



ecovadis

EcoVadis Corporate Social
Responsibility (CSR)
Assessment Report

Company assessed:
PLAKOR CO LTD (GROUP)

Overall score: 50 /100
April 2020

CSR performance: Moderate

Size: M
Headquarters country: South Korea
Risk country operations: Yes
Industry: Manufacture of plastics products

TABLE OF CONTENTS

1. CSR Performance Overview
2. Assessment Benefits
3. Assessment Process
4. EcoVadis Methodology
 - A. Four Themes and 21 Criteria
 - B. Seven Management Indicators
5. Understanding a Scorecard
 - A. Quantitative Information: Scores & Activated Criteria
 - B. Qualitative Information: Strengths & Improvement Areas
 - C. Scoring Scale
6. Environment
7. Labor & Human Rights
8. Ethics
9. Sustainable Procurement
10. 360° Watch Findings
11. Specific Comments
12. Contact Us
13. Appendix: Industry Risk Profile

ABOUT CORPORATE SOCIAL RESPONSIBILITY (CSR)

Corporate Social Responsibility (CSR) is the continuing commitment to act responsibly by integrating social and environmental concerns into business operations. CSR goes beyond regulatory compliance to focus on how companies manage their economic, social and environmental impacts, as well as their relationships with stakeholders (e.g. employees, trading partners, government).

ABOUT THE ASSESSMENT

The EcoVadis methodology framework assesses companies' policies and actions as well as their published reporting related to the environment, labor and human rights, ethics and sustainable procurement. Our team of international sustainability experts analyze and crosscheck companies' data (supporting documents, 360° Watch Findings, etc.) in order to create reliable ratings, taking into account each company's industry, size and geographic location.

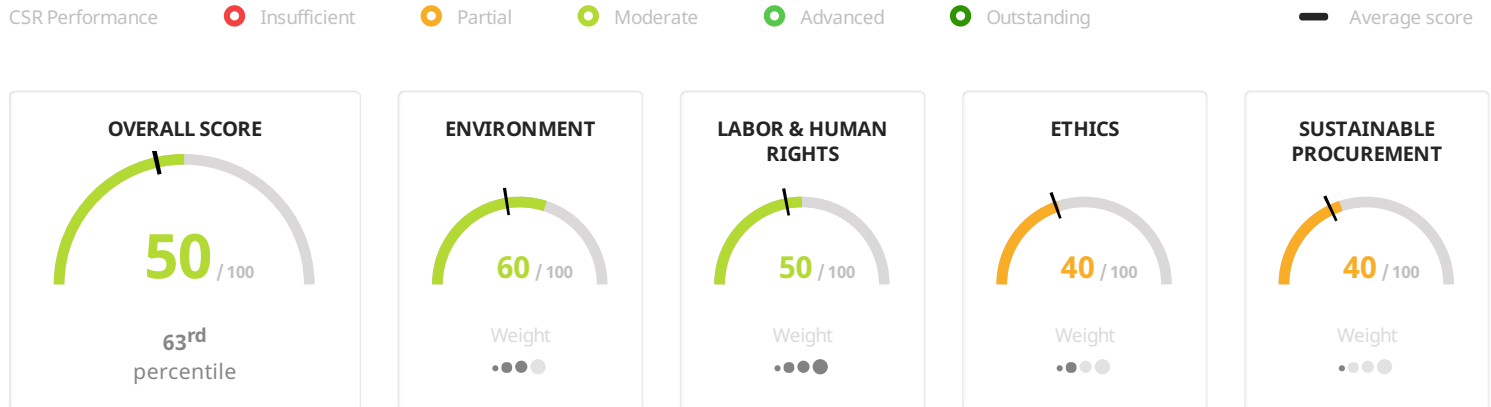
ABOUT ECOVADIS

EcoVadis provides the leading solution for monitoring sustainability in global supply chains. Using innovative technology and CSR expertise, we strive to engage companies and help them adopt sustainable practices.

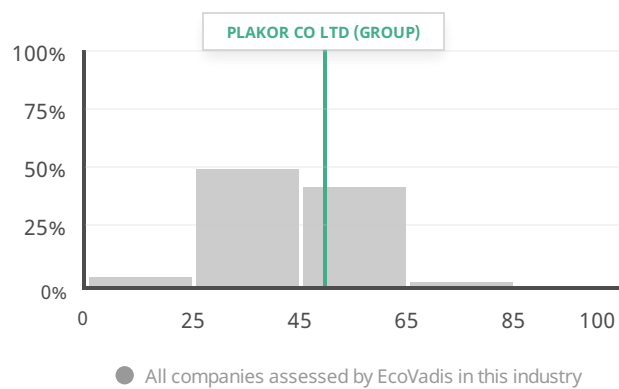
No part of this document may be reproduced, modified or distributed in any form or manner without prior written permission from EcoVadis. Provided under contract for exclusive use by subscriber:

1. CSR PERFORMANCE OVERVIEW

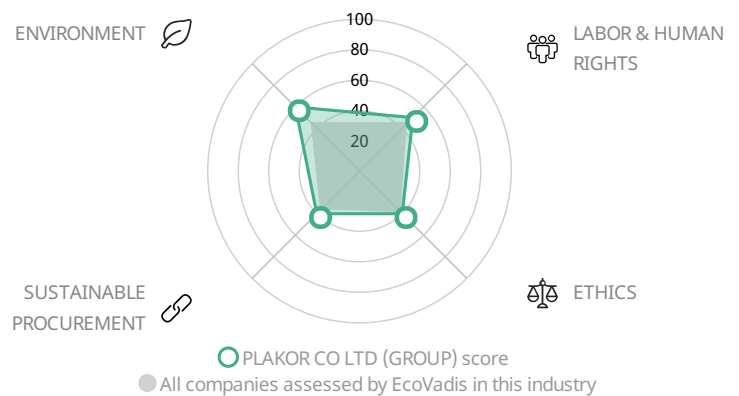
Score breakdown



Overall score distribution



Theme score comparison



PLAKOR CO LTD (GROUP) has been awarded a bronze medal in recognition of CSR achievement! To receive this medal, companies must have an overall score of 45-54.

Corrective Action Plan in progress

The Corrective Action Plan is a collaborative feature designed to support companies' CSR performance improvement. It enables companies to build an improvement plan online, communicate planned and completed corrective actions and share feedback. PLAKOR CO LTD (GROUP) has a corrective action plan in place and is working on improving their CSR management system.

2. ASSESSMENT BENEFITS

Understand :

Get a clear picture of a company's CSR performance. The scorecard is the final output of the EcoVadis assessment. It rates and benchmarks a company's CSR performance in four themes on a scale of 0-100 and highlights strengths and improvement areas.

Know where a company stands compared to their industry. Benchmark the company's CSR performance against the industry with a score distribution graph and theme score comparisons.

Identify industry trends. Discover the primary CSR risks, regulations, hot topics and best practices related to specific industries.

Communicate :

Meet customer needs. More and more companies raise questions about their trading partners' environmental and social performance. The EcoVadis assessment allows companies to demonstrate their commitment.

Leverage a unique communication tool. Companies with an EcoVadis Scorecard avoid audit fatigue by sharing one assessment with all requesting customers.

3. ASSESSMENT PROCESS

1

Customer Request

Procurement, CSR, EHS, and Sustainability leaders in enterprises looking to monitor CSR risk in the supply chain request an EcoVadis assessment for their trading partners.

2

Questionnaire

Based on a company's specific Corporate Social Responsibility (CSR) risk factors, a customized questionnaire is created. It contains 20 to 50 questions tailored to the industry, size and location.

3

Document Analysis

Companies are required to provide supporting documentation for their answers to the questionnaire. These documents are reviewed by our CSR analysts.

4

Public Information

Company information that is publically available, most often found on the company website, is also collected as evidence of their CSR performance.

5

360° Watch Findings

360° Watch Findings comprise relevant public information about companies' CSR practices, identified via more than 2,500 data sources. They can have positive, negative or no score impact.

6

Expert Analysis

Our CSR analysts combine all these elements to produce one unified scorecard per company.

SCORECARD



4. ECOVADIS METHODOLOGY

A. Four Themes and 21 Criteria

EcoVadis assessments focus on 21 issues which are grouped into 4 themes (Environment, Labor & Human Rights, Ethics, Sustainable Procurement). The 21 issues or criteria are based upon international CSR standards such as the Global Compact Principles, the International Labour Organization (ILO) conventions, the Global Reporting Initiative (GRI) standard, the ISO 26000 standard, and the CERES principles.

21 CSR criteria

1. ENVIRONMENT

OPERATIONS

Energy consumption & GHGs
Water
Biodiversity
Local & Accidental Pollution
Materials, Chemicals & Waste

PRODUCTS

Product Use
Product End-of-Life
Customer Health & Safety
Environmental Services & Advocacy

3. ETHICS

Corruption
Anticompetitive Practices
Responsible Information Management

2. LABOR & HUMAN RIGHTS

HUMAN RESOURCES

Employee Health & Safety
Working Conditions
Social Dialogue
Career Management & Training

HUMAN RIGHTS

Child Labor, Forced Labor & Human Trafficking
Diversity, Discrimination & Harassment
External Stakeholders Human Rights

4. SUSTAINABLE PROCUREMENT

Supplier Environmental Practices
Supplier Social Practices



B. Seven Management Indicators

EcoVadis assessments evaluate a company's CSR management system by looking at seven management indicators. These are used to further customize the assessment by weighting the four themes and their subsequent 21 CSR criteria.



Policies (weight: 25%)

1. Policies: Mission statements, policies, objectives, targets, governance
2. Endorsement: Endorsement of external CSR initiatives

Actions (weight: 40%)

3. Measures: Measures and actions implemented (e.g. procedures, training, equipment)
4. Certifications: Certifications and labels (e.g. ISO 14001)
5. Coverage: Coverage of measures and actions

Results (weight: 35%)

6. Reporting: Reporting on Key Performance Indicators (KPIs)
7. 360: Condemns, Controversies, Awards

5. UNDERSTANDING A SCORECARD

The overall score can be better understood by looking at quantitative information (theme scores and activated criteria) and qualitative information (strengths and improvement areas).

A. Quantitative Information: Scores & Activated Criteria

Theme Scores:

Like the overall score, theme scores are on a scale of 1 to 100.

Activated Criteria:

Each of the four themes (Environment, Labor & Human Rights, Ethics, Sustainable Procurement) have specific criteria associated with them. Because the questionnaire is customized by industry, size and location, not all 21 criteria are activated for every company and some criteria are weighted more heavily than others.

Non-activated

If certain criteria are not activated, then the specific associated issue is not relevant or has very low CSR risk for that company.

Medium

Medium importance criteria are the issues some CSR risk is present but not the most pressing.

High

High importance criteria are the issues where the company faces the greatest CSR risk.



Risk countries only

Criteria classified as Only in Risk Countries are activated only if the company has significant operations in one or more countries identified as risky.

C. The Scoring Scale

0 - 24	Insufficient	No engagements or tangible actions regarding CSR. Evidence in certain cases of misconduct (e.g. pollution, corruption).
25 - 44	Partial	No structured CSR approach. Few engagements or tangible actions on selected issues. Partial reporting on Key Performance Indicators. Partial certification or occasional labeled product.
45 - 64	Moderate	Structured and proactive CSR approach. Engagements/policies and tangible actions on major issues. Basic reporting on actions or Key Performance Indicators.
65 - 84	Advanced	Structured and proactive CSR approach. Engagements/policies and tangible actions on major issues with detailed implementation information. Significant CSR reporting on actions and Key Performance Indicators.
85 - 100	Outstanding	Structured and proactive CSR approach. Engagements/policies and tangible actions on all issues with detailed implementation information. Comprehensive CSR reporting on actions and Key Performance Indicators. Innovative practices and external recognition.

