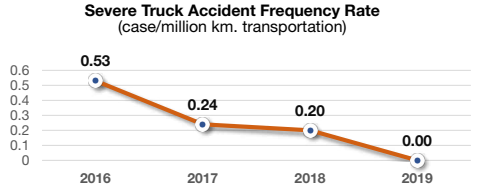
- Conducted alcohol tests on customer's truck drivers at all 5 plants;
- Established Distribution Safety Knowledge Center : the center has intranet database of risky locations along transportation route and safety concerns at customer plant for truck drivers at Nakhon Ratchasima, Thathong, and Phitsanulok plants;
- Assigned Operational Control Officer to monitor truck drivers on duty 24 hours, 6 days a week at Centralize Logistic Office;
- Established visual control dashboard of valve and piping system in order to prevent/ detect for products spillage at Phitsanulok plant;
- Installed the Valve Status Identification and Interlock System on SCADA. Set of sensors will be installed in each valve while the results will be shown on SCADA monitoring screen and interlocked with products loading function to prevent products spillage at Thathong plant;
- Improved loading bay working-station with fall protection system, and;
- Established Work Instruction & Job Safety Analysis - JSA accessibility online and Emergency Equipment Inspection via QR code at Thathong plant.



In 2019, the OH&S performance on Severe Accident Frequency Rate (SAFR) of Operation stood at 1.67 case/a million working hours against the target of 1.84 while SAFR of Truck was at 0 case/a million km against the target of 0.34.



Although the Serious Accident Frequency Rate of operation process met the 2019 target, we encountered a fatal accident case occurred in March 2020 involving a truck driver unloading asphalt at a customer's plant, then while the products were decreased below burn tube, a fire blast exploded through opening hole an injured a staff on the bulk. Unfortunately, he didn't wear a safety harness according to the safety operation procedure, while such explosion caused him to fall down and hit the ground. The investigation team concluded the route-cause of his death was due to him not following work instruction on wearing safety PPE. Therefore, since 2019, Operational Control Officers to monitor operation of our truck drivers at Centralize Logistic Office. In addition, we launched Behavior Base Safety at Phitsanulok and Thathong plant, as well as Defensive Driving training course provide for all truck drivers 100% in 2019.

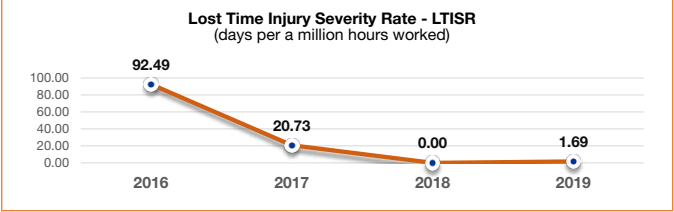
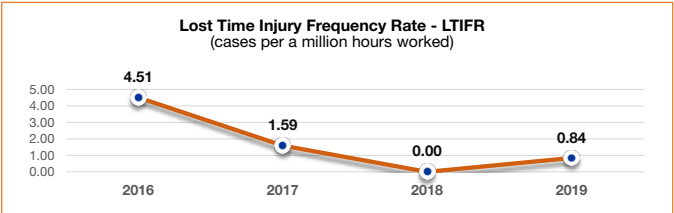


In this regard, our plant at Rayong, Nakhon Ratchasima, Thathong, and Phitsanulok were awarded with the "Outstanding Workplace Award for 13, 7, 7 and 2 consecutive years, respectively. Besides, Rayong plant has been awarded with "Zero Accident Campaign Award 2019 (Silver)" by Thailand Institute of Occupational Safety and Health.

Note:-
"Severe Accident" is the accidents that cause employee injury then consequence to lost at least a workday (or more) for recovery, which including to the death, and the property damages 50,000 THB and above.

OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT

For the lost time injury in 2019. The frequency rate stood at 0.84 and the severity rate at 1.69, with only one case of lost time injury about our employee with backpain due to his manual lifting of drain grating during 5S activity against the work instruction on manual lifting and carrying protocols. The route causes are lack of ergonomic knowledge and personal physical condition awareness (fit for work). Key corrective actions are staff communication through Kiken Yoshi Training - KYT on ergonomic knowledge and self physical condition assessment prior to works.



Establishing Safety Rule and Regulation | 403-4 | Clause 6.4.6 and 7.4.3 |

In 2019, we had established and revised Occupational Health and Safety (OH&S) rules and regulations in order to prove quality of OH&S and Environmental documents while standardizing these practices across 5 plants in Thailand. The examples of such establishment and revisions are;

- Procedure,
- Occupational Health and Safety Management (revised),
- Work Instruction,
- Hazard Identification and Risk Assessment for Road Traffic (revised),
- Emergency Preparedness and Response (revised),
- Providing and Control of Safety Data Sheet for Material (established),
- Alcohol Testing by Breath (revised),
- Accident Notification, Investigation and Reporting (established new by separating the existing emergency preparedness and response document) (revised),
- Quantitative measurement, calculation and reporting greenhouse gases emission (established),
- Safety and Environmental Monitoring and Measurement.

“Job Safety Analysis - JSA Learning Center” is the highlight project on safety documents in 2019 at Thathong Plant, Surattani that made the JSA & Work Instruction documents is available, up to date, and easy to access via QR code anywhere and anytime.

Note:
“Lost Time Injury” refers to accidents that cause employee injury coupled with consequential work time lost at least a workday for recovery. Nevertheless, LTI concept does not apply in case of employee fatality, which will be covered under different.



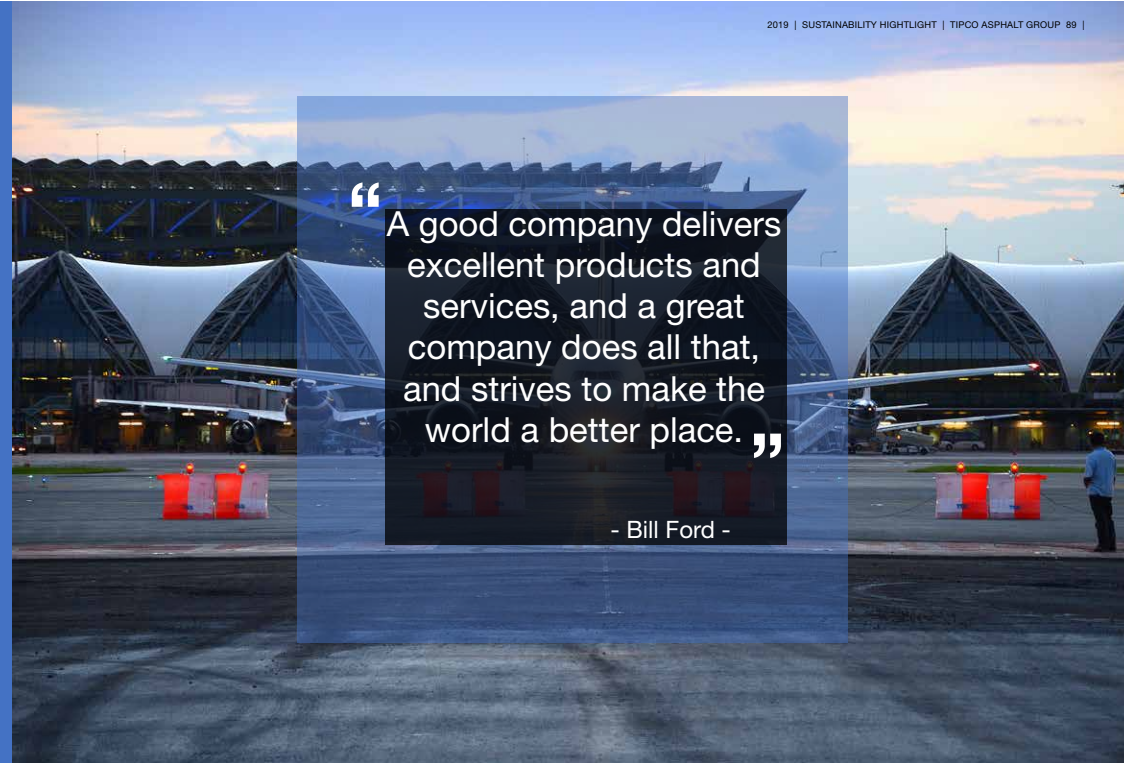
JSA & Work Instruction documents are easy to access by operators.

Companies can **achieve certain competitive advantages** through **enhanced transparency** and **effective corporate governance framework** communicates to its stakeholders.

STRONG CORPORATE GOVERNANCE TRANSPARENCY



WE STRIVE *for* offering most Trusted Asphalt Products & Services



Materiality Issue	 #31) Quality and Responsibility for Products and Services			
Report Topic	Offering most Trusted Asphalt Products & Services			
Impact & Risk	Innovation is a priority: Opportunity losses. Loss of market share with competitors catching up with similar or better products, services and business models			
Social Issue	Management Responsibility to Customers			
GRI Standards	GRI 102-43/44, GRI 417, GRI 417-2/3, GRI 418	ISO Standards	ISO 26000 clause 6.7.3, 6.7.6, 6.7.8, 6.7.9	
SDGs	SDG 3, SDG 8, SDG 9, SDG 12, and SDG 17			
Policy	Sales policy			
Stakeholder	- Internal: Employees - External: Customers / Road Contractors / Authorities / Communities			
Objective	1) Increase customer satisfaction rate and retain good customers with sales repetition 2) Improve the working process to make the impressive customer's journey 3) Create a tight relationship with customers to leverage to loyal customers			
Responsible	Domestic and International Marketing & Sales / Technical Team / After Sales Services			
Strategy	We Care for You			
Execution	- The deep understanding of customer needs and find the unmet needs then response with superior products & services - Improve customer experiences by using the digital platform to give an ease for users			

Legend

 Strong Corporate Government

Impacts:

Low Moderate High Very High






 Strategic Risk

 Operational Risk

 Compliance Risk

 Reporting Risk

OFFERING MOST TRUSTED ASPHALT PRODUCTS & SERVICES

Future Value 2030	2025 Target	2018 Performance	2019 Target (interim)	FY 2019 Performance
TIPCO ASHALT 4.0 CUSTOMER JOURNEYS 	Create impressive customer experience through superior products and services	1) Customer satisfaction rate 85% - Domestic Market: 87% - International Market 82%	1) Customer Satisfaction Rate target to be over 85%	 1) Overall Customer Satisfaction Rate = 87% (from Depth Interview) - Domestic Market: 86% - International Market: 88%
		2) Product and Service Complaints - Number of complaint: 19 - Resolved within timeframe: 17 Complaint Response 89% - Product Complaint 12 cases - Delivery Complaint 4 cases - Others Complaint 3 cases	2) Complaint on Product and service need to be solved 100% within timeframe - Product issue 3 days - General issue 1 day	 2) Received 20 complaints and resolved all issues 100% within timeframe - Product Complaint 8 cases - Delivery Complaint 4 cases - Others Complaint 8 cases
		3) Product Recall / Return Zero Case	3) Product Recall / Return Zero Case	 3) Product Recall / Return Zero Case
		4) CRM/CSR with Customers	3) CRM/CSR with Customer 3.1) Product Seminar 3.2) CRM/CSR Activities	 4) CRM/CSR 4.1) Domestic - Product Seminar - CRM/CSR 4.2) International - Product Seminar

Progress Tracking Legend:

 Meeting interim targets, maintain performance towards meeting 2025 targets

 Fall short of interim target for three quarters; review current practices

 Missing interim target for more than one consecutive year; review and revise targets (if necessary)

TIPCO ASPHALT PRODUCTS & SERVICES ARE MADE WITH PASSION FOR QUALITY | 102-7 | Clause 6.7.3 |



leading the market through our high product quality, while meeting even most stringent customer expectations.