B. Qualitative Information: Strengths & Improvement Areas

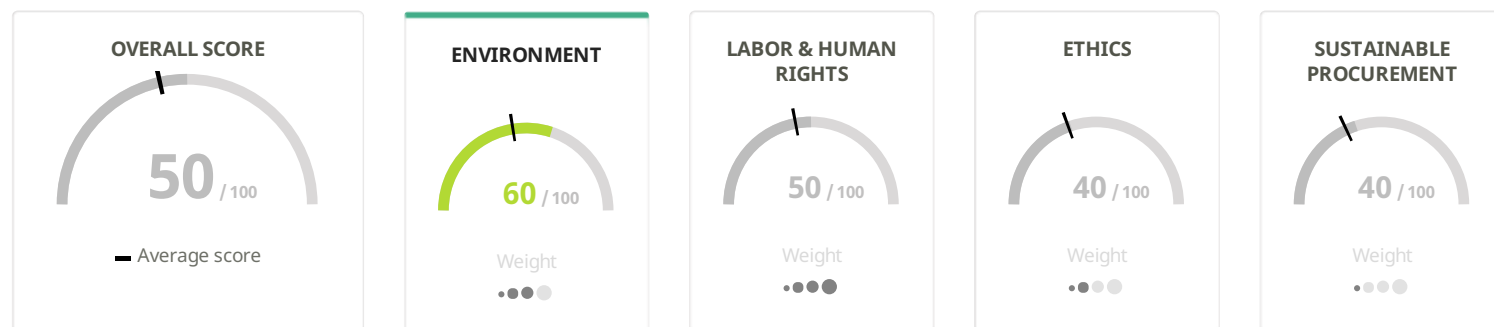
Qualitative information provides more details and insights into a company's score. For each theme, the company is assigned strengths (elements of their CSR management system that are positive) and improvement areas (elements of their CSR management system that need to be improved). The strengths and improvement areas are divided according to the three management layers (Policies, Actions, Results) and are also classified by priority.

All improvement areas are automatically added to the company's Corrective Action Plan. They are pre-organized by priority. The Corrective Action Plan is a collaborative feature designed to support companies' CSR performance improvement. It enables companies to build an improvement plan online, communicate planned and completed corrective actions and share feedback.

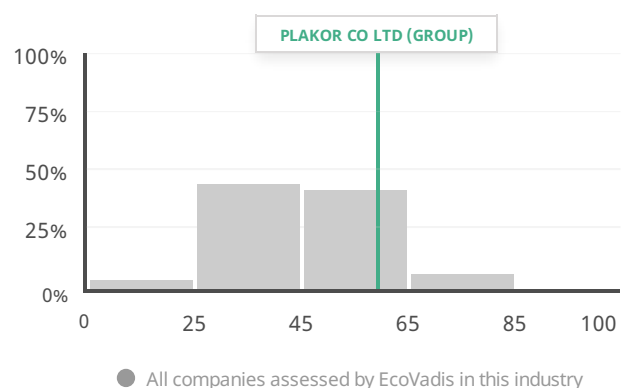
6. ENVIRONMENT

This theme takes into account both operational factors (e.g. energy consumption, waste management) and product stewardship (e.g. product end-of-life, customer health and safety issues).

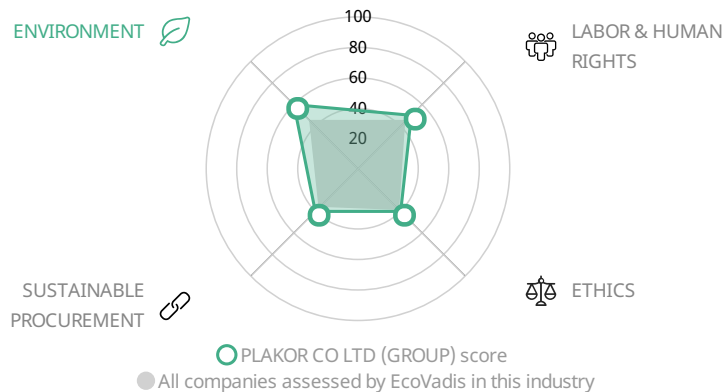
Environment Score Breakdown



Theme score distribution



Theme score comparison



Environment: Activated Criteria

Because the questionnaire is customized by industry, size and location, not all 21 criteria are activated for every company and some criteria are weighted more heavily than others.

Environment: Strengths & Improvement Areas

The Corrective Action Plan is a collaborative feature designed to support companies' CSR performance improvement. It enables companies to build an improvement plan online, communicate planned and completed corrective actions and share feedback. Improvement areas with ongoing corrective actions are marked with labels below.



Environment

Weight ●●●●

Strengths (11)

Actions

Measures to detect and/or eliminate accidental water contamination (e.g. groundwater, surface water)

Reduction of energy consumption through technology or equipment upgrades

Formalized procedure related to local & accidental pollution, noise, and/or odor

Information

The company demonstrates that it has a procedure in place related to local pollution, noise, and/or odor through supporting documentation.

Guidance

Procedural documents detail a company's control systems and/or processes, and assign responsibilities for tasks and actions. Procedures describe how policies that are implemented by the company will be put into action. They can be presented in form of checklists, instructions, flowcharts, etc. A typical procedure document should outline the issues at hand, employees or departments responsible for overseeing or implementing the procedure, and how the procedure is to be implemented (i.e. step-by-step). Examples of procedures related to local pollution, noise, or odor could be: process to inspect/analyze light, noise, or odor pollution from company activities, procedure on how to handle emergency spills, etc.

Company-specific emergency preparedness & response procedure

Information

The company has implemented a procedure regarding the appropriate readiness and emergency response required to deal with crisis situations.

Guidance

A company specific emergency preparedness & response procedure might include elements related to evacuation plans, accidental spill procedures aimed at mitigating impact to the local environment, employees or consumers.

Measures to avoid emissions of dust or particles

Information

The company has implemented specific measures to avoid emissions of dust or particles.

Guidance

Some examples of actions on this topic include (but are not limited to): emission control devices for drilling operations, covering stock piles of soil or sand with tarps to reduce fugitive dust emissions, training of employees on the proper handling of construction materials and dismantlement to reduce fugitive emissions.

ISO 14001 certified (at least one operational site)

Information

The company has provided a valid ISO 14001 certificate that covers at least one operating site

Guidance

ISO 14001 is the internationally recognised standard for the environmental management of businesses. It prescribes controls for those activities that have an effect on the environment. These include the use of natural resources, handling and treatment of waste and energy consumption. Organizations that implement ISO 14001 have a clear management structure with defined authority and responsibility, clear objectives for improvement, with measurable results and a structured approach to environmental impacts. This includes the monitoring of environmental system management failures, auditing of performance, and review of policies and objectives.

Waste management measures in place

Information

The company has implemented specific actions regarding management of waste.

Guidance

Examples of such measures include (but are not limited to): procedures to reuse or recycle waste, waste separation and waste sorting procedures, work process to optimize material consumption or to reduce waste, waste disposal arrangements etc.

Results

Reporting on direct CO2 emissions

Information

The company has reported KPIs with regard to direct CO2 emissions either through formal documentation or questionnaire declaration.

Guidance

Direct CO2 emissions from fuel consumption include emissions from facilities, plants, properties or assets that are owned or controlled by the company (also referred to as Scope 1 emissions according to the GHG international protocol). Download the How-to Guide on this topic here (in English).

Reporting on fossil fuel energy consumption

Information

The company has reported KPIs with regard to fossil fuel energy consumption either through formal documentation or questionnaire declaration.

Guidance

The company reports on fossil fuel energy consumption (oil, gas or coal, etc) from facilities, plants, property, vehicles or assets that are owned or controlled by the company. Examples of key performance indicators include total fossil fuel energy consumption, oil, gas or coal consumed per kg of product or per unit produced.

Standard reporting on environmental issues

Information

There is evidence of formal reporting implemented regarding the management and the mitigation of the company environmental footprint from its supporting documentation, including key performance indicators (KPIs), statistical figures or associated concrete actions.

Guidance

Reporting items are standard in terms of quality and quantity, do cover the main issues, are meaningful enough, and are regularly updated. Examples of key performance indicators include total electricity consumption, electricity consumed per kg of product or per unit produced. Comprehensive reporting on environmental issues will additionally have KPIs reported in a formal public document available to stakeholders, and will be in compliance with the Global Reporting Initiative guidelines or other external CSR reporting standards. Download the How-to Guide on this topic here (in English).

Reporting on electricity consumption

Information

The company has reported KPIs with regard to electricity consumption either through formal documentation or questionnaire declaration.

Guidance

The company reports on electricity consumption from facilities, plants, property or assets that are owned or controlled by the company. Examples of key performance indicators include total electricity consumption, electricity consumed per kg of product or per unit produced.

Improvement Areas (5)

Policies

Medium

No information on endorsement of external CSR initiatives or principles

Information

The company does not declare whether it is a signatory or has public adherence to any external CSR set of principles, charters, codes of conduct or international guidelines. There is no evidence within the company's supporting documentation indicating formal membership in a voluntary CSR initiative.

Guidance

Such initiatives can encompass many CSR issues (e.g. Global Compact principles), or focus on a single issue (e.g. Carbon Disclosure Project). They can be intergovernmental (e.g. OECD Guidelines for Multinational Enterprises), multi-stakeholder (e.g. AccountAbility), business-led (e.g. Responsible Care), cross-sector (e.g. Ceres principles) or sector-specific (e.g. Clean Clothes Campaign).

Medium

Basic environmental policies: only basic statements or lacks details on specific issues

Information

The company has issued value statements on environmental issues, which either lack specificity at issue level, do not cover all the major issues the company is confronted with, or lack organizational elements (e.g. review process, dedicated responsibilities, scope of application)

Guidance

A standard environmental policy integrates commitments and/or operational objectives on the main environmental risks the company faces. It is communicated to internal and external stakeholders through a formal dedicated document (e.g. QHSE Policy). A standard environmental policy contains qualitative objectives/commitments specific to those issues. The policy should also incorporate some of the following elements: scope of application, allocation of responsibilities, quantitative objectives (i.e. on energy consumption & GHG emissions), and review mechanisms. Download the How-to Guide on this topic [here](#) (in English).

Actions

Low

No information on measures regarding environmental impacts from product end-of-life

Information

No company declaration and no evidence in the supporting documentation on actions implemented to mitigate environmental impacts from product end-of-life.

Guidance

Some examples of actions on this topic include company take back programs, formal life cycle analysis on key products and designing packaging for easy dismantling or recyclability.

Low

No information on measures regarding customer health & safety

Information

No company declaration and no evidence within the supporting documentation of actions implemented regarding customer health & safety.

Guidance

Some examples of actions on this topic include: provision of information for consumer protection, and application of recognized standards to eliminate harmful effects or hazardous defects from products or services.

Low

Declares a percentage of sites ISO 14001 certified, but certificates or evidence provided are inconclusive [declares more than 81% of operational sites certified but not all certificates provided]

Information

The company declares a percentage of ISO 14001 certified sites, however certificates or evidence (e.g. list of operational sites certified) provided are inconclusive.

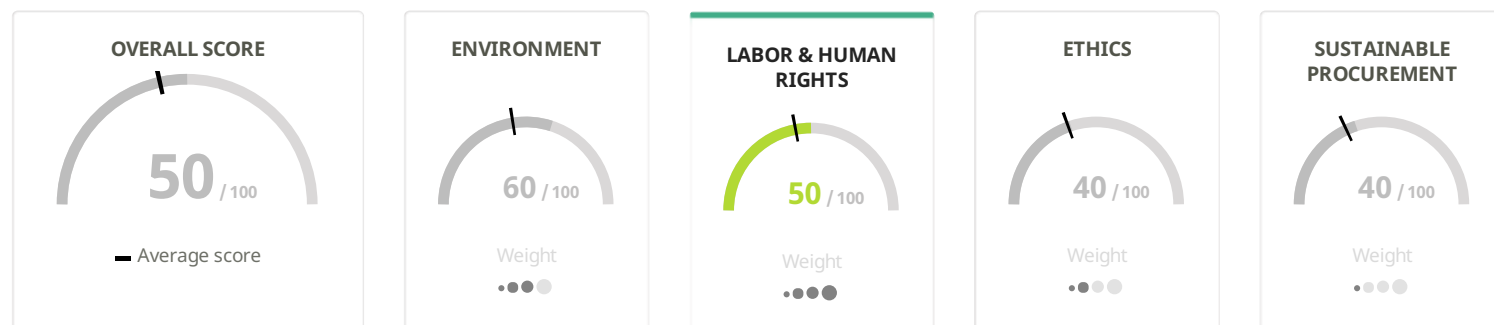
Guidance

The ISO 14001 standard belongs to the ISO 14000 series, a family of environmental management standards developed by the International Organization for Standardization (ISO) designed to provide an internationally recognized framework for environmental management, measurement, evaluation and auditing. The standard serves as a framework to assist organizations in developing their own environmental management system and is based on the continuous Plan-Do-Check-Act cycle. The information provided in the supporting documentation (e.g. company website, CSR reporting) does not enable the identification of the percentage of ISO 14001 certified sites. Some examples of evidence used to demonstrate the coverage of ISO 14001 certifications include (but are not limited to): - Individual certificates for each certified site; - A certificate annex clearly stating each individual site covered by the certificate - A sample certificate for one site, along with formalized reporting in a third-party verified report (i.e. CSR Report, Annual Report), which includes the percentage of sites covered by the ISO 14001 certification, etc.

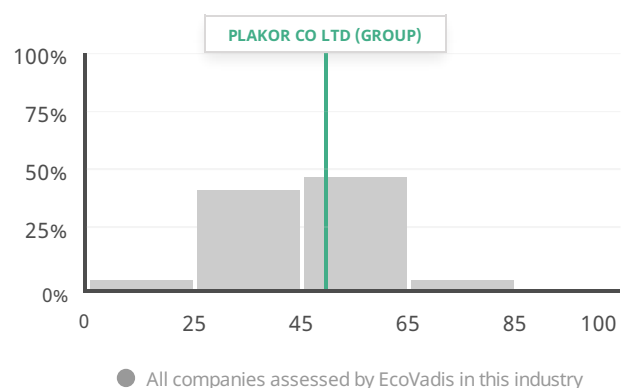
7. LABOR & HUMAN RIGHTS

This theme takes into account both internal human resources (e.g. health and safety, working conditions, career management) and human rights issues (e.g. discrimination and/or harassment, child labor).

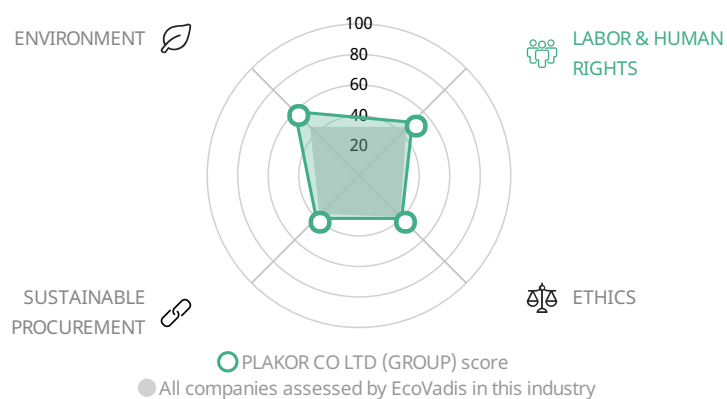
Labor & Human Rights Score Breakdown



Theme score distribution



Theme score comparison



Labor & Human Rights: Activated Criteria

Because the questionnaire is customized by industry, size and location, not all 21 criteria are activated for every company and some criteria are weighted more heavily than others.

Labor & Human Rights: Strengths & Improvement Areas

The Corrective Action Plan is a collaborative feature designed to support companies' CSR performance improvement. It enables companies to build an improvement plan online, communicate planned and completed corrective actions and share feedback. Improvement areas with ongoing corrective actions are marked with labels below.



Labor & Human Rights

Weight ●●●●

Strengths (12)

Actions

Formalized procedure related to career management & training

Information

The company demonstrates that it has a procedure in place related to career management & training through supporting documentation.

Guidance

Procedural documents detail a company's control systems and/or processes, and assign responsibilities for tasks and actions. Procedures describe how policies that are implemented by the company will be put into action. They can be presented in form of checklists, instructions, flowcharts, etc. A typical procedure document should outline the issues at hand, employees or departments responsible for overseeing or implementing the procedure, and how the procedure is to be implemented (i.e. step-by-step). Examples of procedures related to career management & training could be: procedure regarding recruitment steps, procedure on how to conduct employee performance appraisals, etc.

Formalized procedure related to employee health & safety

Information

The company demonstrates that it has a procedure in place related to employee health & safety through supporting documentation.

Guidance

Procedural documents detail a company's control systems and/or processes, and assign responsibilities for tasks and actions. Procedures describe how policies that are implemented by the company will be put into action. They can be presented in form of checklists, instructions, flowcharts, etc. A typical procedure document should outline the issues at hand, employees or departments responsible for overseeing or implementing the procedure, and how the procedure is to be implemented (i.e. step-by-step). Examples of procedures related to employee health & safety could be: procedure for monitoring and reporting of accidents on-site, procedure on evacuation in case of emergency, procedure on limiting employee exposure to hazardous chemicals, etc.

Employee satisfaction survey

Information

The company conducts a survey to employees regarding satisfaction in the work environment.

Guidance

An employee satisfaction survey can be conducted by companies to gain information on how and if employees are satisfied in the work environment. The results of these surveys can be used by companies to get feedback on employees about their engagement, morale, and satisfaction at work.

Childcare services or allowance

Information

The company has official measures to promote work-life balance in place, which have been found within the supporting documentation. The company provides services and/or an allowance for child care.

Guidance

The company has implemented working practices that acknowledge and aim to support the needs of staff in achieving a balance between their home and working lives. The company provides an allowance to help employees cover the costs of child care, or the company provides services that can help employees who need child care during work hours for their children.

Employee health & safety detailed risk assessment**Information**

The company carries out employee health & safety detailed risk assessments

Guidance

The company has carried out detailed risk assessment of health and safety. Occupational health and safety risk assessments are a crucial step in the prevention process. They involve the identification of all the potential hazards an employee may face while carrying out regular duties and which type of employees may be more exposed to hazards (by job function). The level of risk, records of significant findings and proposition of preventive actions are also highlighted, in addition to plans for regular review of the risk assessment. If applicable, the results of a health and safety risk assessment should be made available to relevant stakeholders such as employees, members of the health and safety committee, staff representatives, the occupational physicians, and labor inspectors.

Mandatory health check-up for employees**Information**

The company provides general mandatory health check-up for employees

Guidance

The company carries out mandatory health check-up for its employees. Within the scope of health check ups, the mental and physical states of employees are investigated to ascertain the status of the employee's health related to the job function, and in particular to identify any negative work-related effects on employees. According to the International Labor Organization (ILO), it is recommended that a health check up for employees is carried out within thirty days from the first day the employee is employed and the subsequent health check up conducted at least once a year by a licensed medical practitioner, especially for manufacturing companies presenting high health and safety risks for employees.

Provision of skills development training**Information**

The company provides training to its employees to develop their skills

Guidance

The company has implemented vocational training and instruction, which include skills development training, education paid for in whole or in part by the company, with the goal to provide opportunities for career advancement (Source: Global Reporting Initiative G3). Examples of on-the-job training to enhance employee skills are coaching, mentoring, job rotation, apprenticeships, etc. Total number of hours of training per employee per year can be a significant key performance indicator for this action.

ISO 45001/OHSAS 18001 certified (at least one operational site)**Information**

The company has provided a valid OHSAS 18001 certificate that covers at least one but not all of its operations.

Guidance

OHSAS 18001 is an international standard for occupational health and safety management systems. It addresses employee health and safety issues and involves an external audit on the facilities' health & safety conditions. Organizations that implement OHSAS 18001 have a clear management structure with defined authority and responsibility, clear objectives for improvement, with measurable results and a structured approach to risk assessment. This includes the monitoring of health and safety management failures, auditing of performance and review of policies and objectives.

Training of relevant employees on health & safety risks and best working practices**Information**

The company provides training to relevant employees on health and safety risks and best working practices

Guidance

The company has implemented training on health and safety issues. Safety training aims at implementing health and safety procedures into specific job practices and at raising staff awareness and skills to an acceptable standard. For example, safety training covers topics such as accident prevention and safety promotion, safety compliance, use of personal protective equipment, chemical and hazardous materials safety, and workplace emergency response procedures. A best practice is to have a training matrix which helps to keep track of which employees have been trained, the date of the training, the training topic, and expected dates for refresher trainings. Monitoring of training attendance certificates is also suggested. It is also a best practice to have the training carried out in the language that the employees understand best and to carry out tests or quizzes to ensure training concepts have been successfully transmitted to participants.

Results**Reporting on the percentage of women in top executive positions****Information**

The company reports, either through formal documentation or questionnaire declaration, on the percentage of women in executive positions (e.g. senior or top management).

Guidance

Executive positions include positions such as chief financial officers, chief operating officers, or any other key roles in a company. The aim is to look into whether a company is promoting an increase in gender diversity in its executive rank or not. It is important to note that in 2015, only 14.2% of the top five leadership positions in companies in the S&P500 are held by women according to CNNMoney analysis.

Reports no lost-time accidents**Information**

The company reports, either through formal documentation or questionnaire declaration, no lost time due to an accident or injury in the last reporting year.

Guidance

Download the How-to Guide on this topic here (in English).

Reporting on average hours of safety training**Information**

The company reports, either through formal documentation or questionnaire declaration, on the average number of hours of safety training delivered per year and per employee.

Guidance

Safety training aims at implementing health and safety procedures into specific job practices and at raising staff awareness and skills to an acceptable standard. Such training covers topics like proper use of personal protective equipment, handling of materials or chemicals, identifying and assessing hazards, ergonomics, work-related stress, noise exposure, driver training, etc. Safety training can be done on an annual or periodic basis via online or in-person training sessions. Refresher trainings can also be carried out for employees.

Improvement Areas (8)

Policies

High

Inconclusive documentation on labor & human rights policies

Information

There is no formal policy on labor and human rights issues in the supporting documentation provided by the company, or company has provided supporting evidence that was not approved due to quality/acceptance requirements. e.g. company name, recent date (8 years).

Guidance

A standard labor & human rights policy includes commitments and/or operational objectives on the main labor & human rights risks the company faces. Issues covered by this policy can include employee health & safety, working conditions, labor relations, career management & training, child & forced labor, anti-discrimination and other fundamental rights issues. It is communicated to internal and external stakeholders through a formal dedicated document (e.g. a QHSE policy). A standard labor practice & human rights policy also contains qualitative objectives/commitments specific to those issues. The policy should also incorporate some of the following elements: scope of application, allocation of responsibilities, quantitative objectives, and review mechanisms. Download the How-to Guide on this topic here (in English).

Medium

No information on endorsement of external CSR initiatives or principles

Information

The company does not declare whether it is a signatory or has public adherence to any external CSR set of principles, charters, codes of conduct or international guidelines. There is no evidence within the company's supporting documentation indicating formal membership in a voluntary CSR initiative.

Guidance

Such initiatives can encompass many CSR issues (e.g. Global Compact principles), or focus on a single issue (e.g. Carbon Disclosure Project). They can be intergovernmental (e.g. OECD Guidelines for Multinational Enterprises), multi-stakeholder (e.g. AccountAbility), business-led (e.g. Responsible Care), cross-sector (e.g. Ceres principles) or sector-specific (e.g. Clean Clothes Campaign).

Actions

Medium

Declares measures to prevent child labor, forced labor and human trafficking, but no supporting documentation available

Information

The company declares it has implemented actions on child and/or forced labor issues. However, no information was found on this topic in the supporting documentation.

Guidance

Some examples of actions on this topic include whistle-blowing procedures to report incidents of child and/or forced labor, company specific awareness & training programs, formal engagement or collaboration with global initiatives, NGOs or local trade unions to prevent child labor, etc.

Low

Declares measures on structured social dialogue (e.g. collective agreement), but no supporting documentation available

Information

The company declares it has implemented actions on structured social dialogue, however no information was found on this topic in the supporting documentation.

Guidance

Some examples of actions on this topic include collective bargaining agreements on specific labor practices issues, implementation of a European Works Council and election of employee representatives.

Low

Declares a percentage of sites ISO 45001/OHSAS 18001 certified, but certificates or evidence provided are inconclusive [declares more than 81% of operational sites certified but not all certificates provided]

Information

The company declares that a certain percentage of sites are OHSAS 18001 certified, however this claim could not be verified within the supporting documentation (e.g. missing annex list of operational sites certified).