Scan here for Sales policy

Management Approach

Superior product quality is our signature that Tipco Asphalt keeps as a top priority since we started the business. All Tipco Asphalt products meet the highest quality and reliability requirements across all our markets.

Product Quality & Reliability is organized at a company level, but it is also embedded across all Tipco Asphalt Group. The management team brings together (product quality inspection) directors from across entire business operations; front-end and back-end manufacturing, product group, sales, and services. This makes the deployment of our quality strategy and quality programs throughout the Group much more efficient.

Our approach to product quality is based on the Quality Management System (QMS), as documented in our Quality Manual. The manual contains details on how we implement the processes that guarantee our products and processes meet or exceed, customer requirements.

Leveraging QC Service | 102-7 | Clause 6.7.3 |

New investment in our Thailand facility on new equipment to perform Flexural Fatigue Test on Hot Mix Asphalt according to AASHTO* Standard. This helps us to predict the service life of pavement to better serve customers in the Asia Pacific region. Through investments like this, we are constantly striving to improve our offering and help our partners around this region achieve their objectives –



*AASHTO is American Association of State Highway and Transportation Officials

Quality Control	2016	2017	2018	2019
% of Product recall	0	0	0	0
% of Product returned compared to sales volumes**	0.002	0.003	0.015	0.010
% of Calibration of QC tools	100%	100%	100%	100%

Xavier Guyot

Senior Manager,
Research and Development



“Quality is more than making a good product.

At Tipco Asphalt, our management systems plays a central role to constantly drive our business improvement, innovation and operational excellence.

Our Quality Control laboratories (all ISO certified) perform all required tests to ensure that products manufactured in our plants meet all specifications prior to delivery to customers.

Research & Development has always been a major strategic priority for Tipco Asphalt.

Our R&D Center is certified with ISO/IEC 17025. The center, located close to Bangkok, meet our partner's specific requirements with specially designed innovative products, solutions, and processes.”

HIGH-QUALITY PRODUCTS & SERVICES | 102-7 | Clause 6.7.3 |

Constantly improve products & services performance and efficiency

We deliver more efficient, high-performance asphalt product solutions, which help our customers to work easier, save costs while minimizing environmental impact. Product-efficiency targets and KPIs are integrated into our employee's performance management planning. Tipco Asphalt focuses on performance - and energy-efficiency as well as the use of materials. We strive for improving product performance & efficiency, making better use of resources, working towards our climate target, and providing sustainable solutions for everyone. What our's ultimate goal is staying one step ahead of customer needs on efficiency delivers customer value and aligns with our business strategy, while reducing the negative impact on the environment.



Akechit Jumpatip

Plant Manager,
Phitsanulok Plant

“With proficiency testing (PT), our products are offered at its best quality and meet specifications.

Proficiency testing is a crucial laboratory tool performed to verify the accuracy and reliability of its testing. It can also be used to validate the entire testing process, including the competency and expertise of testing personnel. Our quality control ensures that all product quality remains consistent across three years of the program, with each production plant reporting positive testing results.

TIPCO Asphalt Group implements quality control for laboratory calibration through Proficiency Testing Program, temperature calibration, hosted by lab facilities that are certified with Proficiency Testing Provider Accreditation. This is to ensure quality assurance while creating confidence upon

calibration results of the temperature measurement instrument which is very crucial upon the production process, and quality control of final asphalt products.

In addition, laboratory facilities of TIPCO Asphalt Group participate in Thai Asphalt Laboratories correlation program for Interlaboratory comparison (ILC) to exchange and compare knowledge, expertise, and new techniques for testing in order to ensure quality assurance while not only creating confidence upon lab results but also encourage mutual collaboration among asphalt laboratory. This activity is conducted 2 times a year.”



Hugues de Champs

DCEO International Business



“We would all benefit from getting to know customers better.”

We must fully understand our customers' needs in order to serve them accordingly.

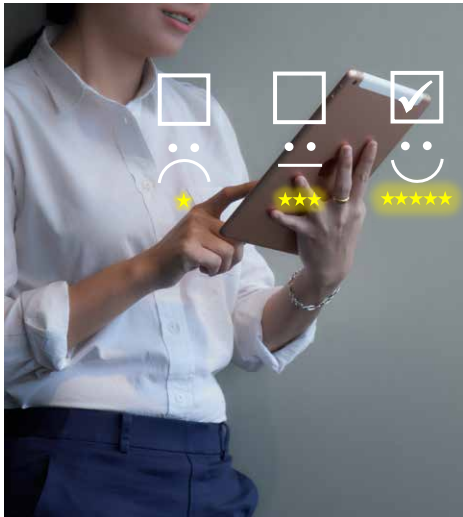
Our long-term, great mutual relationship with customers are our pride while we believe this reflects our constant efforts to find the most sustainable, cost-effective solutions to meet complex requirements and challenges.

Regular “Walk the Talk” with our customers while offering the most up-to-date asphalt/road technology. This is to create a full range of competitive advantage works while enhancing the relationship with our customers. With our ‘Client-Centric’ principle, we upgrade our service lineups to encompass both online and offline platforms, with a strong focus on customer experience. This strategy has increased customer satisfaction from 84.5% in 2018 to 87.00% in 2019, accordingly.”

OUR ASPIRATION ARE SMILES AND IMPRESSIONS FROM CUSTOMERS | 102-43 | Clause 6.7.6 |



responding the needs of customers to support their businesses and increase satisfaction rate.



Management Approach

We enhance our competitiveness through quality products and services. Our business growth goals focus on creating sustainable values across value chain, introducing innovation in the process, enhancing competitive advantage by adding value to customers while minimizing impacts to society and the environment.

We are constantly striving to develop new products and processes that meet our quality and safety standards while lowering environmental footprints.

'Client Centric' strategic goal helps us win more businesses by move towards customer-based insights coupled with digital transformation to match their needs. This 'shift' beyond product proves that customer prefer to work with partners deeply understand their needs and expectations. This strategic goal allows us to earn great trusts from our customers while enhancing customer satisfaction survey and customer engagement, accordingly.

"Some people say, "Give the customers what they want." But that's not my approach. Our job is to figure out what they're going to want before they do....
....People don't know what they want until you show it to them. That's why I never rely on market research. Our task is to read things that are not yet on the page....."

Steve Jobs



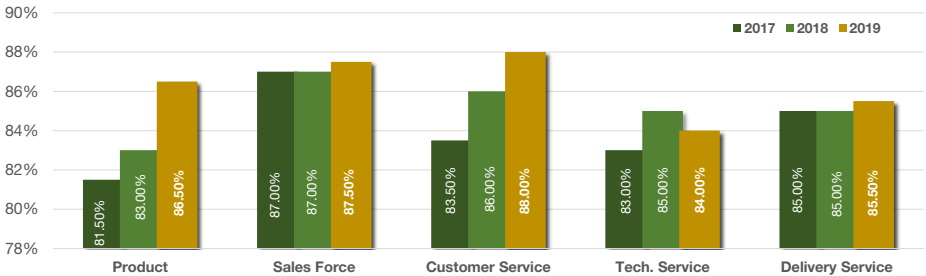
OVERALL CUSTOMER SATISFACTION

Customer Satisfaction	2017	2018	2019
Domestic Satisfaction	87.0%	87.0%	86.0%
International Satisfaction	85.0%	82.0%	88.0%
Overall Satisfaction	86.0%	84.0%	87.0%
Target of Satisfaction	85.0%	85.0%	85.0%

CUSTOMER SATISFACTION: BREAKDOWN DETAILS | 102-43 | Clause 6.7.6 |

Product & Service Satisfaction 87.0%

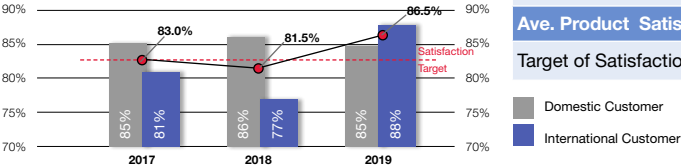
	Category	Actual 2017	Target 2018	Actual 2019	Target 2020
	Product	81.5%	83.0%	86.5%	86.0%
	Sales Force	87.0%	87.0%	87.5%	87.0%
	Customer Sales Service	83.5%	86.0%	88.0%	88.0%
	Technical Service	83.0%	85.0%	84.0%	85.0%
	Delivery Service	85.0%	85.0%	85.5%	86.0%





Expressway lane extension paved with high performance modified asphalt
Agra Lucknow Expressway, India
High performance modified asphalt was used for expressway to improve surface friction and skid resistance for existing pavement

Our focus on quality was reflected in 2019 annual customer survey results, where domestic customers **rated on the product issues scored at 85%** hence clearly showed that they trusted Tipco Asphalt products. Meanwhile, **international customers rating on the product issue stood at 88%** and the **average rating** from all customers on the product issue **was at 86.5%**, an improvement over **81.5%** and **83%** in **2018 Customer Satisfaction actual score and target, respectively.**

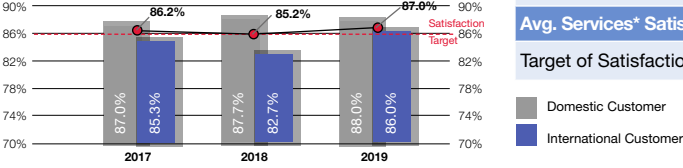


Product Rating	2017	2018	2019
Domestic Customer	85.0%	86.0%	85.0%
International Customer	81.0%	77.0%	88.0%
Ave. Product Satisfaction	83.0%	81.5%	86.5%
Target of Satisfaction	85.0%	83.0%	83.0%



Technical Service Team
Thailand

"Knowing Me, Knowing You" was one of our successful strategy we implemented to develop proactive customer services while delivering great customers' experience as we thoroughly analyzed and understood their needs and supported them. This resulted in **an increased satisfaction rate from 85.2% in 2018 up to 87.0%** against the **86%** target. Such big improvement was mainly from the international business which increased from **82.7%** to **86.0%**.



All Services* Rating	2017	2018	2019
Domestic Customer	87.0%	87.7%	88.0%
International Customer	85.3%	82.7%	86.0%
Avg. Services* Satisfaction	86.2%	85.2%	87.0%
Target of Satisfaction	86.0%	86.0%	86.0%

WE STRIVE *for* giving and earning respect on Human Rights






“

All humane beings
are born free and
equal in dignity and
rights.

”

- United Nation, Charter, 1945-

Materiality Issue		#25) Respecting Rights of the Community		
		#32) Respecting the Rights & Privacy of Customers	#26) Human Rights Assessment	
		#20) Respect for difference & equality		
Report Topic	Giving Respect and Earning Respect on Human Rights			
Impact & Risk	Corporate reputation, stakeholder relationships, disrupted business operations			
Social Issue	Management Responsibility to The Rights of Concerning Stakeholders			
GRI Standards	GRI 412, GRI 418		ISO Standards	ISO 26000 clause 6.3.3 - 6.3.10
SDGs	SDG 8, SDG 16, and SDG 17			
Policy	Human Rights Policy			
Stakeholder	- Internal: Employees - External: All Stakeholders			
Objective	1) To educate our employees for understanding and protecting human rights 2) The corporate responsibility to respect human rights 3) To develop appropriate and effective responses to problems related to the Human Rights			
Responsible	Everyone in the company			
Strategy	We Respect Everyone Rights			
Execution	- Develop the whistleblowing channel for internal & external stakeholders - Give the fairness to all employees - Build on the three-pillar structure of the "Protect, Respect and Remedy" Framework			

Legend

Strong Corporate Government

Impacts:

Low Moderate High Very High

Strategic Risk

Operational Risk

Compliance Risk

Reporting Risk

GIVING AND EARNING RESPECT ON HUMAN RIGHTS

Future Value 2030	2025 Target	2018 Performance	2019 Target (interim)	FY 2019 Performance
Achieve license to grow 	Conduct ongoing due diligence, as well as engage with our stakeholders to better understand our salient human rights issues	1) One ESG case report from community - Phitsanulok case: The very bad smell from the factory : Closed issue with 24 hours	1) Protect Community & Children Rights with Zero case report 1.1) ESG impact to the communities	 ZERO Case of complaint from Communities and on Children in the Communities and announce the whistleblowing channel
		2) Zero case report on Security and Privacy of customers	2) Protect Customer Rights and Privacy with Zero case report target 2.1) For the security of personal information in accordance with the business	 ZERO Case of complaint about Security and Privacy of Customers
		3) Manage the fairness for employees 3.1) Compensation women:men 0.95:1.00 3.2) Zero case report for Employees Rights 3.3) We opened for freedom of association & collective bargaining for employees: we have 2 associations	3) Manage the fairness for all employees 3.1) Compensation 3.2) Employees 3.3) Promote Freedom of Association and Collective Bargaining	 3.1) Manage the ratio of compensation women:men = 1.19:1.00 3.2) Zero case report for Employees Rights 3.3) We have 2 associations: - Welfare - Safety
		4) Zero case of complaints about human rights violations for internal & external stakeholders	4) Zero case of complaints about human rights violations for internal & external stakeholders	 ZERO Case of complaint about human rights violations both employee with company and employee with external stakeholders

Progress Tracking Legend:

Meeting interim targets, maintain performance towards meeting 2025 targets

Fall short of interim target for three quarters; review current practices

Missing interim target for more than one consecutive year; review and revise targets (if necessary)

HUMAN RIGHTS: GIVING AND EARNING RESPECTS | 412-1 | Clause 6.3 and 7.2 |



promoting human rights in accordance with international principles to promote peaceful co-living in society

Management Approach | 103-2 |

Human rights refer to basic rights and freedoms to which any individual is entitled. TIPCO Asphalt Group respects and fully aware of human rights across all stakeholder groups while understanding major human rights issues. All these risk concerns are fully reflected across the Group's key activities.

The Group's constantly expanding value chain serves as key factor for us to focus and prioritize upon respecting human rights. Identification of related stakeholders across each activity process helps indicating potential issues that might arise. Meanwhile, full compliance with regulations and guidelines associated with business conducts across all areas still serve as our basic protocol that the Group has implemented regularly.

The Group announced a human rights policy in 2013 with focus on good corporate governance principle where staff at any level must fully comply with labour laws and human rights. Labour rights, women and children rights must be respected and fair, equitable treatments in accordance with prevailing Thai and international regulations. This policy also extends to include business partners and our customers.

As leading company in manufacturing and distributing raw materials for road construction and infrastructures to accommodate nation developments, our Group ensures that we constantly deliver value contributions to the society. In the Sustainable Development Report 2018, we classify human rights considerations across 3 key stakeholder groups; namely, employees, customers and society (which include Community, Road user and Children).

Human Rights Policy: The objective is to show our commitment to prevent the risk of human rights violations of stakeholder groups across corporate value chain. Aiming to fulfill expectations of all units in the organization as well as business partners, we strictly observe, practice and conduct due diligence the human rights of the company.



Scan here for Human Rights Policy

Significant Human Rights Issues



In 2019, the company conducted human rights risk assessment across value chain, beginning with main business units and soon encompass all remaining businesses by 2020. Currently, we have individual unit human rights management, which serve as basis for Sustainability Report 2019.

High-impact human rights issues across corporate value chain involve key stakeholders namely, employee, customer, community, supplier and road user. The company has established a risk management guideline by taking into account the rights of vulnerable groups in which the company operates such as small suppliers, local communities, disable citizens, and children etc. which will be in line with the policy, guideline for protection, prevention and practices in the policy.

Human rights within the organization

The company is committed to provide equitable treatment that is appropriate for all employees without discrimination on gender, age, race, religion, or physical appearance. Also included are fair and safe work conditions, working hours suspended working hours, working environment and social welfare. The Group established ethic guidelines for employees, and work rules that meet the standards of occupational health and safety. In order to minimize risk of human rights violations, the company has proactive operations to prevent negative impacts occur from the employment.

The company has a clear policy against any employment of child labour, forced labour and illegal migrant workers in the workplace for related parties across our supply chain. Currently, sustainability criteria has been introduced and executed, which include prohibition of illegal labour: this serve as one of the criteria for evaluation and selection of contractor / partners or ESG criteria. Moreover, our Risk Management Office (RMO) regularly arranges training for risk management representatives for each department (Risk champion/Risk Officer).

Human rights risk identification and guidelines are conducted across each department. Meanwhile, the Group will expand human rights training as part of sustainability training for all employees by 2020-2021 in accordance with the company's sustainability goals.

Human rights outside the organization






The company recognizes and respects the rights of those involved outside the organization that may be affected by the company's business operations either customers, road contractors, community, youth (children) and business partners. There are measures to prevent and to minimize risk of possible human rights violations.

WE STRIVE *for* cultivating Ethics is Everyone's Business



“...Corporate governance is concerned with holding the balance between economic and social goals and between individual and communal goals. The governance framework is there to encourage the efficient use of resources and equally to require accountability for the stewardship of those resources. The aim is to align as nearly as possible the interests of individuals, corporations and society...”

Dominic Cadbury

Materiality Issue		#5) Good Corporate Governance Transparent & Against Corruption	#6) Fair Business Practices		
		#21) Elimination of discrimination / monopolies	#23) Motivation & awareness raising for forced labour		
		#22) Not using child labour in all value chain	#20) Respect for difference & equality		
Report Topic	Cultivating Ethics is Everyone's Business				
Impact & Risk	Number of unmet criteria relating to CG assessments				
Social Issue	Management Responsibility to The Rights of Concerning Stakeholders				
GRI Standards	GRI 102-17, GRI 102-18, GRI 102-28, GRI 102-31		ISO Standards	ISO 26000 Core Subject 6.6	
SDGs	SDG 16, and SDG 17				 
Policy	<ul style="list-style-type: none">- Charter of Board of Directors and sub-committees- CG policy- Director qualifications and Nomination				
Stakeholder	<ul style="list-style-type: none">- Internal: Board of Directors, Sub-committees, Employees- External: Mass Media,				
Objective	<ul style="list-style-type: none">- Zero tolerance for non-compliance with prevailing rules and regulations- To be par or above average in term of Corporate governance assessment with peers				
Responsible	Corporate Affair team				
2019 KPIs	<ul style="list-style-type: none">- No penalty from the Stock Exchange of Thailand, Securities & Exchange Commission, Thailand and Ministry of Commerce- AGM checklist score at 98% out of 100% (above average)- 5 stars for CGR (highest ranking)- Recertification of Thailand's Private Sector Collective action Coalition Against Corruption (CAC) Level 4				

Legend

Strong Corporate Government

Impacts:

Low Moderate High Very High



Strategic Risk

Compliance Risk

Operational Risk

Reporting Risk

CULTIVATING ETHICS IS EVERYONE’S BUSINESS

Future Value 2030	2025 Target	2018 Performance	2019 Target (interim)	FY 2019 Performance
<div>Transparency Organization</div> <div></div>	<ul style="list-style-type: none">Zero tolerance for non-compliance with prevailing rules and regulationsTo be par or above average in term of Corporate governance assessments with peers	<ul style="list-style-type: none">Reviewed improvement for CG principles, policies and guidelines to the BoardReviewed and proposed CG code principlesRevision of qualification of directorEstablishment of succession plan for positions of the Chief Executive Officer and Managing DirectorResolution of the compensation paid to directorsResolution of the compensation paid to executive directorsRevision of remuneration policy for Board of Directors, sub-committees, top executives and employeesResolution of policy on holding position in organizations outside the CompanyApplication of CG Code related to the suitability for the Company's businessBe a part of certified member of CAC Program	To get the rating score of Annual General Meeting Checklist (AGM) not less than 95%	Received 97% on the Annual General Meeting Checklist of the Thai Investors Association
			Maintain the “5 Stars – Excellence” rating for Corporate Governance Report of Thai Listed Companies 2019 (CGR)	Rated “ Excellent or 5 stars ” of Corporate Governance Report of Thai Listed Companies 2019 (CGR) by the Thai Institute of Directors Association (IOD)
			Submit the Sustainability Report to the Stock Exchange of Thailand's (SET) and post in corporate website within May 2019	Received the Stock Exchange of Thailand's (SET) Sustainability Excellence Award 2019 – Rising Star for Thai-listed companies with market capitalization of Baht 10 billion - Baht 30 billion
			To be Qualified in SET THSI Index	Qualified in SET THSI index in 2019
			Develop Sustainability Report with high quality and comply with GRI Guidelines and United Nations' Sustainable Development Goals (SDGs)	Received Sustainability Disclosure Award 2019 by Thaipat Institute

Progress Tracking Legend:

Meeting interim targets, maintain performance towards meeting 2025 targets

Fall short of interim target for three quarters; review current practices

Missing interim target for more than one consecutive year; review and revise targets (if necessary)

INTEGRATED GOOD CORPORATE GOVERNANCE



Good Corporate Governance Ensures Good Business Conducts

Management Approach

The Board of Directors recognizes the importance of corporate governance in the Company's sustainable growth development, creating shareholder value, and securing trust from all stakeholders, including shareholders, employees, customers, business partners, competitors, and creditors.

In this regard, the Company adhere to Guidelines of the Stock Exchange of Thailand, Corporate Governance Report of Thai Listed Companies, AGM checklist. In addition, the Company has adopted the corporate governance code for listed companies 2017 (CG Code) developed by the Securities and Exchange Commission (SEC).

HIGHLIGHTS

Achieved the 5 Stars of Corporate Governance Report (CGR)

Qualified in SET THSI index

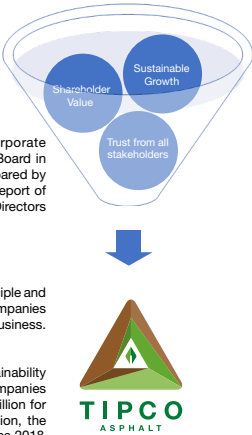
Received The SET Sustainability Excellence Award 2019 "Rising Star" Sustainability Excellence

Received Sustainability Disclosure Award 2019

Developed and announced the communication process on Whistleblowing Report to all stakeholders

Board Performance I 102-31 I Clause 6.2.3 and 7.2 I

- Review and propose to the Board improvement for corporate governance (CG) principles, policies and guidelines to the Board in accordance with the Annual General Meeting Checklist prepared by the Thai Investor Association and Corporate Governance Report of Thai Listed Companies 2019 (CGR) by the Thai Institute of Directors Association (IOD).
- AGM Checklist: 97% of 100%
- CGR Score: 5 stars
- Review and propose to the Board the application of each Principle and Sub-Principle of the Corporate Governance Code for listed companies 2017 (CG Code) related to the suitability for the Company's business.
- Review and monitor on sustainable development matters.
- Received the Stock Exchange of Thailand's (SET) Sustainability Excellence Award 2019 – Rising Star for Thai-listed companies with market capitalization of Baht 10 billion - Baht 30 billion for its outstanding performance in sustainability. In addition, the Company has been qualified in the SET THSI index since 2018
- Received Sustainability Disclosure Award 2019 by Thaiptat Institute.