Guidance

The information found provided in the supporting documentation (e.g. company website, CSR reporting) does not allow to identify the percentage of OHSAS 18001 certified sites. The OHSAS 18001 certification addresses employee health and safety issues and involves an external audit on the facilities' health & safety conditions. Some examples of evidence used to demonstrate the coverage of such certificates include (but are not limited to): - Individual certificates for each certified site; - A certificate annex clearly stating each individual site covered by the certificate - A sample certificate for one site, along with formalized reporting in a third-party verified report (i.e. CSR Report, Annual Report), which includes the percentage of sites covered by the specific health & safety certification, etc.

Low

Does not declare that employees receive 24 hours rest within a time frame of 7 consecutive days throughout the entire scope of operations

Information

The company does not declare in the questionnaire that employees receive 24 hours rest within 7 consecutive days of work on all operational sites.

Guidance

According to the Code of Practice on Compensatory Rest and Related Matters (1998), the International Labor Organization (ILO) sets out statutory rights for employees in respect of rest, maximum working time and holidays. In summary, the key provisions of the Act on minimum rest and maximum working time are as follows: maximum average net weekly working time of 48 hours; a daily rest break of 11 consecutive hours; rest breaks while at work; a weekly rest break of 24 consecutive hours; maximum average night working of 8 hours; maximum hours of work for night workers engaged in work involving special hazards or a heavy physical or mental strain — an absolute limit of 8 hours in a 24 hour period.

Low

Declares measures on diversity, discrimination, and harassment, but no supporting documentation available

Information

The company declares having measures on discrimination and/or harassment issues in place but there is no evidence within the supporting documentation provided by the company.

Guidance

Discrimination refers to the different treatment given to people in hiring, remuneration, training, promotion, and termination which is based on race, national origin, religion, disability, gender, sexual orientation, union membership, political affiliation or age (source: ISO 26000). Harassment (as per the US Equal Employment Opportunity Commission) refers to the unwelcome conduct based on the same criteria mentioned above. Offensive conduct may include, but is not limited to, offensive jokes, slurs, physical assaults or threats, intimidation, insults, and interference with work performance. Examples of measures might include the presence of complaint and reporting mechanisms, actions implemented for the integration of disabled people in the company, actions to promote gender and racial equality in the workplace, and awareness training on these issues. Download the How-to Guide on this topic [here](#).

Results

High

No reporting on labor and human rights issues apart from KPIs in the questionnaire

Information

The company declared no formal reporting on labor practices or human rights issues (e.g. employee health & safety, career management & training, discrimination issues) and there is no information within the company's supporting documentation on key performance indicators (KPIs), statistical figures or associated concrete actions. The only information available on these topics is contained within the questionnaire declarations.

Guidance

In order to measure and monitor the effectiveness of its CSR management system internally, and in order to report performance to stakeholders, a company should report on CSR-related Key Performance Indicators (KPIs). In the EcoVadis assessment, the Reporting indicator looks at the quality, transparency and level of reporting readily available to stakeholders. The KPIs provided should be recent (i.e. within the last 2 reporting periods) and should be for the scope under evaluation. KPIs can be sector-specific and include for instance: health & safety injury rates, % of employees covered by collective bargaining agreements, % of employees trained on discrimination and KPIs on career development trainings (Source: Global Reporting Initiative G3). These and other relevant KPIs can be integrated within the company's CSR report, Annual Report, Code of Ethics or any other applicable reporting document. Download the How-to Guide on this topic [here](#) (in English).

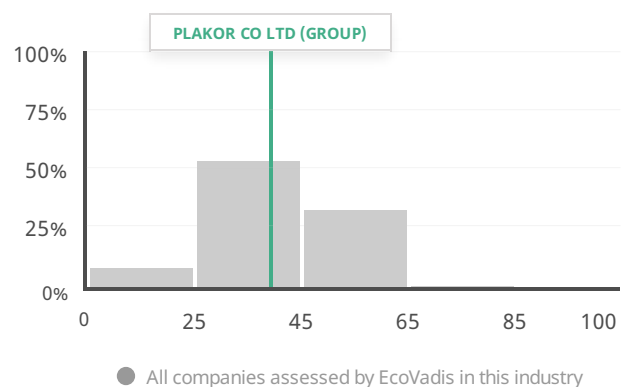
8. ETHICS

This theme focuses primarily on corruption and bribery issues, and also takes into account anticompetitive practices and responsible information management.

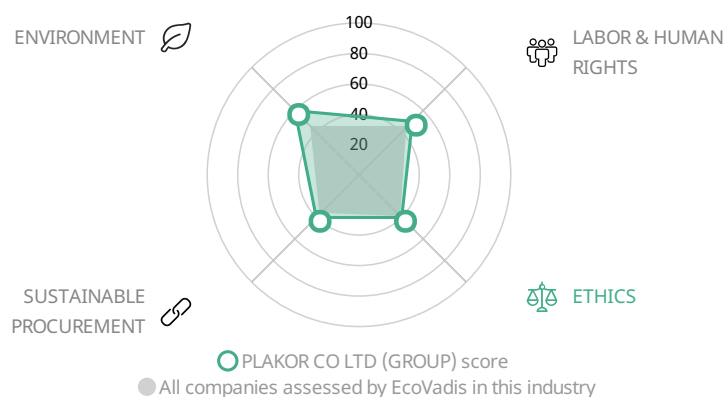
Ethics Score Breakdown



Theme score distribution



Theme score comparison



Ethics: Activated Criteria

Because the questionnaire is customized by industry, size and location, not all 21 criteria are activated for every company and some criteria are weighted more heavily than others.

Ethics: Strengths & Improvement Areas

The Corrective Action Plan is a collaborative feature designed to support companies' CSR performance improvement. It enables companies to build an improvement plan online, communicate planned and completed corrective actions and share feedback. Improvement areas with ongoing corrective actions are marked with labels below.



Ethics

Weight ● ● ● ●

Strengths (2)

Actions

Corruption certification schemes [i.e. IATF 16949]

Measures to protect third party data from unauthorized access or disclosure

Information

The company has implemented measures to protect customer or client data from unauthorized access or disclosure.

Guidance

The company has taken measures to limit access to customer or client data within its own operation, or have implemented measures to secure its information system including such data so as to protect the data from unauthorized access or disclosure.

Improvement Areas (9)

Policies

High

Inconclusive documentation on ethics policies

Information

There is no formal policy regarding ethics within the supporting documentation provided by the company, or company has provided supporting evidence that was not approved due to quality/acceptance requirements. e.g. company name, recent date (8 years).

Guidance

A standard policy on fair business practices covers corruption & bribery issues and optionally information security and responsible marketing issues, depending on the relevancy for the industry or sector. Such a policy is formalized as qualitative objectives/commitments in a formal policy document e.g. Code of Ethics/Code of Conduct and includes organizational elements (e.g. review process, dedicated responsibilities, scope of application). Download the How-to Guide on this topic here (in English).

Medium

No information on endorsement of external CSR initiatives or principles

Information

The company does not declare whether it is a signatory or has public adherence to any external CSR set of principles, charters, codes of conduct or international guidelines. There is no evidence within the company's supporting documentation indicating formal membership in a voluntary CSR initiative.

Guidance

Such initiatives can encompass many CSR issues (e.g. Global Compact principles), or focus on a single issue (e.g. Carbon Disclosure Project). They can be intergovernmental (e.g. OECD Guidelines for Multinational Enterprises), multi-stakeholder (e.g. AccountAbility), business-led (e.g. Responsible Care), cross-sector (e.g. Ceres principles) or sector-specific (e.g. Clean Clothes Campaign).

Actions

High

No supporting documentation regarding awareness trainings on ethics issues

Information

No company declaration and no evidence within the supporting documentation regarding the implementation of awareness trainings on business ethics issues.

Guidance

Specific awareness or training programs are implemented to enable employees to identify and address the common business ethics issues that arise in a workplace. Such program may be conducted either online or in person, and should include regular audits to ensure the training effectiveness.

High

No supporting documentation regarding an effective whistleblower procedure to report ethics issues

Information

No company declaration and no evidence within the supporting documentation regarding presence of an effective whistleblower procedure to report business ethics issues within the company's operations.

Guidance

A whistleblower procedure is a grievance mechanism for stakeholders to report any wrongdoings, concerns or breaches of the company business ethics policies. An effective whistleblower procedure must provide stakeholders with an identified communication channel to report their concerns, as well as protect the whistleblowers' confidentiality and rights to non-retaliation. The procedure may also be handled by a third party.

High

No supporting documentation regarding third party due diligence on ethics issues

Low

No supporting documentation regarding audits of control procedures to prevent corruption

Information

No company declaration and no supporting documentation evidence provided on audits of internal controls relating to anti-corruption issues within the company's own operations.

Guidance

Internal controls (for example four-eyes principle, job rotations, among others) are necessary to regularly monitor the effectiveness and proper implementation of actions put in place to support anti-corruption & bribery policies. Periodic audits of those controls, done either through an external third party that performs business ethics audits or an internal audit team, should be carried out to ensure their effectiveness and provide reasonable assurance that internal processes are being adhered to.

Low

No supporting documentation regarding approval procedure for sensitive transactions (e.g. gifts, entertainment)

Low

No supporting documentation regarding corruption risk analysis performed

Results

High

No reporting on ethics issues

Information

The company declares no reporting on fair business practices. There is no information in the company's supporting documentation on key performance indicators (KPIs) or statistical figures.

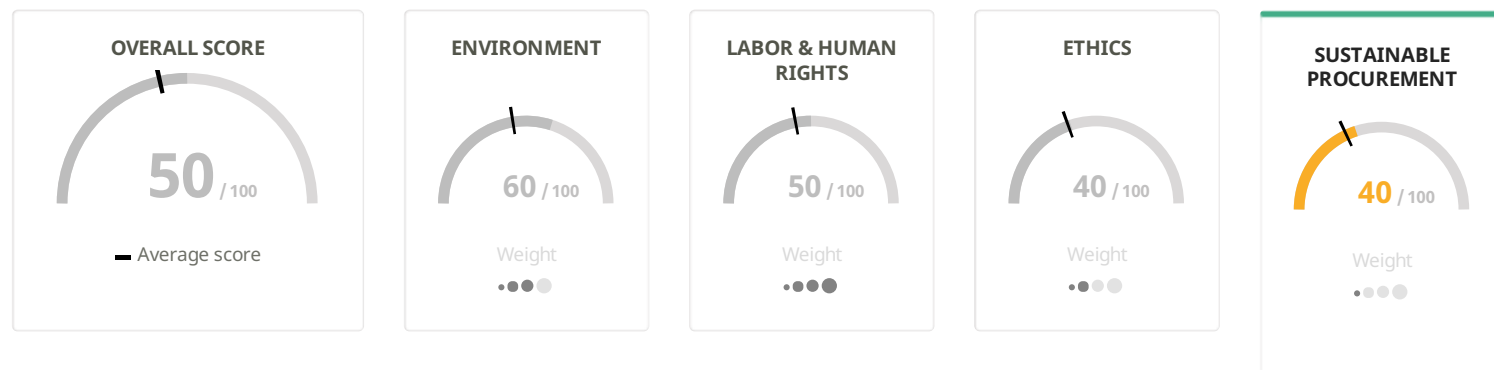
Guidance

In order to measure and monitor the effectiveness of its CSR management system internally, and in order to report performance to stakeholders, a company should report on CSR-related Key Performance Indicators (KPIs). In the EcoVadis assessment, the Reporting indicator looks at the quality, transparency and level of reporting readily available to stakeholders. The KPIs provided should be recent (i.e. within the last 2 reporting periods) and should be for the scope under evaluation. KPIs can be sector-specific and include for instance: the % of employees trained on business ethics issues, the number of breaches of the Code of Ethics, number of incidents reported through the whistleblower procedure, etc. These and other relevant KPIs can be integrated within the company's CSR report, Annual Report, Code of Ethics or any other applicable reporting document. Download the How-to Guide on this topic [here](#) (in English).