The Board of Directors recognizes the importance of corporate governance in the Company's sustainable growth development, creating shareholder value, and securing trust from all stakeholders, including shareholders, employees, customers, business partners, competitors, and creditors.

In this regard, the Company adhere to Guidelines of the Stock Exchange of Thailand, Corporate Governance Report of Thai Listed Companies, AGM checklist. In addition, the Company has adopted the corporate governance code for listed companies 2017 (CG Code) developed by the Securities and Exchange Commission (SEC).

Structure I 102-18 I Clause 6.2.3 and 7.2 I

The Nomination and Remuneration Committee is appointed by the Company in charge of nominating appropriate persons as members of the Board of Directors in accordance with the Group's policy on Director Qualifications and Nomination.

The Company's Director Qualifications and Nomination Policy is committed to ensure effective management structure taking in to account the benefits to the Company and all stakeholders. The Board of Directors comprises appropriate and diverse range of education, experience beneficial to the Company, without any discrimination of gender, age, ethnicity and nationality.

As of 2019 of the Board of Directors' Structure on page 16-17



Policy on Director Qualifications and Nomination



I 102-18 I

<p>Proportion of independent directors on board</p> <p>7 Independent Directors Out of 15 the Board of Directors</p>	<p>Proportion of women on board</p> <p>2 Female Directors</p>	<p>Proportion of independent directors on board/with expertise in core business</p> <p>10 Non-Executive Directors 3 Out of 10 Non-Executive Directors have expertise in The Company's core business</p>	<p>Board skill assessment</p> <p>of 4</p> <p>3-8-2</p> <p>The result from board skill assessment</p>
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We standby Our ‘Zero Tolerance’ Principle Against Corruptions | 205-11 205-2 | Clause 6.6.3 and 7.4 |

The Group places great emphasis on monitoring any potential activities that could lead to corruption. With our Principle of “zero tolerance” against any form of corruption, the Group continuously strives for good corporate- governance practices and therefore establishes an anti-corruption policy with the purpose of preventing corruption activities across the value-chain while maintaining vigilant business operations.

In response to the policy, the Risk Management Committee established a guideline upon corruption risk identification, coupled with regular risk tracking/monitoring systems in place including quarterly reports to the Board of Directors. Corruption risk assessment has been performed by the Risk Management Committee (through Risk Management Office) to constantly identify related risks, corresponding likelihoods/impacts, internal risk controls to mitigate residual risks. These corruption risk assessment, implementation, and monitoring are reviewed on a regular basis and reported to Corporate Governance Committee, Audit Committee, and ultimately the Board of Directors.

Since 10th November 2017, the Group was certified with a membership of Thailand’s Private Sector Collective Action Coalition Against Corruption (CAC), hence reaffirming our strong dedication and commitment to the society against corruptions. Since then, we regularly participate in CAC activities associated with anti-corruption prevention.

On the employee aspect, the Group encourages all staff on anti-corruption issues by providing knowledge and creating awareness through a series of staff training and anti-corruption activities. Each newly recruited employee has required to participate in these training prior to starting their works. Meanwhile, staff who have joined the Group for more than 1 year are required to attend training courses to review their understanding of anti-corruption which also includes a review on anti-corruption risks, at least once a year.

The Group regularly sends our staff to attend some anti-corruption training courses/seminars hosted by related authorities such as the Stock Exchanges of Thailand or the Thailand Institute of Directors, to ensure that our staff fully understand the best practices including effective implementation of anti-corruption activities across the Group.

External training course:
Corruption Risk and Control by IOD

The Group's RMO unit attended the training course on Corruption Risk & Control (CRC): technical Update hosted by Thai Institute of Directors (IOD) in conjunction with CAC



Corruption Risk & Control: Technical Update
CRC

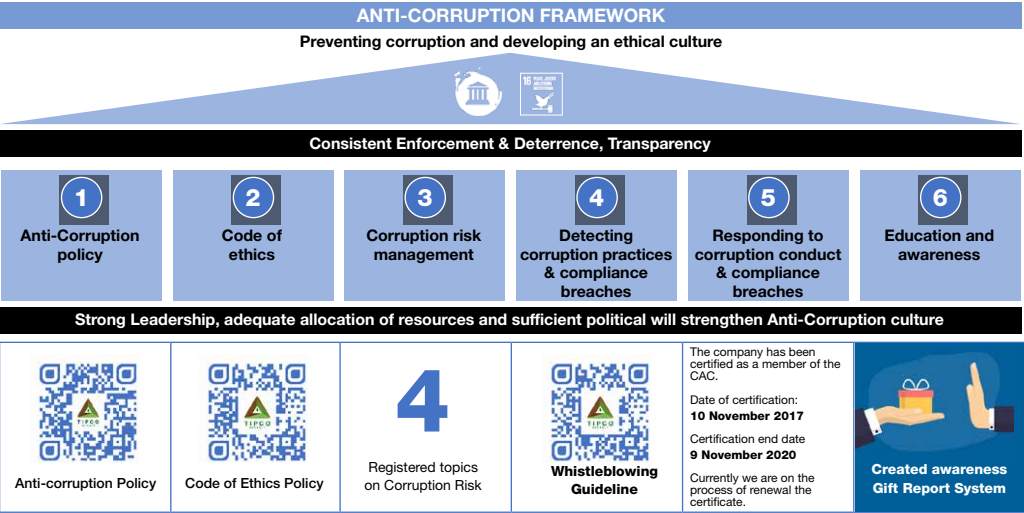
Addressing Corruption Risks with Effective Control Mechanisms

Training and Campaign Activity Anti-Corruption Day



Anti-Corruption Framework | 205-11 Clause 6.6.3 and 7.4 |

In addition to our membership awarded by Thailand’s Private Sector Collective Action Coalition Against Corruption (CAC), in 2019, the Group announced the **“No Gift”** guideline with clear instructions on what we “CAN DO” and “CANNOT DO”. To ensure effective and successful Good Governance and, in particular, Anti-Corruption practices, we focus on structuring and developing internal procedures to ensure the Board of Directors and all employees are fully aware of and strictly follow the practices. We constantly aim to improve the anti-corruption system, strengthen management functions, and protect the rights of everyone in our ecosystem, while moving towards long-term sustainable development.





Materiality Issue	#5) Good Corporate Governance Transparent and Anti-Corruption		
Report Topic	Cultivating Ethics is Everyone's Business		
Impact & Risk	-		
Social Issue	Management Responsibility		
GRI Standards	GRI 102-15	ISO Standards	-
SDGs	SDG 4, SDG 16 and SDG 17		
Policy	Risk Management Policy (See page. 294)		
Stakeholder	Everyone in Tipco Asphalt Group Ecosystem - Internal: Risk Management Officers, - External: Shareholder, Business Partner, Community / Society		
Objective	<ul style="list-style-type: none">- Ensure the Group conduct businesses with greatest transparency to ensure fair treatment of shareholders and all stakeholders- Prudent business conduct via risk management and internal controls- Establish comprehensive ERM foundation for Tipco Asphalt Group- Ensure effective internal control implementation and risk monitoring		
Responsible	RMC ,BU Heads ,risk management office (RMO)		
Strategy	Built-in risk Control and Containment Measures from the start		
Execution	<ul style="list-style-type: none">- Quarterly risk report- Extend ERM exercise to JV in Singapore and refinery in Malaysia- Review and Analyze Risk Priorities- Plan, Implement and Monitor Progress of Risk Management Plan- Risk Sharing. Partner with others to share responsibility for the risky activities		

Legend
 Strong Corporate Government
 Low
 Moderate
 High
 Very High

 Strategic Risk
 Operational Risk
 Compliance Risk
 Reporting Risk

CULTIVATING ETHICS IS EVERYONE'S BUSINESS

Future Value 2030	2025 Target	2018 Performance	2019 Target (interim)	FY 2019 Performance
ERM Risk Management  	<ul style="list-style-type: none">Complete ERM risk portfolio for the whole GroupQuarterly risk reports to include more details on ERM risk profile, more information on internal control implementation and effectiveness	<ol style="list-style-type: none">Develop risk registration of Operational and Strategic Risks with the BUs.ESG risks were fully identified and assessed by Risk Management Office) (RMO)Define key risk indicators for monitoring risks on a quarterly basis.Issued the Quarterly Risk Report for monitoring and	1) ESG risks will be included upon ERM exercise extended to cover each foreign subsidiaries	○○● ESG risk exercise was extended to cover some foreign subsidiaries within the Group (JV in Singapore and refinery unit in Malaysia)
			2.) Issue 4 Quarterly risk reports per year	○○● Launched ERM quarterly risk report, with ESG risks included: focus on KRI and risk monitoring via internal controls

Progress Tracking Legend: ○○○ Meeting interim targets, maintain performance towards meeting 2025 targets
○○○ Fall short of interim target for three quarters; review current practices
●○○○ Missing interim target for more than one consecutive year; review and revise targets (if necessary)

INTEGRATED MANAGEMENT AND ENTERPRISE RISK MANAGEMENT (ERM) | 102-15 | Clause 7.4.3 |



risk management excellence alongside our business journey

Management Approach | 103-1 | 103-2 | 103-3 |

The Group's Enterprise Risk Management framework mainly focuses on identifying and assessing the uncertainties associated with its strategic and business objectives. The Enterprise Risk Management practice of the Group follows guideline of *The Committee of Sponsoring Organizations of the Treadway Commission (COSO)-ERM framework* | 102-15 |, which emphasizes upon effective ERM execution through risk governance and culture, linkages with strategy and operational performance, potential opportunities, risk reviews, and regular communication & report. So far, the Group already implemented risk management practices all existing units/entities in Thailand, maritime business, local plants, truck logistics units, refinery facility in Malaysia including a joint venture company in Singapore and would soon enhance the scope to encompass all other offshore subsidiaries and related businesses in which the Group has a significant investment (at least 20% percent of shares with voting rights).

As the core of the Group's ERM, *the Risk Management Policy* | 102-15 | was formulated in consistent with the Group's business goals, strategies and risk appetite while supporting identification and prioritization of early warning signals of key risks through impact/likelihood assessments, key risk indicators, with corresponding risk mitigation plans and internal controls are implemented and monitored, accompanied by risk reviews on regular basis.

Enterprise risk management structure of the Group was well designed, in compliance with the *Good Corporate Governance* principle and *Risk Management Policy*. Under the direction of the Board of Directors and the Executive Committee (EC), the Risk Management Committee (RMC) was established to ensure that the Group's principal

and substantial risks are identified through consideration of related internal and external disruptive

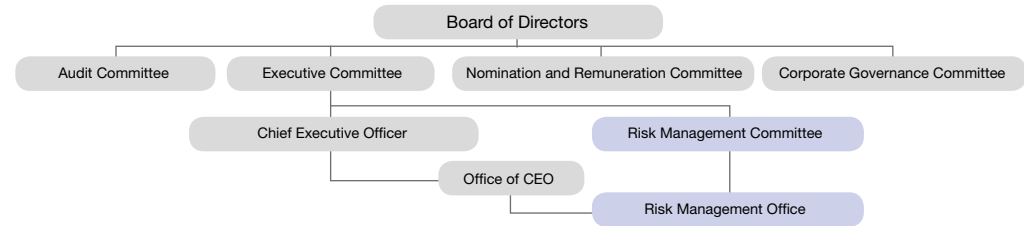
Since 2015, the Risk Management Office (RMO) was established by RMC to facilitate and exercise adequate oversight of the risk management practices employed by each respective business units. The RMO works proactively with respective Business Unit (BU) leaders and Risk Champions/Risk Officers in order to ensure effective implementation of the risk management progresses and internal controls including risk communications across the Group. The RMO operates within the COSO-ERM framework, conducts regular monitoring and reports the risk findings to the RMC, EC and ultimately, the Board of Directors.



Scan QR Code for Risk management policy



RISK MANAGEMENT ORGANIZATION | 102-15 | Clause 7.4.3 |



For full Risk Management Organization, please refer to p.123

ERM PRACTICE AND TIMELINE | 102-15 |

In fact, the Group has adopted an ERM exercise since 2012, with primary focus on operational risks associated with key business units. The Vision 2020 long-term strategic plan formulated in 2015 revisited the ERM and placed it as one of the key strategic priorities for the Group.

The Risk Management Office (RMO) is responsible for the ERM project. Workplan was designed into 3 phases focusing on development of ERM foundation, risk registers, control implementation including reports and monitoring.

The ERM foundations not only re-identify and capture risks associated with normal business operations, but also take into consideration risks associated with Vision 2020 strategies, effective control measures, development of key risk indicators (KRI) and more importantly, identification of Top Corporate Risks



ENTERPRISE RISK MANAGEMENT (ERM) | 102-15 | Clause 7.4.3 |

RISK MANAGEMENT RELATED TO ENVIRONMENT, SOCIAL AND GOVERNANCE (ESG)

The Group realizes the importance of ESG risk management practice to ensure that our businesses can grow in sustainable manner. Amidst rapidly changing global environment coupled with emerging uncertainties, there are several factors that could either positively or adversely impact the Group. Therefore, the Group's proactive risk management has become of the Group's key strategic priority which also encompasses risk managements across several aspects including occupational health, safety, environment, economic, social as well as governance.

Our ERM risk registers also encompasses all these risks associated with environment, social and governance (ESG). They are fully identified and assessed with residual impacts and likelihood along with corresponding risk control measures.



The Group's governance on risk management has focused upon good citizenship and license to operate that are associated with the Group operations and complied with applicable laws, regulations and other requirements: as the Group must fully comply with all related regulations pertaining to safety and environment etc. In addition, Security Safety Health & Environment (SSHE Function) and Sustainable Development Officers (SD Function) are responsible for monitoring new regulations, conducting the evaluation of compliance, managing internal non-compliance found and including periodic reviews, in order to ensure that the Group's business operations are fully comply with latest applicable regulations and requirements, with full awareness on occupational health, safety, environment, economic, and social aspects.

In addition to social and environmental risk management, our company also has focused the operational risk on occupational health and safety (OH&S), road traffic safety (RTS) and environment. Implemented and certified by all plants of Thailand Operations, these risk management practices include identification, assessment and risk management (reduce, monitoring and control) which are compliance with Occupational Health and Safety Management System (ISO45001:2018 standard), Environmental Management System (ISO14001:2015 standard), Road Traffic Safety Management System (ISO39001:2012 standard) in line with the Integrated Management System (IMS) included in the Quality Management System (ISO9001:2015 standard). Major operational risks, for instance, are fire accident, products spillage and road traffic accident of products distribution truck. Control measures are implemented such as installation of CCTV & GPS Tracking System in each asphalt truck units, preventive & autonomous maintenance, defensive driving courses training for all drivers, and distribution route survey prior to each delivery.



Centralized Logistic Center, Phrapradaeng, Thailand

Sources: TIPCO Asphalt Public Company Limited, Annual Report 2019 <http://www.tipcoasphalt.com/upload/AnnualReportE2019.pdf>

ENTERPRISE RISK MANAGEMENT (ERM)

Key Initiatives

Raising risk awareness

The Group promotes risk awareness across all units targeting employees and management at all levels to ensure that ERM and risk awareness fully integrates with everyone's work practice. Under "P: Prudence", our risk management principle is also bombarded into the Group's Core values that all staff shall follow while working.

RMO plays a crucial role upon raising risk awareness across the organization through various risk trainings and regular unit visits to discuss and update on ERM issues. In addition, RMO also works closely with designated risk champions/ risk officers pertaining to each unit to ensure that all units stay fully updated and aware of the risk factors upon their work practices.



ERM training sessions for Risk Champions. Risk officers pertaining to all key units.

Corruption risks | 205-1 | Clause 6.6.3 |

The Group strongly commits to our 'zero-tolerance' principle toward any type of corruption activities. Since 2013, the Board of Directors had adopted the Anti-Corruption Policy, with the ultimate aim to prevent corruption across all value-chain activity while maintaining vigilant operations.

RMO compiles corruption risk register to identify related risks, with corresponding likelihood and impacts assessments, and internal controls to mitigate residual risks. Regular tracking/monitoring of these risks will be reported to the Risk Management Committee (RMC), the Corporate Governance Committee (CG) and ultimately, the Board of Directors.



Group photo at International Anti-Corruption Day 2019. Participants are holding signs that say "STOP CORRUPTION" and a banner for "TIPCO ASPHALT GROUP ANTI-CORRUPTION". The banner also mentions "Join the International Anti-Corruption Day 2019: December 9, 2019" and "องค์กรธุรกิจรับขึ้นสากล (ประเทศไทย)".

Emerging risks: Information security and Cybersecurity risks | 418-1 | Clause 6.7.7 |

While increasing the digital connectivity of the Group's business process chain create agility but they can also significantly raise cybersecurity risks and threat levels. The Group's IT department develops a Cyber Risk Management Program to identify, assess, and respond to cyber risk. In this regard, CIS Control™ (v7) security framework was applied to this program to ensure that controls have been addressed correctly.

Controls over information security: The Group has shared and stored digital information with many businesses while information technology security policy was developed to ensure that all information technology users within the domain of the group and its networks comply with stringent rules and guidelines. The policy is reviewed on a regular basis by both internal and external audit teams to improve and make the process more efficient and effective.

Controls over unauthorized access to systems: the Group has implemented new protection technology to mitigate all vulnerabilities while creating a continually improved process. It is one of IT's key priorities to restrict, monitor and protect the confidentiality, integrity and availability of the Group's resources and system. All ERP accesses have been revised by our IT Group and Business Process Owner (BPO) to ensure that each role and responsibility is correct as per business functional requirements. The access control was managed by our IT Group under strict Tipco Asphalt's policy and authority.

Controls over operations failure risk: High effective standard in IT service management is now included in IT Group's development plan, which focuses on developments of Incident, Problem and Change Management This new procedure will be applied to the Application Manage Services project (AMS). AMS project will fully support the new Tipco Asphalt's ERP system in daily operation work. Once the ERP system is stabilized, every process will become fully automatic and integrated.



Mr. Chaiwat Srivalwat, the CEO, presenting information security and Cybersecurity emerging risks at the Staff Townhall meeting 2019.

99.9% of attacks can be blocked with Multi-Factor Authentication (MFA)









WE STRIVE *for* growing business with Valuable Trusted Partners



“Collaboration is important not just because it’s a better way to learn. The spirit of collaboration is penetrating every institution and all of our lives. So learning to collaborate is part of equipping yourself for effectiveness, problem solving, innovation and life-long learning in an ever-changing networked economy.”

Don Tapscott



Materiality Issue		#28) Developing Suppliers to be a Reliable Business Partners		
		# 14) Environmental assessment of the supply chain		#4) Procurement with Local Suppliers
Report Topic	Growing Business with Valuable Trusted Partners			
Impact & Risk	Uncertainty of crude supply: Significant risk to business continuity and profitability			
Social Issue	Infrastructure Issues (i.e. Road Condition etc.)			
GRI Standards	GRI 308, GRI 414		ISO Standards	-
SDGs	SDG 8, SDG 9, SDG 12, SDG 16, and SDG 17			    
Policy	Sustainable Procurement Policy (TBR-QSR-M-04)			
Stakeholder	- Internal: Employees – Logistics, Supplies and Procurement department - External: Business Partner, Supplier, and Community, Society and the Environment			
Objective	1.) Support Procurement Operational Requirements 2.) Manage the Procurement Process and the Supply Base Efficiently and Effectively 3.) Develop strong relationships with other groups within the organization 4.) Support organizational Goals, Objectives, and initiatives			
Responsible	Logistics, Supplies and Procurement department			
Strategy	Win – Win and Walk Hand-in-Hand to Win More			
Execution	<ul style="list-style-type: none">Empower local procurement units at the plant level, for more flexibility and convenience upon the procurement process. This also supports local economic developments.Enhance business partner potentials through company visits and due diligence on future improvements that are crucial for sustainable business developments.Key business partner/supplier selection process via ESG criteria			

Legend


Impacts: Low Moderate High Very High

 Strong Corporate Government















 Strategic Risk

 Operational Risk




 Compliance Risk




 Reporting Risk




GIVING RESPECT AND EARNING RESPECT ON HUMAN RIGHTS

Future Value 2030	2025 Target	2018 Performance	2019 Target (interim)	FY 2019 Performance
Collaboration for Business Growth and Expansion via Digital Platform, based on mutual benefits of maximum operational efficiency  	<ul style="list-style-type: none"> Expend use to accommodate all transactions type. For instance, expenses. This is to support work procedure of procurement department. Develop data analytics to accommodate decision-making or planning more effectively. Uplift sustainable procurement to international standard 	1) On-time Delivery for raw material and packaging 86%	1) On-time Delivery for raw material and packaging >85	   Not pass [79%] (77% for 1H2019 and 81% for 2H2019) on packaging and insufficient delivery time. Need to discuss with buyer to identify root causes and future improvement.
		2) Quality of raw material and packaging 100%	2) Quality of raw material and packaging >99.5%	   Quality of raw material and packaging 100%
			3) Procure 3 or more items from local shops/producers that are certified with environment or social responsibility standard, or equivalent	   Procure 5 items from local shops/producers that are certified with environment or social responsibility standard, or equivalent
			4) Proportion of spending on local in Thailand > 20MB	   Proportion of spending on local in Thailand > 20MB

Progress Tracking Legend:

   Meeting interim targets, maintain performance towards meeting 2025 targets

   Fall short of interim target for three quarters; review current practices

   Missing interim target for more than one consecutive year; review and revise targets (if necessary)

MOST EFFICIENT PROCUREMENT ACROSS SUPPLY CHAIN | 102-9 | Clause 6.6.6 and 7.2 |



Collaborating with strategic partners to optimize supplies network capacity while achieving cost reduction

Management Approach

Effective supply chain management is well regarded as one of the key strategies for sustainable business conduct. TIPCO Asphalt Group has placed top priority on this subject, as supply chain management helps minimizing any risks associated with business disruptions which directly impact the Group's business operations. Meanwhile, it also supports the Group's business capability and future expansion effectively. The Group focuses on implementing innovations upon procurement work processes to improve supply chain management.

Supply chain management also serves as a key linkage to the production process by ensuring consistent raw materials and service availability to accommodate the production plan, with the required quality. Risk assessment was conducted on procurement across the value chain; i.e., from raw materials, crudes, asphalts, chemicals up to delivery. In 2019, the Group promoted procurement activities that focused on the environment and social aspects while fully complying with the Group's Business Code of Ethics.