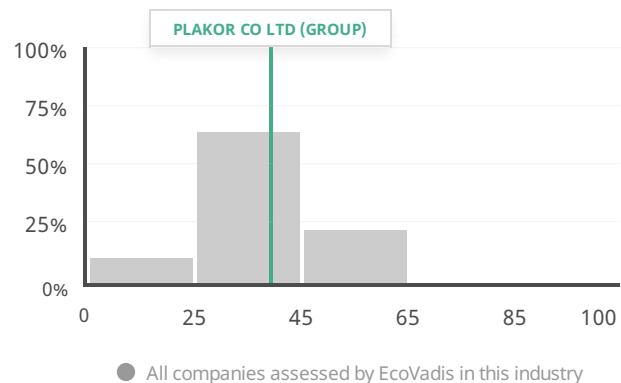
9. SUSTAINABLE PROCUREMENT

This theme focuses on both social and environmental issues within the company supply chain.

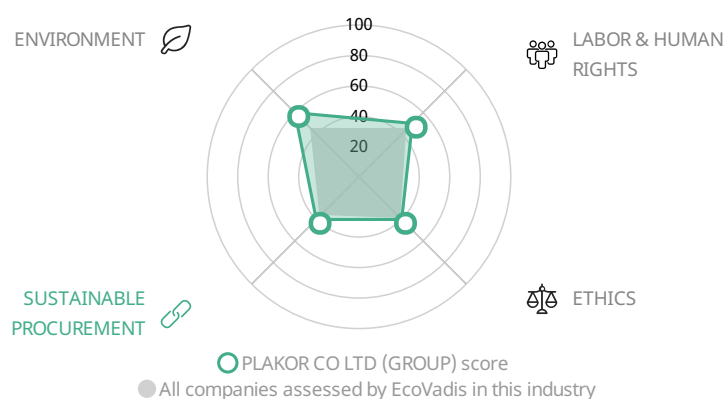
Sustainable Procurement Score Breakdown



Theme score distribution



Theme score comparison



Sustainable Procurement: Activated Criteria

Because the questionnaire is customized by industry, size and location, not all 21 criteria are activated for every company and some criteria are weighted more heavily than others.

Sustainable Procurement: Strengths & Improvement Areas

The Corrective Action Plan is a collaborative feature designed to support companies' CSR performance improvement. It enables companies to build an improvement plan online, communicate planned and completed corrective actions and share feedback. Improvement areas with ongoing corrective actions are marked with labels below.



Sustainable Procurement

Weight ●●●●

Strengths (2)

Actions

On-site audits of suppliers on environmental or social issues

Information

The company's supporting documentation demonstrates evidence of on-site supplier audits on environmental and/ or social issues through audit reports or third party audit certificates.

Guidance

Evidence of internal/external on site audits is recent enough (i.e. less than 12 months). Audits can be announced or unannounced and are systematically conducted at least for suppliers most exposed to CSR risks. External audits are carried out by credible third party auditors and recognized environmental and/or social auditing standards are utilized (e.g. SMETA, EICC). Audits are directly conducted via field visits, i.e. on the suppliers' operational sites and/or business premises.

Results

Declares using no tin, tantalum, tungsten, gold, and/or their derivatives [Not verified]

Information

The company declares no use of tin, tantalum, tungsten, gold and/or their derivatives.

Guidance

Tin, tantalum, tungsten and gold (3TG) (often called 'Conflict Minerals'), are natural resources whose systematic exploitation and trade can result in serious violations or abuses of international human rights. The topic of sourcing from conflict zones such as the Democratic Republic of Congo (DRC) has faced increasing attention in recent years from international government, industry and non-governmental groups with the aim of bringing about awareness and international legal frameworks on Conflict Minerals. In July 2010, in response to these concerns, the United States Congress enacted legislation that requires certain public companies to publicly disclose their use of conflict minerals emanating from the DRC and nine adjoining countries. Section 1502 of the Dodd Frank Act requires companies to disclose if any of the 3TG minerals are "necessary to the functionality or production of a product" manufactured by those companies. Although the law is restricted to companies listed on a U.S. Stock Exchange, transparency on due diligence mechanisms has become necessary for a range of companies in the value chain in order to trace back the origin of the minerals (e.g. 1st tier, 2nd tier suppliers) and respond to their client's inquiries. Various industry groups such as the Conflict-Free Sourcing Initiative (GeSI and EICC) have developed reporting templates and programs intended to support companies in their public declarations on Conflict Minerals.

Improvement Areas (5)

Policies

High

Inconclusive documentation on sustainable procurement policies

Information

There is no formal policy on sustainable procurement issues in the supporting documentation provided by the company, or company has provided supporting evidence that was not approved due to quality/acceptance requirements. e.g. company name, recent date (8 years).

Guidance

A standard sustainable procurement policy integrates commitments and/or operational objectives on all material sourcing risks the company faces. It is communicated to internal and external stakeholders through a formal dedicated document (e.g. Sustainable Purchasing Policy). Download the How-to Guide on this topic here (in English).

Actions

High

Declares social or environmental clauses included in supplier contracts, but no supporting documentation available

Information

The company declares having social or environmental clauses included in supplier contracts but there is no evidence within the supporting documentation provided by the company.

Guidance

Contracts including clauses on CSR are used to ensure that suppliers have the ability, capacity and commitment to meet the sustainability requirements of the company. The clauses can include: specific targets or Key Performance Indicators (KPIs) to be achieved and/or minimum performance standards on varying CSR issues. If a supplier violates the conditions of the contract clauses, sanctions or penalties (up to and including contract termination) can be imposed by the company (undergoing the EcoVadis evaluation).

Medium

Declares assessment of suppliers (e.g. questionnaire) on environmental or social practices, but no supporting documentation available

Information

The company declares it has implemented CSR assessments of suppliers through questionnaires in order to verify the compliance with its own requirements, but no information was found on this topic within the supporting documentation.

Guidance

CSR assessment questionnaires can be in-house driven or supported by a third-party organization, and include questions on environmental (including regulatory issues), social and ethical issues.

Medium

Declares training of buyers on social and environmental issues within the supply chain, but no supporting documentation available

Information

The company declares providing training to buyers on CSR issues, but there is no evidence within the supporting documentation provided by the company.

Guidance

The buyer-supplier relationship plays an important role in improving sustainability in the supply chain. Procurement professionals should be able to identify CSR risks in supply chain as well as develop sustainable procurement strategies to mitigate these risks. They should also be able to provide guidance on environmental, social and ethical issues to suppliers when necessary. An important component in achieving these objectives is through training of buyers on CSR issues.

Results

High

No reporting on sustainable procurement issues

10. 360° WATCH FINDINGS

6 February 2020

No records found for this company on
Compliance Database

null

→ No score impact

360° Watch Findings comprise relevant public information about companies' CSR practices that have been identified via more than 2,500 data sources (including NGOs, press and trade unions). 360° Watch Findings are incorporated into the EcoVadis assessment and can have positive, negative or no score impact.

EcoVadis is connected to the following international sources:

- CSR networks and initiatives (e.g. AccountAbility, Business for Social Responsibility, CSR Europe)
- Trade unions and employers' organizations
- International organization (e.g. United Nations, European Court of Human Rights, Global Compact, International Labor Organization, World Bank)
- NGOs (e.g. China Labor Watch, Greenpeace, WWF, Movimento Difesa del Cittadino)
- Research institutes and specialized press (e.g. CSR Asia, Blacksmith Institute, Corpwatch)

11. SPECIFIC COMMENTS

Additional comments from our CSR analysts pertaining to the assessment.

Specific comments



The company is not included in any compliance-related watch lists or sanction lists.



Despite the company implementing measures regarding labor & human rights issues, policies are not formalized or are only basic.



There is a lack of reporting on KPIs regarding labor & human rights issues.



Some supporting documents were considered too outdated to be included in this assessment.

12. CONTACT US

Any questions or need help? Visit our Help Center at support.ecovadis.com

APPENDIX:

INDUSTRY RISK PROFILE

Discover the primary CSR risks, regulations, hot topics and best practices related to specific industries.

EcoVadis determines industry based on the International Standard Industrial Classification of All Economic Activities (ISIC), which is a compilation of all global economic activities published by the United Nations Statistical Commission. Its main purpose is to provide a set of activity categories that can be utilized for the collection and reporting of statistics according to such activities.

It is possible that a company has operations in more than one industry. In these cases, EcoVadis classifies companies based on their main area of operation, as determined by CSR risk and/or total revenue.

CRITERIA ACTIVATION BY THEME:

Discover the primary CSR risks, regulations, hot topics and best practices related to specific industries.

Environment

High	Energy consumption & GHGs
High	Water
Non-activated	Biodiversity
Medium	Local & Accidental Pollution
High	Materials, Chemicals & Waste
Non-activated	Product Use
Medium	Product End-of-Life
Medium	Customer Health & Safety
Non-activated	Environmental Services & Advocacy

Labor & Human Rights

High	Employee Health & Safety
Medium	Working Conditions
Medium	Social Dialogue
Medium	Career Management & Training
High	Child Labor, Forced Labor & Human Trafficking
Medium	Diversity, Discrimination & Harassment
Non-activated	External Stakeholder Human Rights

Ethics

Medium	Corruption
--------	------------

Medium

Anticompetitive Practices

Medium

Responsible Information Management

Sustainable Procurement



Medium

Supplier Environmental Practices

Medium

Supplier Social Practices

KEY CSR ISSUES

Find qualitative explanations of the key CSR issues and risk associated with Manufacture of plastics products



Environment

Importance

CSR issue

High

Energy consumption & GHGs

Definition

Energy consumption (e.g. electricity, fuel, renewable energies) used during operations and transport. Greenhouse gases direct and indirect emissions including CO₂, CH₄, N₂O, HFC, PFC and SF₆. Also includes production of renewable energy by the company.

Industry issues

In the United States, the chemical industry accounts for 6 percent of the country's total energy usage (1). As key ingredients of the chemical industry tend to be derivatives of hydrocarbons (oil and natural gas), the potential for large quantities of greenhouse gas (GHG) emissions is high. GHG emissions are elevated in the industry due to the use of fossil fuels, flue gas release, and gas flaring practices (2,3). Energy use in the industry is also high, because of the high fossil fuel input requirements to power production - a consequence of the large amounts of energy required in chemical processing (2,3). The production of steam is an important practice in the chemical industry and roughly 52% of energy use is devoted to this purpose; in fact, steam production accounts for 10% of the total industrial manufacturing energy consumed annually in the United States (4). There are many ways to increase energy efficiency the sector. An effective starting point is to monitor energy usage, by energy type, and to calculate GHG emissions on an ongoing basis. This enables targets to be set and guides subsequent action. Actual measures can include moving towards an advanced control and optimization (closed loop production) process, reducing gas flaring, and installing more efficient equipment and technology when possible (2). Finally, companies in this sector should consider publicly reporting their energy use and greenhouse gas emission KPIs. This level of transparency in regards to environment data is becoming the norm across manufacturing industries. Annual reporting builds trust with stakeholders and gives the company a sense of accomplishment and direction on climate change and energy efficiency.

High

Water

Definition

Water consumption during operations. Pollutants rejected into water.

Industry issues

The amount of water used in the production of chemicals varies greatly across the industry, depending on the products being manufactured. Overall it is a very water intensive sector. The most common use for water throughout the industry is for the cooling of substances following chemical reactions (4). In the United States, the chemical industry that requires the largest amount of water is the production of industrial organic compounds - requiring 4,150 Mgal/day. Plastics and synthetics manufacturing requires roughly 1,170 Mgal/day (4,5). The processing of raw materials for chemical manufacturing can also lead to emissions of hazardous chemicals into wastewater. Liquid effluents resulting from cleaning, cooling, or other activities can have serious consequences for the surrounding water system and lead to negative repercussions for the responsible company. To reduce water consumption, innovative water purification technologies can be implemented to facilitate reuse, or to ensure the cleanliness of wastewater emissions. Specific technologies include ion exchange technologies, reverse osmosis and nanofiltration technologies, and separation membranes - which are cross-linked polymer networks that are capable of selecting salt ions, organics or other contaminants to be rejected (6). On-site wastewater treatment plants are an advanced and very effective way to ensure complete control over emissions and enable the recycling of water.

Medium

Local & Accidental Pollution

Definition

Impact from operations on local environment around company facilities: emissions of dust, noise and odor. It also includes accidental pollution (e.g. spills) and road congestion around the operation facilities.