Meanwhile, the Group also emphasizes on enhancing the great relationship with business partners, including all stakeholders across their supply chains (Partner/Supplier Ecosystem) while continual development of knowledge and expertise of all parties to raise work efficiency. Good corporate governance was also implemented with all related parties to ensure the Group's long-term sustainable development. The Board of Directors, therefore, established a policy on sustainable procurement, with an aim to enhance value-added products and services across producers, service providers, distributors, product use, and production and to encourage corporate social responsibility across the value chain of the Group and partners. This can be evidenced through the fact that the Group implements partner selection criteria and ESG risk assessment (Environment, Social, Governance) on price and production costs.

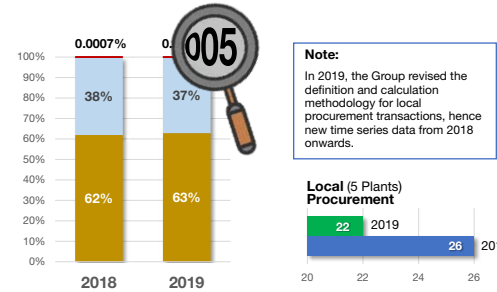
The Group also encourages all staff to realize the significance of sustainable procurement by setting up key performance index pertaining to social and environment. The aim is to create a 'green procurement' practice with a focus on procurement from local sources. This hence will integrate sustainable development into part of the normal work process in value chain management, and create more customers' confidence upon production, product delivery and service with quality and meet high standards, and ultimately promote fair business operating practices with the responsibility to all parties, with long term substantiality.



LOCAL PROCUREMENT | 204-1 | Clause 6.6.6 |

Wealth and income creation for local communities: TIPCO Asphalt Group supports local procurements of products and services from business partners within local areas or nearby our facilities. This is done not only to promote economic diversity among local communities but also strengthen local business partners while empowering warehouse unit on local procurements and purchases in accordance with the Group's rules and work instructions that focus on high quality, fair price, environmentally friendly and supports to economic of local communities.

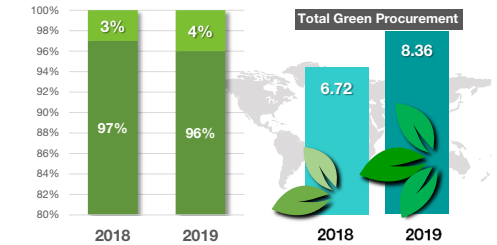
Unit : Million Baht			
Local procurement		2018	2019
International Procurement		22,507	25,406
Thailand Procurement		13,820	15,013
• Local Procurement (5 Plants)		26	22
Total Procurement		36,327	40,419



GREEN PROCUREMENT | 306-1 | Clause 6.5.2 |

Our supports to local procurement of products and services that are environmentally friendly or certified with environmental standards ensure long-term sustainability upon natural resources while minimizing environmental impacts. The Group integrates this as key selection criteria for procured products and services as well as approved vendor list in our procurement process. In 2019, the Group procured more than 8.36 million baht worth of environmentally friendly products and services.

Unit : Million Baht			
Green procurement		2018	2019
Procurement center		6.50	8.00
Local Procurement		0.22	0.36
Total Green Procurement		6.72	8.36



MOST EFFICIENT PROCUREMENT ACROSS SUPPLY CHAIN | 102-9 | Clause 6.6.6 and 7.3 |

Supplier management serves as a key element to ensure sustainable business operations while achieving the objectives. All business partners, both existing and new ones, that are distributors of raw materials and packaging must pass the assessment criteria set forth by the procurement department. Such a partner must pass assessment criteria in terms of quality, price, timeliness and delivery including human rights practices, environment and social responsibility. The Group also takes into consideration whether such partner be certified with standards on environment and social aspects, to be in line with the Group's business directions. The Group also provides advice to business partners to develop and enhance their capability for long-term sustainable growth. Our business partner assessment criteria in 2019 are as follows:

1

D

CLASS

ESSENTIAL
Partners under 'very good' rating category

Rating Score Greater than 90%
key business partners that are highly important to the Group's operations, with high business transaction values per year.

2

D

CLASS

IMPORTANT
Partners under 'good' rating category

Rating Score Between 81-90%
key business partners that are important to the Group's operations, with moderate business transaction values per year.

3

D

CLASS

DEVELOPMENT
Partners under 'careful consideration' rating category but capable of further development

Rating Score Between 51-80%
Business partners that might exhibit some risks, but capable of further development into potential, trusted and reliable partners.

4

D

CLASS

IMPROVEMENT
High risk partners that requires development

Rating Score Below 50%
High -risk business partners that require developments prior to engaging in a business transaction with, or need to be canceled

2019		2018	
Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec
33	41	33	29
12	13	13	17
3	2	14	5
0	0	3	4

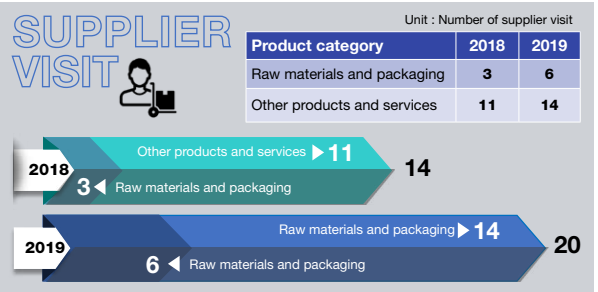
Unit : Number of supplier

SUPPLIER VISIT | 308-1 | 414-1 | Clause 6.6.6 and 7.3 |

The Group provides follow-up monitoring and advice for business partners to promote their developments across the value chain, with a focus on raising their awareness and implementation of sustainable procurement philosophy while exchanging ideas for mutual benefits associated with social and environments through supplier visits. The Group selects business partners from key criteria on rating score, purchase volumes, procurement risks, with a frequency of such visit of at least once a year, in accordance with plans and work instructions.

Business partner assessment and evaluation include topics on quality, delivery, occupational health and safety, labour practice, human rights, environment and community involvement. In 2019, the Group monitored and coached 20 business partners, with knowledge sharing across various topics such as raw material development, switch to environmentally friendly products, fire-fighting system installation around crude storage and projects with community involvement.

In 2020, the Group plans to expand new channels to accommodate the monitoring and coaching our business partners; for instance, our suppliers can do self-assessment through an online evaluation form. This initiative not only helps create more channels but also allows the Group to access more partners, accordingly.









KEY ISSUES

“
to boost the performance of suppliers and drive continued business growth, through education, mentoring, and access to resources.
”

WE STRIVE *for* being Good Citizen



Materiality Issue		#27) Participation and Community Development		
		#33) Increase Social and Economic Participation of Communities		
Report Topic	Being Good Citizens			
Impact & Risk	Gain trusts from local communities, Enhance stakeholders' relationships			
Social Issue	Management Responsibility to the Close-by Operations Communities			
GRI Standards	GRI 413		ISO Standards	ISO 26000 Core Subject 6.8
SDGs	SDG 3, SDG 8, SDG 11, and SDG 17			   
Policy	Social Responsibility Policy (TBR-QSR-M-03)			
Stakeholder	- Internal: All employees - External: Communities close-by plants, CSV Partners, Academic Institutes			
Objective	1) Improving quality of life for society by uplifting mainly for the good health & safety issues 2) Secure the Social License to Operate and strengthen the trust with all stakeholders 3) Knowledge sharing for community development and creating shared value 4) Creating CSV activity community with business partners for sharing the experience of the CSV activities and expand the projects by joining with partners.			
Responsible	CSR Team with SD Officer from all plants			
Strategy	"Be your good citizens and you can trust and rely on us"			
Execution	- Review CSV projects with stakeholders (communities, activities partners, etc.) and improve plan before proceeding - Prepare and execute with communities/partners according to plan/budget - Evaluate the successes of CSV projects implementation			

Legend

Strong Corporate Government

Impacts:

Low Moderate High Very High

Strategic Risk

Compliance Risk

Operational Risk

Reporting Risk

BEING GOOD CITIZEN

Future Value 2030	2025 Target	2018 Performance	2019 Target (interim)	FY 2019 Performance
<div>Create a Happy Communities, improving Quality of Life for Society and Building a better society (Tipco Asphalt ecosystem)</div> <div> </div>	Continuing to pursue CSR / CSV initiatives that mainly are in-process activities and support communities' needs, in line with corporate ethics and main sustainability strategy	1) CSR Project Satisfaction 87.2% 2) CSR Volunteering Hours 23,978 hours 3) CSR/CSV Employee volunteering engagement 95% 4) CSR/CSV Projects Cash Contribution 13.3 M.THB 5) CSR/CSV Projects Management Overhead 4.9 M.THB 6) CSR/CSV Projects In-Kind Donation 0.9 M.THB 7) CSR/CSV Projects Time: Employee Volunteering during paid Working Hours 3.9 M.THB 8) ESG Complaint 1 Case and closed within 24 hours	1) CSR/CSV Project Satisfaction 85%	 1) CSR/CSV Project Satisfaction 89.0% 1.1) Community's CSR/CSV Satisfaction = 92% 1.2) Employee's CSR/CSV satisfaction = 87%
			2) CSR/CSV Employee Volunteering Engagement 95%	 2) CSR/CSV Employee Volunteering Engagement 93.5% (Only in Thailand Operations 671 persons)
			3) CSR/CSV Volunteering Hours 10,736 hours/person/year (Assumption: Total employee in Thailand 671 persons and expected each person experience volunteering project 16 hours / person/year)	 3) CSR/CSV Volunteering Hours 15,358 hours/person/year
			4) ZERO ESG Complaint	 4) ZERO ESG Complaint

Progress Tracking Legend:

Meeting interim targets, maintain performance towards meeting 2025 targets

Fall short of interim target for three quarters; review current practices

Missing interim target for more than one consecutive year; review and revise targets (if necessary)

TIPCO ASPHALT AND COMMUNITY DEVELOPMENT | 413-1 | Clause 7.6.3 |

WE STRIVE

for

Improving quality of life & creating safety awareness for community/society

Management Approach

The company has adopted a new method of CSR project management to be consistent with the company's business practices. Thus, the company can constantly utilize its knowledge and expertise upon the successful conduct of various activities and then passed on to the community for further development. The company also provides advice to ensure the greatest benefits. This serves both as a solution to community problems as well as meeting all stakeholders' expectations. Key focuses are on building good relationships while serving as a good member of the community, hence allowing the company to conduct its businesses sustainably. This philosophy can be reflected across project activities, both in areas around the factory's premises and nearby communities, along with business operations that are responsible to the community and society.

The company reviewed CSR plans in the past year, to link CSR activity projects to business through selected activities collaborated with the community and in sync with the community's interest. Projects with high satisfaction assessments will be continued and expanded across other areas. Appropriate adjustments were conducted on those projects that need to be improved by giving the community confidence in the safety and the quality of life of the communities nearby the factory premise.

The ESG Complaint Management

Tipco Asphalt Group developed the community feedback mechanisms implemented in our major operations and projects allow us to receive, track and respond to questions and complaints from community members. In Tipco Asphalt Group, our activities increased traffic, resulting in dust pollution and health concerns for the local community. we set up a Plant Sustainability Officer to work closely with a community representatives, who brought the concerns to the attention of leaders in Tipco Asphalt's upstream organization in Thailand.

An effective communication with stakeholders is the foundation and the driver for a successful ESG management. The engaging in a dialogue with sincerity and transparency will help promoting for the learning and CSR activities, that will lead to increased sharing of knowledge and wisdom with society. As well the providing of the effective communication channel that stakeholders can easily access and give feedback.



The Number of Complaint

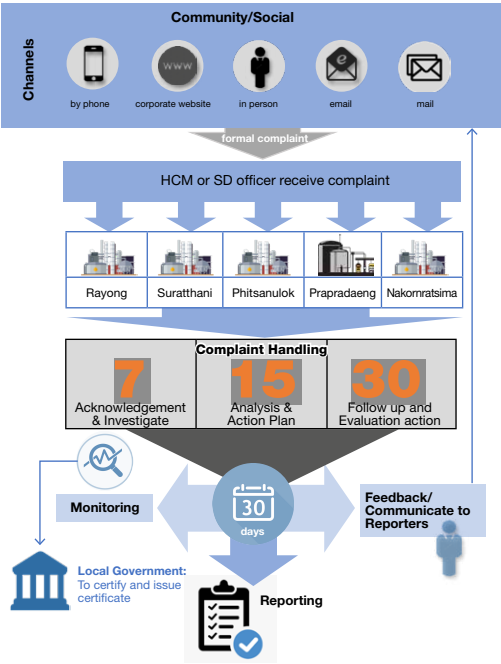
2017	2018	2019
0	1	0

Scan here for Corporate Social Responsibility policy






COMMUNITY/SOCIAL COMPLAINT PROCESS | 419-1 | Clause 7.6.3 |



Scan here for Revision of Complaint Process



Step 1 – Receiving complaint

- HCM or SD officer receives complaint and reviews complaint
- Send completed report complaint to plant manager
- Plant manager assigns complaint handlers

Step 2 – Corrective and preventive action process

- Complaint handlers acknowledge and investigate for validity within 7 days
- Root cause analysis and improvement action within 15 days
- Follow up and evaluation action within 30 days

Step 3 – Communication to complainant and close complaint

- Aim to respond within 30 days, and will keep you updated on progress if a longer timeframe is necessary

Step 4 –Monitoring outcome

- Follow up corrective and preventive action outcome by internal auditor of the management systemonce a year
- Monitoring social complaint registered by local authority at least once a year

Step 5 – Reporting

- Top management to improve level of prevention to improve level of prevention

Remarks:

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Phone : +662 273 6000

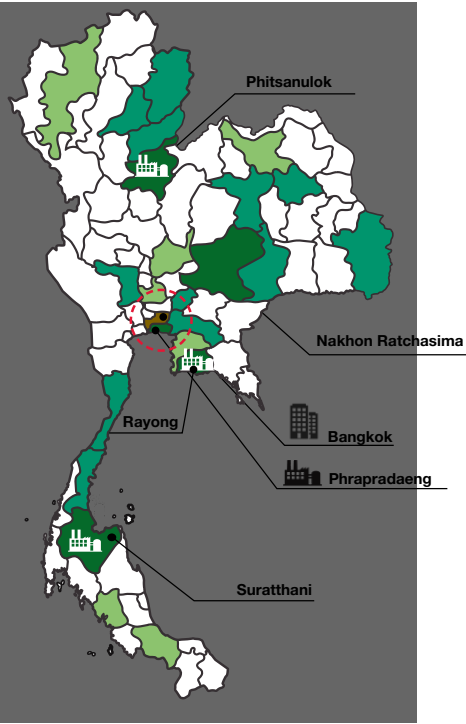
SUMMARY OF KEY CSR/CSV PROJECTS FOR SUSTAINABLE DEVELOPMENT IN THAILAND

The company strives for successful implementation of corporate social responsibility activities by allocating a budget of 1.0% of average annual net profits over 3 preceding years to fund these projects. Regarding community development, Tipco Asphalt Group employs 3 important CSR strategies; namely, **Innovation leads to the Future**, **Low Environmental Impact** and **Safety First**. We arrange “Community dialogue with Tipco Asphalt Citizens” to understand their needs and expectations so we can create mutual benefits while enhancing the life quality of the community. We aim to build a good relationship and earn acceptance from the community nearby our plants, resulting in ‘license to operate’ where we can continue our operations without interruption.













There are several areas where we implement CSR/CSV initiatives. Despite that most activities are conducted by our employees who volunteer themselves to the project conduct, our affiliated companies including customers and partners also take part in these activities. We plan to further expand our CSR/CSV initiatives to across our overseas subsidiaries in the near future

LOCATION & TYPE OF ENGAGEMENT WHERE WE HAVE CSR/CSV SIGNATURE PROJECTS

	BANGKOK, Head Office
	LOCATIONS WHERE WE OPERATE (PLANTS) - Phrapradaeng - Phisanulok - Rayong - Suratthani - Nakhon Ratchasima
	LOCATIONS WHERE WE CONDUCT CSR/CSV PROJECTS TOGETHER WITH AFFILIATED COMPANIES, CUSTOMERS AND LOCAL COMMUNITIES
	LOCATIONS WHERE WE CONDUCT CSR/CSV PROJECTS TOGETHER with BUSINESS SUSTAINABILITY PARTNERS / COMMUNITIES

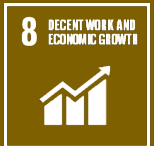


CSR/CSV SIGNATURE PROJECTS

	Patching Pothole “Road Safety for All” campaign to enhance road safety for all road users, including various assets as well. The Group launches this initiative by repairing road surface/ potholes that may cause road accidents.	
	Road Safety for Kids Another “Road Safety for All” campaign aiming to provide safe road use knowledge to the youth, according to traffic laws while enhancing road safety experience when traveling with adults or on their owns.	
	CPR Training “Road Safety for All” campaign to provide basic life-saving training, including information on how to use defibrillators. The project was conducted for the benefit of the general public using the standards recommended by the Life Saving Standards Committee & The Heart Association of Thailand.	
	SMART People “Social Collaboration” campaign to develop skills for technicians or any local individuals who want to gain professional expertise relating to the correct application of asphalts.	
	SMART Logistic “Social Collaboration” campaign to utilize modern technology for efficiency enhancement.	
	Bueng Takhreng “Social Collaboration” campaign to create an ecosystem while conserving and restoring water sources. The project was designed as an integrated learning and tourism center.	

the **long-term development on people**; internal & external stakeholders for **embedding sustainability into organizational practices** and decisions, engaging, collaborating and advocating for transformational change. Align organizational purpose, strategy and business models with system-level change.

VALUE FOR THE FUTURE






WE STRIVE

for

promoting ecosystem of
**Well-being at Work &
Work-Life Balance**




Materiality Issue		#15) Human Management and Retaining Employees	
		#16) Good Relations Between Employees and Supervisors	# 2) Compensation, Welfare and Employee Satisfaction
Report Topic	Well-being at Work & Work-Life Balance		
Impact & Risk	Sustainable pool of manpower, happy work place		
Social Issue	Responsibility to Employees		
GRI Standards	GRI 401, GRI 402, GRI 405, GRI 407	ISO Standards	ISO 26000: clause 6.4.3, 6.4.4, 6.4.5
SDGs	SDG 5, SDG 8, SDG 9, SDG 10, and SDG 17 		
Policy	Thai Labour Standard Policy		
Stakeholder	- Internal: All Employees & Management, Board of Directors - External: Authorities; Department of Labour etc.		
Objective	Design the programs for lift-up employee satisfaction, build up staff to be person who are happy and healthy in both body and mind.		
Responsible	Human Resource Management		
Strategy	To develop and implement the Well-Being initiatives		
Execution	Action plans to improve work environment according to the selected employee effectiveness drivers/topics		

Legend

 Strong Corporate Government

Impacts:

Low Moderate High Very High













 Strategic Risk

 Operational Risk

 Compliance Risk

 Reporting Risk

WELL-BEING AT WORK & WORK-LIFE BALANCE

Future Value 2030	2025 Target	2018 Performance	2019 Target (interim)	FY 2019 Performance
Enroll Employee Centric Across the Group's Apply to all subsidiaries within Tipco Asphalt Group 	"EMPLOYEE CENTRIC" Improvement on the selected employee effectiveness drivers/ topics Promote collaboration and communication to support standardization of human capital management practices across the Group	Employee Effectiveness survey Result : Identifying top and bottom three drivers for further action Employee Engagement 68% Employee Enablement 69%	Designing action plans to fill gaps in the bottom three drivers : 1. Pay & Benefits : Propose remuneration policy to the Nomination and Remuneration Board 2. Development Opportunities : Prepare career management framework in the Group 3. Work Structure and Process : Prepare to do focus group/mini survey about the new enterprise resource planning program	  Didn't do the employee engagement survey in 2019 The Next Employee Effectiveness survey will be conducted in 2021
		Initiatives Implemented <ul style="list-style-type: none"> • Paid leave for the purpose of marriage • Paid leave for the purpose of organizing funeral for family member • Paid parental leave for male • Health Check-up program customized by age (not by job level) • Interest free emergency loan • Low interest loan for employee 	Initiatives Implemented <ul style="list-style-type: none"> • Flexi working hour in Head Office • New Workplace design for better physical environment : <ul style="list-style-type: none"> ✓ Meeting rooms' floor ✓ Staff canteen and free coffee corner by automatic coffee machine ✓ Collaboration working area 	   Three action plans are implemented as set : <ul style="list-style-type: none"> • Remuneration policy • Job Competency Profile • Organization Redesign
		Employee turnover rate 10%	Employee turnover rate < 10%	   Employee turnover rate 9.66%
		Employee return to work after parental leave 100%	Employee return to work after parental leave 100%	   Employee return to work after parental leave 100%

Progress Tracking Legend:

   Meeting interim targets, maintain performance towards meeting 2025 targets

   Fall short of interim target for three quarters; review current practices

   Missing interim target for more than one consecutive year; review and revise targets (if necessary)

HAPPY EMPLOYEES: THE CORE OF A SUCCESSFUL BUSINESS | 402-1 | 407-1 | Clause 6.4.5 |

WE STRIVE *for*

winning hearts & minds of employees through living happy workplace in order to have better business success.

‘EMPLOYEE CENTRIC’

Management Approach

Our vision in terms of human capital management is to see our people advance in their professions and career as well as be contented in personal life. Along with our business expansion in the region, we want to business in the Asia-Pacific region. We want to create a work environment that brings mutual understanding, collaboration, and joy.

Our first task of mutual understanding started since 2018 with an aim to standardize our human capital management main systems across countries in our group. This includes job grade structure, employee data, and performance management, called the One-Group-One-System project. The alignment of basic systems paves ways to a mutual understanding as the Group would set direction and apply management and development tools for our people.

Starting in Thailand in 2018, we implemented a new software program for HCM systems in Thailand, at our head office and all plants. We extend the same platform to Malaysia, Indonesia, and Cambodia in 2019. Our offices in China and Laos are scheduled to implement a similar software program in 2020, while those in Vietnam, which is using other different software, shall find a way to integrate. Since we are able to operate with similar database structure, every country office shall be easily understanding to collaborate in our Group-wide programs.

One of the target group-wide program that we aim to develop in 2020 is the training module, in which employees can include their career and development aspiration on the database. This input is valuable information that we can reflect on our development opportunities based on employees’ need and desire.



Scan here for Thai labour standard

Happy Employee
leads for
Good Productivity

**HAPPY
EMPLOYEE
DELIVERS
GREAT
SERVICES**

Employee Engagement | 402-1 | 407-1 | Clause 6.4.5 |

Our success depends on our people performing at their best: In order to achieve this, they need to be motivated, connected, and valued. To ensure that our employees are fully engaged with their works, we create a culture that emphasizes personal responsibility, diversity, and innovation.