Industry issues

In the United States, the production of industrial chemicals emits 517 kg of suspended particulates (TP) per US\$ 1 million of production output and 369 kg of toxic chemicals are released to the air per US\$ 1 million of production output (6). The release of odors during the production of chemical compounds is also a critical issue for the industry. Inorganic compounds like ammonia, for example, emit offensive fumes to the local environment, causing annoyance and even health problems in surrounding communities (8). Noise creation also requires attention, particularly during processes like the granulation and blending (10). In addition to the more common emissions mentioned above, the chemical industry must also deal with the risk of serious incidents of accidental pollution to air, water, or land (5). The danger of minor to severe spills, like the Seveso, Italy chemical accident in 1976 that gave rise to the European Seveso Directive regarding safe storage of chemicals and improved safety management, is an ever present threat in the industry (7). The threat of spills is heightened during the transportation of chemicals and raw material inputs. Innovative equipment can be used to reduce the emission of particulate matter. Scrubber technologies are constantly improving and can be utilized to reduce the amount of total suspended particulates, as well as odors, released. Assessments can be undertaken to ensure that the surrounding areas are not exposed to unacceptable levels of noise. Corrective actions, like equipment muffling technology, should be implemented if the noise is found to be too great. To deal with the risk of accidental spills and pollution, companies should draw up detailed emergency plans and train employees on the procedures.

High

Materials, Chemicals & Waste

Definition

Consumption of all types of raw materials and chemicals. Non-hazardous and hazardous waste generated from operations. Also includes air emissions other than GHG (e.g. SO_x, NO_x).

Industry issues

Sulfur and Nitrogen Oxides, Volatile Organic Compounds (VOCs), Carbon Monoxide, and other harmful compounds are frequently emitted into the air during chemical production (5,11). This is largely due to the use and combustion of hydrocarbons in the industry, but also results from various other chemical reactions. The emission of VOCs and other compounds can be reduced and controlled with scrubbers and other flue gas technologies. While this equipment can be expensive, keeping up to date with the latest emissions reducing technology has numerous benefits for companies operating in this space. Waste is another significant issue in the chemical industry due to the use of material inputs that often result in hazardous byproducts during the manufacturing processes. Manufacturing waste is often produced in the form of filtration sludges, effluent treatment sludges, spent acids and process residues (11). Chlorinated wastes (e.g. PVC) are of particular concern as they can lead to the generation of a highly toxic, bioaccumulative compound known as Dioxin. These types of wastes can be incinerated at very high temperatures to reduce the chance of Dioxin generation (12). Dioxins are known to provoke the onset of various types of cancer as well as reproductive and developmental problems, all of which can have an affect on both human and environmental health (12). This is just one example; many byproducts of plastics product manufacturing can be very harmful to people and the environment if they are not properly disposed of. Proper waste management procedures should be put in place according to best practices. Third parties can be contracted to dispose with particularly difficult or hazardous wastes. When it comes to the handling of hazardous waste, the plastics product manufacturing industry needs to be particularly prepared. Both the material inputs and the chemicals produced are frequently hazardous. Strict procedures need to be implemented to ensure proper handling, storing, and labeling of dangerous materials. For example, the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals (GHS) (aligned with OSHA) can be used to ensure that the hazardous properties of chemicals are clear (13). Companies operating in or importing chemicals into the European Union need to be particularly aware of the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation. REACH requires chemicals to be registered with the European Chemicals Agency in line with specific requirements. To ensure that their environmental management systems are strong and incorporate best practices, plastics product manufacturers can align their environmental management systems with Responsible Care. Organizations can endorse the Responsible Care charter to declare their commitment to sustainability. They can also become certified against the Responsible Care Management System (RCMS) to verify their approach.

Medium

Product End-of-Life

Definition

Direct Environmental impacts generated from the end-of-life of the products. These impacts can include hazardous, non-hazardous waste generated, emissions and accidental pollution.

Industry issues

Due to the high demand for plastic products, recyclability of plastic products is vital for sector sustainability. The life-span of a plastic bag can be 15 to 1000 years, depending on the kind of plastic used. UNEP (14) stated in 2012 that every square mile of ocean contained 46.000 plastic parts floating on its surface. Plastic wastes endanger ecosystems and cause the deaths of more than a million birds, and more than 100,000 aquatic mammals every year. Manufacturers, as industry actors, should contribute to environmental awareness by manufacturing products containing recycling instructions (resin identification code) to customers of consumer and household goods. For larger products that contain plastic components, they can ease the recycling process by manufacturing products that reduce dismantling processing and refraining from using multiple resins types. They can as well provide customers with eco-friendly products containing biodegradable or oxo-biodegradable plastics.

Medium

Customer Health & Safety

Definition

Negative health and safety impacts of products and services on customers or consumers.

Industry issues

Customer health and safety is an issue of central importance in the chemicals industry due to the often hazardous nature of the products produced. Many products are immediately dangerous to customers. The World Health Organization (WHO) estimates that unintentional poisonings cause around 193,000 deaths per year globally (15). Others chemicals, or products containing certain chemicals, are more subtly harmful over time. The WHO also estimated that in 2012, 1.3 million lives and 43 million disability-adjusted life-years were lost due to exposures to selected chemicals (15). Even when the health impacts are seemingly minute, they can be serious if exposure is prolonged. For example, certain plastics exhibit a phenomenon known as outgassing, where they release hazardous volatile organic compounds over a period of years, negatively affecting air quality and the health of people exposed (16). Companies manufacturing plastic products should seek to be aware of and mitigate all levels and types of risk to customers. There are a number of actions that companies can take to substantially mitigate the risks to customer health and safety. Conducting research on the potential health impacts of products is a necessary starting point. Once hazards are identified, actions need to be implemented in response. For example, phasing out particularly harmful ingredients with less dangerous substitutes. Beyond this, the provision of information to customers is key in the abatement of risk. Providing access to an online database of Material Safety Data Sheets (MSDS) is a thorough and efficient way to ensure that customers know the hazards and how to handle the chemicals or products safely.



Labor & Human Rights

Importance

CSR issue

High

Employee Health & Safety

Definition

Deals with health and safety issues encountered by employees at work i.e. during operations and transport. Includes both physiological and psychological issues arising from, among others, dangerous equipment, work practices and hazardous substance.

Industry issues

There are a wide range of occupational safety hazards in the chemical sector—notably biological impacts caused by toxic chemicals and physical injuries occurring during the production process. Health and safety incidents, most notably chemical explosions, have been heavily publicized around the world due to the number of injuries that occur when system failures occur. Impacts to individual employees—notably noise and vibration exposures caused by heavy production equipment—are also common in any manufacturing setting. A robust and effective occupational health and safety management system is necessary to prevent exposure to toxic chemicals and to prevent physical injuries in the production of plastics products. Companies must perform occupational health and safety risk assessments that include not only production process impacts, but also toxic chemical exposures. Biological impact monitoring of employees should be periodically administered as well as employee training programs designed not only around safe machine use, but also around identifying biological impacts (17). Manufacturers should establish internal controls to prevent substance abuse in order to minimize human error. Lastly, an effective emergency response procedure that includes emergency eye wash/showers, fire suppression equipment should be accessible to all plant employees. Companies should refer to OSHA health and safety guidelines (18) to better understand general occupational health and safety systems management and Responsible Care's occupational management resources.

Medium

Working Conditions

Definition

Deals with working hours, remunerations and social benefits granted to employees.

Industry issues

Human capital investment is increasingly important for companies seeking to develop a sustainable work force while reducing hiring costs associated with high employee turnover. Employees should be adequately compensated through wages and other social benefits that reflect regional variations in living costs and state provided social protections. 79% of The International Trade Union Confederation's 2017 Global Poll respondents believe that national minimum wages are insufficient, and 87% of respondents believe that the social protections provided in their respective countries are inadequate (19). In the absence of public provision of social protections, including healthcare, family vacation and rest periods, workers are likely to change employers in order to obtain livable wages and adequate social protections. As highlighted by the above figures, it is in the corporate sector's interest to invest in their human capital by providing adequate wages, social benefits and fair work hours to employees. Companies operating in less developed countries where minimum wage laws are deemed inadequate, including in China where 76% of ITUC respondents believe the national minimum wage is inadequate, companies should default to wage standards established by the ILO. When operating in countries where state provided social protections are minimal or absent, companies should provide employees with healthcare and retirement pensions that are consistent with international standards. Employee satisfaction surveys and collective bargaining through worker representative groups, including unions and work councils can assist companies with identifying human capital management needs. Fair pay and social protections, and sector appropriate working conditions are essential for companies to reduce labor costs without sacrificing ethics or production efficiency.

Medium

Social Dialogue

Definition

Deals with structured social dialogue i.e. social dialog deployed through recognized employee representatives and collective bargaining.

Industry issues

Social dialogue, as defined by the International Labour Organization, includes all types of negotiation, consultation or exchange of information between, or among, government representatives, employers and workers. Companies that promote social dialogue through unions and other forms of worker-selected representatives are in a better position to obtain better visibility of potential health and safety issues and worker grievances around wages, working conditions career development. A vast majority of ITUC respondents disapprove of their working conditions, including wages, benefits and job security - a figure that provides tremendous risks for companies that neglect worker engagement (19). When worker issues are not identified and remedied, companies and their supply chain partners risk business interruptions caused by worker strikes. While there is no "one size fits all" model of social dialogue that can be readily exported from one country to another due to cultural and political factors, adapting social dialogue to the national situation is key to ensuring local ownership of the worker engagement process. When companies engage in worker dialogue, they are in a better position to manage talent retention issues that potentially hinder long-term business sustainability. Given the importance of social dialogue in helping establish policies and procedures that promote both employer and employee interests, companies should work to promote collective bargaining, regardless of operational location. Collaboration with work councils, labor unions or worker representatives can be leveraged to address working conditions, remuneration, skills development and occupational health and safety needs. In countries where union membership is not permitted, or are insignificant due to low member rates, companies should establish alternative modes of social dialogue that promote worker interests.

Medium

Career Management & Training

Definition

Deals with main career stages i.e. recruitment, evaluation, training and management of layoffs.

Industry issues

In addition to fair pay, social benefits, and safe and stimulating working conditions, companies in the plastics production industry should include occupational skills development in their human capital management strategies. Occupational skills development, through formal training, developmental assignments, and feedback, provides mutual benefits for employees and employers. Manufacturers will benefit from a higher skilled workforce capable of meeting market demands, and workers will develop skills necessary for promotions and/or future employment opportunities in the sector. Workers are increasingly demanding occupational skills development in order to stay up-to-date on technological developments, ultimately ensuring they remain competitive on the job market. The reciprocal benefits ultimately reduce employee turnover costs, evidenced by one Harvard Business Review article (20) that finds that thriving workers are 32% more committed to their organization and 46% more satisfied with their jobs. To take advantage of the benefits provided by a skilled workforce, manufacturers should develop and implement occupational training and development programs. Ongoing employee evaluations accompanied by continuous feedback should be deployed to identify skills that enable employees to be placed in positions that allow for promotions. Lastly, companies in the plastics production industry should ensure that, when necessary, workers performing redundant tasks are helped to access other responsibilities through training. Occupational skills development programs can benefit companies across all functional areas and should therefore be embedded throughout all operations.

High

Child Labor, Forced Labor & Human Trafficking

Definition

Deals with child, forced or compulsory labor issues within the company owned operations.