Our latest biannual employee engagement survey was conducted in late 2017/to early 2018. We achieved a remarkable participation rate (92 percent) with overall engagement scores 68 percent, a slight below our target at 75%. Nevertheless, such a result was well in line with the same industry average of 68% (Our 2015 scores were 71%).

Our survey, commissioned to Korn Ferry Hay Group, aimed to capture information in two groups of drivers to effectiveness: Employee Engagement and Employee Enablement. The result on Employee Enablement stood at 70%, above the same industry average at 69%. Deeper analysis indicated that significant changes to our Enterprise Resources Planning system caused some discomfort to our employees who were the main system users, hence explaining such low survey scores.

We highlighted 3 high impact issues from the 2017/2018 survey with improvement plans: Pay & Benefits and Development Opportunities, and Work Structure and Process.

Our remuneration policy has been set to a specific Reward Positioning, a clear benchmark target industries and percentile range. We are now having a pay structure that is adjusted to be more competitive with the relevant market.




Completion of job competency profile has established a development model for career advancement.

Our next survey, which shall be conducted in 2021, will capture employees' opinions in these selected issues, together with some other issues such as the Work Structure & Process after the ERP implementation has been settled in place.

We expect to apply an internal survey tool, that is more agile to conduct than the biannual survey of an external consultant, and is designed to be more specific to our Group's situational needs at a time.

WE STRIVE *for* growing SMART People



Materiality Issue		#18) Promote Staff Training and Education		
		#19) Promote diversity & equal opportunities for employees		
Report Topic	Growing SMART People			
Impact & Risk	<ul style="list-style-type: none">• People development and training could take long time to achieve results.• Return on training is very difficult to measure.			
Social Issue	Responsibility to Employees			
GRI Standards	GRI 404, GRI 404-1, GRI 401-2	ISO Standards	ISO 26000: clause 6.4.7	
SDGs	SDG 4, SDG 9, and SDG 17			
Policy	Thai Labour Standard Policy			
Stakeholder	<ul style="list-style-type: none">- Internal: All Employees- External: External training firms, Lecturers, Academic Institutes			
Objective	Prepare the future workforce by using the diverse approaches to developing employee capabilities, encouraging them continually expand their capacity to grow and to realize their full potential.			
Responsible	Human Resource Management			
Strategy	Investing in talent for future sustainable business growth and success			
Execution	<ul style="list-style-type: none">- Develop training framework- Total productive management program to improve efficiency and reduce cost- Retain organizational knowledge -- asphalt			

Legend

Strong Corporate Government

Impacts:

Low Moderate High Very High

Strategic Risk

Operational Risk

Compliance Risk

Reporting Risk

GROWING SMART PEOPLE

Future Value 2030	2025 Target	2018 Performance	2019 Target (interim)	FY 2019 Performance
SMART People by developing and offering an array of innovative and diverse programs in support of the organization's commitment to employee development, partnerships, and organization alenrichment 	Employee Promotion	Employee Promotion Result : 2.83%	Employee promotion 3.0%	 Employee Promotion Result : 3.1%
	Internal Promotion: promoting within the Organization	High potential staff promotion to Management Level Result: 25%	High potential staff promotion to management level 25%	 High potential staff promotion to Management Level Result: 27%
	Training hours per employee Target > 24 hours For Functional and Managerial Training only	Training hours per employee Result : 23.6 hours	Training hours per employee 24 hours/ person/year	 Training hours per employee Result : 30.63 hours/person/year (Functional and Managerial Training only)
	Succession Planning Target 100 %	Succession Planning Result 80.0%	Succession Planning 100%	 Succession Planning Result 91.3%
	Build-Up pool of talents in the organization	Retention rate of High potential staff Result: 92%	Retention rate of High potential staff Result: 100%	 Retention rate of High potential staff Result: 73%

Progress Tracking Legend:

Meeting interim targets, maintain performance towards meeting 2025 targets

Fall short of interim target for three quarters; review current practices

Missing interim target for more than one consecutive year; review and revise targets (if necessary)

GROWING SMART PEOPLE | 404-1 | Clause 6.4.7 |



driving TIPCO ASPHALT 4.0 through the promotion and development of employees

Management Approach

Our learning and development strategy aims to provide solutions to business needs while helping Tipco Asphalt as a leading, innovative company. Core Values; T I P C O, are our basic foundation that build up growth mindset and skills for our people.

From management workshop in 2018*, four Business Drivers were identified as our Group's business objectives. They include:

- Penetrate and Grow Global Business
- Create Competitiveness through Business Alliances
- Enhance Organizational Talents
- Promote efficient and innovative culture

From these business drivers, we identified the "Success Profiles" or sets of competencies for our senior management. This part has also been set as objectives for succession planning in key management positions.

The competencies comprises of four elements; namely, knowledge, skill attributes, attributes and experience.

For standard people development, we cascaded business drivers into two categories of training; namely, Functional skill and Leadership, and named it the "Development Framework".

Functional skills category involved competencies each job function need while Leadership category comprises 5 topics; i.e., Core values; Basic skills of language and computer literacy; Thinking, Leading and Communication skills.

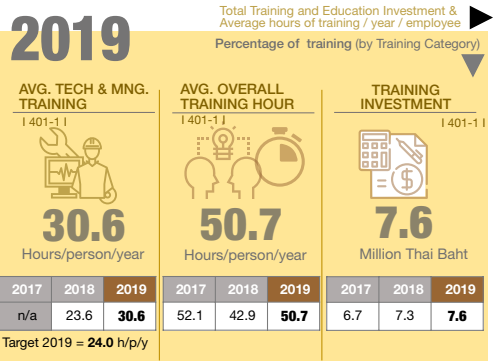
*The Management workshop in 2018 was conducted by Development Dimensions International (DDI) -- an international human resources and leadership development consultancy

Training and Education | 404-1 | Clause 6.4.7 |

We deliver best employee experience across all locations where we operate.

Our standard training encompasses a wide range of programs for our employees to build functional and leadership skills, as well as other compliance/regulatory and environment knowledge. In 2019, over 50 hours of training were conducted in Thailand, benefiting more than 500 employees.

Key performance indicators focus on technical and management training. In 2019, average of 30.63 hours of training / year / employee was achieved, a remarkable result as compared to 24 hours of training / year / employee target.

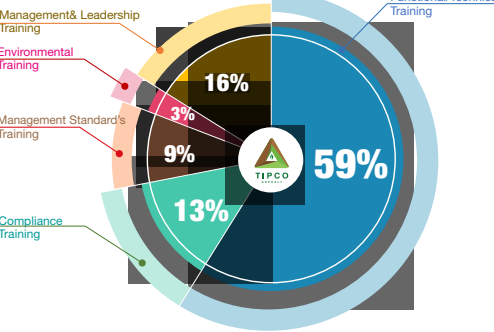


Our measurement | 404-1 | 404-2 | Clause 6.4.7

Prior to 2017, a common 24 hours of training / year / employee target was set and greatly achieved over the years. But from internal review and analysis, we found that a majority of such training hours might not reflect an improvement of our people's skills and knowledge upon their works because a majority of training courses were set as compulsory by the management systems (ISO standards), or legally required by the authorities.

Since 2017, Our target setup was switched to functional/ technical training and management/leadership training as they should serve as more proper indicator of work skills and knowledge development.

Training Hour by Category



Our training records are monitored and discussed in monthly management meeting, with focus on 5 training categories:

- Functional / Technical Training
- Management & Leadership Training
- Compliance Training
- Management Standard's Training
- Environment Training

Functional / Technical Training –

Defined corresponding to employee's work responsibilities in his/her function. For instance, an International Taxation course for Finance and Accounting department, or an Interviewing Skill for recruitment officer.

Management & Leadership Training –

Defined according to job levels and roles. It ranges from individual contributor who takes full responsibility for individual task, to supervisor who supervise subordinates to perform, and to managers/directors who are driving the unit/department/business units performances.

Compliance Training –

Defined according to prevailing legal or regulatory requirements to ensure full compliance; for instance, training on workplace safety, Anti-Corruption, Code of Ethics for new employees.

Management Standard's Training –

Defined by management standard system requirements to the assigned roles such as internal system auditors

Environment Training –

Defined by the Stock Exchange of Thailand's requirement for listed companies with training topics associated with environment preservation and protection

PROMOTE CONTINUOUS DEVELOPMENT OF SKILLS AND POTENTIALS

TPM: Total Productive Maintenance

TPM: Total Productive Maintenance has an objective to build the profitable business structure by improving man and machine management.

Man : We develop employees to support Factory Automation with following targets for each group:

- Operator -- to have ability to do autonomous maintenance
- Maintenance Engineer -- to have ability to do the maintenance (Mechatronics)
- Production Engineer -- Have machines' advance knowledge; design Maintenance Preventive

Machine : We improve current machine systems to increase operational excellence

There are 3 Phases of the TPM Implementation Plan.

- Phase 1: The measurement cycle, which assesses the present effectiveness of the equipment and provides a baseline for the measurement of future improvement;
- Phase 2: The condition cycle, which establishes the present condition of the equipment and identifies the areas for improvement and future asset care. This cycle covers assessing the current situation of equipment through observations and audits.
- Phase 3: The problem prevention cycle, which moves equipment effectiveness forward along the road to world-class performance. This is most important cycle of TPM implementation and covers establishing a root cause analysis system to continuously work on identification and prevention of all the causes resulting in loss of equipment efficiency.



TPM: Facts Finding Workshop in Nakhon Ratchasima Plant



BENEFITS FOR THE EMPLOYEES AND THE ORGANIZATION

Asphalt Knowledge for the Future : Transferring organization knowledge

While the asphalt knowledge for the future is defined by audience group, the subject matter experts join to draft standard curriculum. This standard curriculum ensures that asphalt products knowledge in our Group be fully transferred from experienced staff to other generations. There are six modules defined under this curriculum:

No.	Module
1	Products
2	Application & Troubleshooting
3	Lab Testing
4	Raw Materials
5	Bitumen Refinery
6	Production & Manufacturing



Throughout the report, we used “**We strive for..**” because of achieving the corporate goal you couldn't do it alone, you need the entire organization; every business unit, every employee to work in the same direction and have alignment.

**TIPCO
ASPHALT**

strive for

providing pavement solutions in a sustainable manner led by an innovative culture.

with sustainability fully integrated in our Mission and Vision, we, as one big family of 2,000 Tipco Asphalt Group employees, are working together to ensure our home achieve long-term sustainability with great cares upon social and environment aspects.



“Development towards sustainable organization requires contributions from everyone.
I will lead and provide all supports needed to ensure we all achieve the sustainable targets.”



All staff dedicate themselves to sustainable development together

”


We choose right and safe journey for organizational development towards sustainability



SUSTAINABILITY HIGHLIGHT 2019




Cover photo
Wattway : the world's first solar photovoltaic road surfacing solution in France developed by our strategic partner: Colas Group since 2015.
Source: www.colas.com



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Innovative Solutions Partner



Annual Report 2019

External Evaluation

Main ESG



2010:the Group applied ISO26000 as guideline for integrating social responsibility into the organization

Management System Related



2012 : the Group was certified with ISO 39001 , for Head Office and 5 plants in Thailand



The Group was also certified with ISO 9001 : 2015, ISO 14001 : 2015, and ISO 45001: 2018 for Head Office and 5 plants in Thailand

ISO 9001 QMS00015/619
ISO 14001 EMS00005/109
ISO 45001 OHSMS18015/015