Industry issues

Modern slavery—characterized by low wages, wage theft, violent and coercive working conditions, debt bondage, identification documentation retention, forced trafficking and exposure to unsafe working conditions is a global phenomenon. An estimated 40 million people worldwide are the victims of some form of forced labor—16 million in private sector alone (21). An estimated 168 million children are engaged in labor—an estimated 90 million are exposed to hazardous work that jeopardizes the physical, mental or moral well-being of a child (22). The reasons for labor exploitation include companies seeking cheap labor—often through the hiring of indigenous groups, children and migrant workers to perform hazardous work, and the dependency on temporary labor—often filled through labor agents that engage in practices that facilitates worker indebtedness. The manufacturing sector as a whole has significant exposure to slavery risks because of its dependency on migrant and other vulnerable labor groups to fill cheap, low-skilled positions. Combined with the construction sector, the manufacturing sector have an estimated 18% of the global migrant class (23). Documented reports of migrant workers subjected to recruitment fees and passport confiscation have been abundant around the world. In accordance with the Guiding Principles on Business and Human Rights, manufacturers must respect human rights through the establishment of policies, due diligence procedures and provide remedy to victims of human rights violations. In accordance with the Dhaka Principles companies should prohibit recruitment fees or deposits from workers and should allow workers to move or relocate freely. Companies must implement effective slavery and child labor awareness training, perform impact assessments and monitoring procedures such as site audits. Given the inherent exposure to hazardous chemicals, it is important that manufacturers adhere to ILO child labor conventions for working in hazardous job functions. Employers should provide transparent contracts to all workers regardless of their status, should not require employees to pay recruitment fees or withhold employee documentation during any duration of the labor contract. When cases of forced or child labor are discovered, it is important for companies to remedy the issues through engagement with NGOs to provide remedy to victims e.g. housing, psychological support and educational opportunities for child workers.

Medium

Diversity, Discrimination & Harassment

Definition

Deals with discrimination and harassment prevention at the workplace. Discrimination is defined as different treatment given to people in hiring, remuneration, training, promotion, termination; based on race, national origin, religion, disability, gender, sexual orientation, union membership, political affiliation or age. Harassment may include physical, psychological and verbal abuse in the work environment.

Industry issues

Developing a diverse workforce is not only a socially responsible business practice, it is also good for business. Diverse workforces unlock business innovation and drives market growth due to the knowledge that workers from different gender, sexual orientation, race and ethnicity bring to their functions. More diverse companies are better able to win top talent and improve customer orientation, employee satisfaction, and decision making, each of which lead to increasing financial returns. A 2015 report by McKinsey found that companies in the top quartile for racial and ethnic diversity are 35% more likely to have financial returns above their respective national industry medians, and companies in the top quartile for gender diversity are 15% more likely to have financial returns above their respective national industry medians. In the United States, there is a linear relationship between racial and ethnic diversity and better financial performance: for every 10% increase in racial and ethnic diversity on the senior-executive team, earnings before interest and taxes (EBIT) rise 0.8% (24). Many of the world's biggest and most successful companies have advanced diversity strategies that include respect of LGBT. Nearly 90% of Fortune 500 companies prohibit discrimination based on sexual orientation and gender identity and almost 60% of them extend benefits to the same-sex partners of their employees (25). Given the higher returns associated with diverse workforce, it is important that companies take steps to promote diversity in their operations. Companies must first create an environment that is welcoming of workers from all social backgrounds. Anti-discrimination and harassment policies should be framed to protect workers from all social backgrounds including, but not limited to, gender, race, ethnicity and national identity and increasingly important-sexual identity. While most countries have laws that prohibit discrimination, differences exist in the scope of groups protected and the level of enforcement—making it a strategic challenge for companies that operate in less progressive countries. When developing policies for operations in such locations, it is key for companies to be as inclusive as possible and to keep the business benefits in mind. In order to reinforce policies, diversity training should be provided to all employees, and anti-discrimination training should be required of all management levels—particularly human resources—with decision making authority. Human resources personnel should perform frequent internal salary audits to determine where wage gaps exist between different social groups within the organization. Additional pro-diversity measures that reinforce non-discriminatory efforts include employee cultural and gender associations that enable social groups to share experiences related to professional integration and networking. Lastly, an effective whistle-blowing procedure should be available to all employees to report concerns related to, or violations of, established anti-discrimination policy.



Ethics

Importance

CSR issue

Medium

Corruption

Definition

Deals with all forms of corruption issues at work, including among other things extortion, bribery, conflict of interest, fraud, money laundering.

Industry issues

Corruption distorts fair markets and increases business costs. Global anti-corruption laws are becoming more stringent in their expectations that companies establishing effective controls to prevent all types of corruption. Business exposures to corruption vary depending on the nature, scope and location of a company's international activity. They can arise both when companies seek to sell their products and services directly to foreign governments and state-owned entities and in the form of bribe payments in return for favorable contracting decisions. Risks can also take other, less obvious forms, such as when companies face shakedowns from customs inspectors and tax assessors during efforts to import or export raw materials or finished products. Additionally, risks can surface when companies operate manufacturing facilities in foreign countries, which requires frequent interaction with hosts of foreign officials ranging from maintaining utility service to paying local taxes and securing police protection. To minimize corruption risks, companies should implement a risk-based due diligence procedure to identify opportunities or situations where corrupt transactions are possible. It is important that companies identify anti-corruption training needs in order to keep employees abreast on the regional or sector environment that exposes them to potential risks. Lastly, companies must document and maintain detailed records of all due diligence measures in order to minimize liability in the event that the company is implicated in corruption investigations involving internal employees or third-party relationships.

Medium

Anticompetitive Practices

Definition

Deals with anti-competitive practices including among others: bid-rigging, price fixing, dumping, predatory, pricing, coercive monopoly, dividing territories, product tying, limit pricing, and the non respect of intellectual property.

Industry issues

The chemical sector has been subjected to enhance antitrust scrutiny due to several large cartel settlements, most notably the Lysine cartel exposed in the mid-1990s. The sector is prone to cartel behavior due to the homogeneous nature of products, highly concentrated market segments, a condition exacerbated by the high R&D and patent costs that prevent small and medium-sized firms from accessing regional markets. Over the last decade, the European Commission has investigated 23 cartels and convicted 106 chemical companies for their involvement (26). Industry cartel behavior harms a wide range of stakeholders. When companies form cartels, market dominance prevents smaller businessman from accessing and competing in markets, and consumers are unable to freely select the quality and variety of goods and services they desire. Buyers working in a cartelized sector are also subjected to higher prices that ultimately cut into the company bottom line. One particular industry dynamic must be managed carefully by chemical companies operating in the EU market. The EU regulatory regime for the registration, evaluation, authorization, and restriction of chemicals (REACH) encourages companies to work together to avoid redundant and expensive tests of substances, but impacted companies must exchanged information with caution to prevent their competitors from identifying specific patterns and align their market behavior and to not violate competition law when exchanging technical information for REACH purposes (27). In order to ensure market competition antitrust enforcement has received greater attention from US, EU and global law enforcement agencies in recent years. As part of their compliance systems, chemicals companies should implement internal controls to prevent employees and business partners from engaging in anti-competitive practices. Employees should be adequately trained on the market impacts caused by such behaviors. Providing clear and detailed competitor interaction guidelines is one effective way to raise awareness among key employees. Lastly, chemicals companies should have an effective whistleblower procedure allowing employees to confidentially report collusion concerns without retaliation by employers.

Medium

Responsible Information Management

Definition

Deals with third-party data protection and privacy which encompasses the protection of customer personal identification information (PII) and third party intellectual property rights.

Industry issues

Companies collect, process and share confidential information belonging to third-parties in order to operate their business. Third-party confidential information includes employee and consumer personal identification information, third parties' intellectual property, and business partner trade secrets. Companies are legally mandated in several jurisdictions to manage third party data responsibly. Breaches of third-party data, including proprietary intellectual property, trade secrets and employee and consumer PII expose companies to operational seizures, financial and reputational impacts caused by stakeholder lawsuits and regulatory penalties. The financial impacts of information security breaches can be both immediate and drawn out over several years, due to possible litigation action by parties who lost confidentiality of their information entrusted to the breached company. The costs of regulatory violations remain severe, and proposed changes to major regulatory frameworks in major countries are likely to impose greater fines. Ponemon Institute estimates the global average cost of a cyber-attack to be US\$3.86 million (28). Beyond direct regulatory and financial penalties, breaches in a company's information management system can cause long term distrust in the company's information security management. Almost immediately after Target's information breach, the company's net earnings for the fourth quarter were down 46% from the same period the year before. Over time, Target will pay an estimated US\$1.4 billion when factoring ongoing legal costs, class-action lawsuits by consumers and business partners, and credit monitoring services for affected consumers (29). In order for companies to manage operational and legal risks associated with information security breaches, it is vital that robust information security management systems are developed and implemented across to the operational scope. Companies should perform vulnerability assessments, implement access and disclosure controls and provide thorough training for all employees responsible for processing third-party data. An adequate incident response procedure capable of preventing further data loss, communicating with exposed stakeholders, and systems updates are necessary to meet legal requirements in key jurisdictions.



Sustainable Procurement

Importance

CSR issue

Medium

Supplier Environmental Practices

Definition

Deals with environmental issues within the supply chain i.e. environmental impacts generated from the suppliers and subcontractors own operations and products.

Industry issues

A high proportion of the materials used in the chemical industry have a very heavy environmental footprint. Many of the material inputs are derived from petroleum extraction; one of the most environmentally intrusive activities of any industry. The extraction of petroleum and other key chemical industry inputs require large amounts of energy and water, release considerable air, water, and waste emissions, and can be responsible for damage to the local environment. Materials such as potassium from potash, limestone, sulfur, molybdenum oxide, copper and ferrous sulfate are all derived from mining activities, an industry that is frequently linked to a number of negative environmental effects. Chemical manufacturers should be aware of these environmental threats in their supply chains when they purchase raw materials and commodities. While mining and other extraction activities are often inextricably linked to some degree of environmental damage, there are vast ranges of activities that determine the level of damage. It is important that suppliers of raw materials are in line with the requirements laid out by the REACH regulation and other similar chemicals laws. Engaging with suppliers to promote best practices can have a large impact on the results. An effective first step is to create a supplier code of conduct that lays out the company's expectations for suppliers' environmental behavior. This can be strengthened with supplier assessments and audits, as well as capacity building and the sharing of best practices.

Medium

Supplier Social Practices

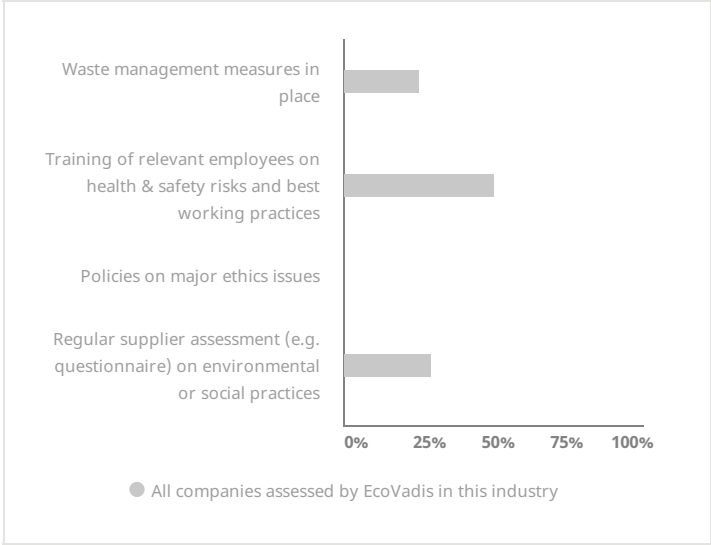
Definition

Deals with labor practices and human rights issues within the supply chain i.e. labor practices and human rights issues generated from the suppliers and subcontractors own operations or products.

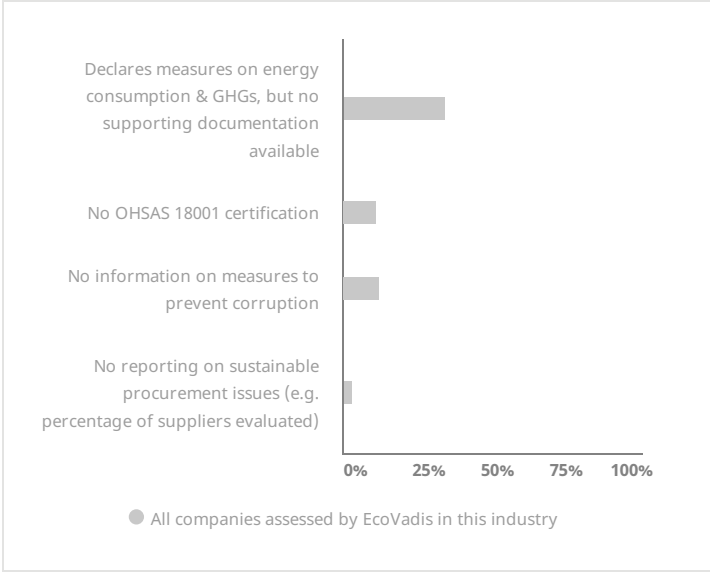
Industry issues

To prevent supply disruptions and potentially costly litigation, companies should work to embed their human rights and business ethics commitments throughout their supply chain operations in order to address operational impacts on stakeholders. Companies have an obligation to respect human rights of both internal and external stakeholder groups, and the public seems increasingly engaged holding companies accountable. In accordance with the UN Guiding Principles on Business and Human Rights, human rights impact assessments should include those of supply chain operations. Companies should develop and implement due diligence procedures, to include supply chain mapping, risk assessments and follow up supplier engagements, including training and on-site audits. Companies should also establish contract provisions detailing supplier expectations regarding human rights protections. Lastly companies should, when necessary, establish grievance procedures in the absence of a supplier procedure.

Key industry Strengths



Key industry Improvement Areas



CSR KPIs Overview

KPI	All companies assessed by EcoVadis in this industry
Active whistleblowing procedure in place	31%
Audit or assessment of suppliers on CSR issues	27%
Carbon disclosure project (CDP) respondent	6%
Formal code of business ethics OUTDATED	47%
Global Compact Signatory	9%
ISO 14001 certified (at least one operational site)	30%
OHSAS 18001/ISO 45001 certification or equivalent (at least one operational site)	19%
Policy on sustainable procurement issues	21%
Reporting on energy consumption & GHGs	39%
Reporting on health & safety indicators	34%

Main Regulations and Initiatives

EU directive on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations

http://europa.eu/legislation_summaries/environment/air_pollution/l28029b_en.htm

 Regulatory

The purpose of the Directive is to prevent or reduce the direct and indirect effects of emissions of volatile organic compounds (VOCs) on the environment and human health

 Environment

Responsible Care ®

<http://www.icca-chem.org/en/Home/Responsible-care/>

Responsible Care® is the chemical industry's global voluntary initiative under which companies, through their national associations, work together to continuously improve their health, safety and environmental performance, and to communicate with stakeholders about their products and processes.

 Environment

EU regulation REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals)

http://ec.europa.eu/environment/chemicals/reach/reach_intro.htm

 Regulatory

The European Union regulation REACH (18 December 2006) encourages manufacturers and importers of "Substances of Very High Concern" to pre-register them.

 Environment

Eco-Emballages

<http://www.ecoemballages.fr/entreprises/>

Eco-Emballages is a private non-profit company accredited by the French public authorities to install, organize and optimize sorting and selective collection of household packaging. Member companies can share best practices and are incited to improve the eco-conception of packagings.

 Environment

Universal Declaration of Human Rights

<http://www.un.org/Overview/rights.html>

 Regulatory

The Universal Declaration of Human Rights (UDHR) is an advisory declaration adopted by the United Nations General Assembly (10 December 1948)

 Labor & Human Rights

EU Directive on packaging and packaging waste

http://europa.eu/legislation_summaries/environment/waste_management/l21207_en.htm

 Regulatory

This Directive covers all packaging placed on the market in the Community and all packaging waste, whether it is used or released at industrial, commercial, office, shop, service, household or any other level, regardless of the material used. It has been amended and replaced by the Directive 2004/12/EC.

 Environment

VinylPlus

<http://www.vinylplus.eu>

VinylPlus is the ten-year voluntary programme on Sustainable Development by the whole PVC industry in Europe. Five key sustainable development challenges have been identified for PVC, together with a set of working principles. The first four challenges are technical in nature whilst the fifth challenge addresses raising awareness and understanding of the importance of sustainable development. Each of the challenges is based on The Natural Step System Conditions for a Sustainable Society.

 Environment

Biodegradable Products Institute Certification

<http://www.bpiworld.org/>

USA based certification program for biodegradable and compostable plastic products.

 Environment

Standard ISO 14000 (International Standard Organisation)

http://www.iso.org/iso/iso_14000_essentials

The ISO 14000 family addresses various aspects of environmental management

 Environment

International Labor Organization's Fundamental Conventions

http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---declaration/documents/publication/wcms_095895.pdf

 Regulatory


The Governing Body of the International Labour Office has identified eight Conventions as fundamental to the rights of human beings at work. These rights are a precondition for 12 the others in that they provide a necessary framework from which to strive freely for the improvement of individual and collective conditions of work.

 Labor & Human Rights

Standard OHSAS 18001 (Occupational Health and Safety Assessment Series)

<http://www.ohsas-18001-occupational-health-and-safety.com/index.htm>

OHSAS 18000 is an international occupational health and safety management system specification.

 **Labor & Human Rights**

United Nations Convention against Corruption (UNCAC)

<http://www.unodc.org/unodc/en/treaties/CAC/index.html>

 Regulatory

The UNCAC is the first leg12y binding international anti-corruption instrument. In its 8 Chapters and 71 Articles, the UNCAC obliges its States Parties to implement a wide and detailed range of anti-corruption measures affecting their laws, institutions and practices.

 **Ethics**

OECD guidelines for multinational enterprises

http://www.oecd.org/about/0,2337,en_2649_34889_1_1_1_1,00.html

The Guidelines are recommendations addressed by governments to multinational enterprises operating in or from adhering countries. They provide voluntary principles and standards for responsible business conduct in a variety of areas including employment and industrial relations, human rights, environment, information disclosure, combating bribery, consumer interests, science and technology, competition, and taxation.

 **All themes**

Standard ISO 26000 (International Standard Organisation)

<http://www.iso.org/iso/pressrelease.htm?refid=Ref972>

The future International Standard ISO 26000, Guidance on social responsibility, will provide harmonized, glob12y relevant guidance based on international consensus among expert representatives of the main stakeholder groups and so encourage the implementation of best practice in social responsibility worldwide.


 **All themes**

Foreign Corrupt Practices Act of 1977

<http://www.usdoj.gov/criminal/fraud/fcpa/>

 Regulatory

The Foreign Corrupt Practices Act of 1977 (FCPA) prohibits payments, gifts, or Practices Act contributions to officials or employees of any foreign government or government-owned business for the purpose of getting or retaining business.

 **Ethics**

United Nations Global Compact (10 principles)

<http://www.unglobalcompact.org/AboutTheGC/TheTenPrinciples/index.html>

The Global Compact asks companies to embrace, support and enact, within their sphere of influence, a set of ten principles in the areas of human rights, labour standards, the environment, and anti-corruption:

 **All themes**

Standard Global Reporting Initiative's (GRI)

<http://www.globalreporting.org/Home>

The GRI is a network-based organization, that has set out the principles and indicators that organizations can use to measure and report their economic, environmental, and social performance.

 **All themes**

Carbon disclosure project

<https://www.cdp.net>

CDP is an international, not-for-profit organization providing the only global system for companies and cities to measure, disclose, manage and share vital environmental information.

 **Environment**

Sources

1- Wells, R. 2008. Statement for the Record by Rich Wells for the U.S. Congress Select Committee on Energy Independence and Global Warming. Hearing on What's Cooking with Natural Gas in Energy Independence and Global Warming Solutions, July 30, 2008.

2- Patt, J.J., Banholzer, W.F. 2009. Improving Energy Efficiency in the Chemical Industry. National Academy of Sciences. 3(2): 17-23.

3- International Fertilizer Industry Association.

<http://www.fertilizer.org/>

4- Patt, J.J., Banholzer, W.F. 2009. Improving Energy Efficiency in the Chemical Industry. The Bridge: Linking Engineering and Society. Pp. 15-21.

5- Ellis, M., Dillich, S. Industrial Water Use and Its Energy Implications. Energy Efficient and Renewable Energy. U.S. Department of Energy. Pp. 1-12.

6- Norling, P. 2004. Water and Sustainable Development: Opportunities for the Chemical Sciences: A Workshop Report to the Chemical Sciences Roundtable. National Research Council (US) Chemical Sciences Roundtable. National Academies Press, Washington DC.

7- Seveso Directive. European Commission.

<http://ec.europa.eu/environment/seveso/>

8- OECD Environmental Outlook for the Chemicals Industry. 2001. Organization for Economic Co-operation and Development. Pp. 1-168.

9- EPA Office of Compliance Sector Notebook Project. Profile of the Inorganic Chemical Industry. 1995. U.S. Environmental Protection Agency. Pp. 1-130.

10- Sultana, M.S., Jahan, N., Islam, M.S., Masum, S.M. 2011. Assessment of Noise Pollution in the Ashuganj Fertilizer Industrial Area, Ashuganj. Bangladesh Journal of Scientific and Industrial Research. 46(2):183-190.

11- Dye Manufacturing. 1998. Pollution Prevention and Abatement Handbook. World Bank Group. Pp. 1-4.

12- Dioxins and their effects on human health. World Health Organization.

<http://www.who.int/mediacentre/factsheets/fs225/en/>

13- Globally Harmonized System of Classification and Labeling of Chemicals (GHS). 2011. United Nations. Fourth Revised Edition. Pp. 1-568.

14- UNESCO - Faits et Chiffres sur la pollution marine

<http://www.unesco.org/new/fr/natural-sciences/ioc-oceans/priority-areas/rio-20-ocean/blueprint-for-the-future-we-want/marine-pollution/facts-and-figures-on-marine-pollution/>

15- World Health Organization. 2016. Public Health Impact of Chemicals: Knowns and Unknowns

<http://www.who.int/ipcs/publications/chemicals-public-health-impact/en/>

16- U.S. Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, 2006. Toxicological Profile for Vinyl Chloride, p1-329.

<https://www.atsdr.cdc.gov/toxprofiles/TP.asp?id=282&tid=51>

17- Occupational health and safety in chemical industries in transitional economies, 2011, Indian Journal of Occupational and Environmental Medicine

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3299102/>

18- Safety & Health Guide for the Chemical Industry, 2012, US Dept of Labor

<https://www.osha.gov/archive/Publications/osha3091.html>

19- International Trade Union Confederation, 2017, Global Poll.

https://www.ituc-csi.org/IMG/pdf/global_poll_en_print.pdf

20- Spreitzer, G., Porath, C. 2012. Creating Sustainable Performance

<https://hbr.org/2012/01/creating-sustainable-performance>

21- Global Slavery Index, 2018

<http://www.globalslaveryindex.org/>

22- International Labour Organization, 2017, Child Labor.

<http://www.ilo.org/global/topics/child-labour/lang-en/index.htm>

23- LexisNexis. 2016. Hidden in Plain Site.

http://www.lexisnexis.com/em/docs/177565-M-Modern-Slavery-Construction-digital.pdf?conid=&acctid=&utm_campaign=177569_M_ConstructionIndustryReportLandingPage&utm_medium=email&utm_source=broadcast&utm_content=177569report_0pct_ua&utm_term=bis&access=1-1868518391&treatcd=1-1868518505

24- McKinsey & Company. 2015. Diversity Matters.

<http://www.mckinsey.com/business-functions/organization/our-insights/why-diversity-matters>

25- Human Rights Campaign, 2017, Corporate Equality Index.

<http://hrc-assets.s3-website-us-east-1.amazonaws.com//files/assets/resources/CEI-2017-FinalReport.pdf>

26- European Agency for Safety and Health at Work, Workplace Violence and Harassment: a European Picture, 2009

<https://osha.europa.eu/en/publications/reports/violence-harassment-TERO09010ENC/>

27- M. C. Levenstein, C. Marvão and V. Y. Suslow, 2015. Serial Collusion in Context: Repeat Offenses by Firm or by Industry?.

[http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DAF/COMP/GF\(2015\)12&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DAF/COMP/GF(2015)12&docLanguage=En)

28- Dechert. 2009. REACH and its Competition Law Implications.

https://www.dechert.com/content/dam/dechert%20files/onpoint/2009/3/reach-and-its-competition-law-implications/Antitrust_37_03-09_REACH.pdf

29- L. Ponemon. 2018. Calculating the Cost of a Data Breach in 2018, the Age of AI and the IoT.

<https://securityintelligence.com/ponemon-cost-of-a-data-breach-2018/>

30- A. Roberts. 2015. Legal Ramifications of Data Breaches.

<https://www.stratokey.com/blog/Legal-ramifactions-of-data-breaches>