Sustainable Apparel Coalition

Higg Index

Higg Facility Environmental Module (FEM) 4.0 Technical Paper

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www.apparelcoalition.org

About this Technical Paper

The purpose of this Technical Paper is for Higg FEM users to start understanding and preparing for the next version of the Higg FEM ("Higg FEM 4.0"), which will officially be released on the Higg platform in November 2023. Facilities will start reporting their 2023 performance using the FEM 4.0 framework.

The SAC is currently undergoing a final review process to ensure the next version of Higg FEM properly aligns with industry needs. Therefore, the final version of the Higg FEM 4.0, launching in November 2023, may differ from what is described in this document.

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Background on Higg FEM 4.0

Between 2018 and 2021, the SAC received a significant amount of feedback regarding the Higg FEM 3.0, including questions and comments on content, guidance, scoring, applicability and user interface, etc. The SAC has committed that each Higg FEM version will last for 3-5 cadences/years; therefore, it was not possible for the SAC to make the immediate changes that could have addressed the feedback received over the past few years.

As we are approaching the fifth year of the FEM 3.0, it was time to develop FEM 4.0 to address the feedback received and further enhance the FEM to align with the most recent industry standards.

Starting in mid-2020, the SAC began working with many SAC members, including brands, retailers, manufacturers, service providers, and other international organizations on FEM 4.0. This work has included reviewing tool feedback, the FEM framework, FEM scoring methodology, FEM question content, and much more. This work has been a collaboration between all partners.

FEM 4.0 Framework

The Higg Facility Environmental Module (Higg FEM) 4.0 continues to be a sustainability assessment tool that standardizes how facilities measure and evaluate their environmental performance, year-over-year. It facilitates conversations among value chain partners to improve sustainability in every tier of the global value chain, and empowers them to identify, prioritize and scale sustainability efforts.

FEM 4.0 continues to measure seven impact areas:

- Environmental Management Systems
- Energy / Greenhouse Gas Emissions
- Water
- Wastewater Management
- Air Emissions
- Waste Management
- Chemicals Management

Scoring Methodology

FEM 4.0 offers a variety of scoring for facilities and their stakeholders to understand their performance. It includes a Total FEM Score, Section Scores and Level achievement. SAC may continue to develop the FEM scoring methodology to provide additional performance metrics in the future.

While the basic scoring methodology of FEM 4.0 is similar to FEM 3.0, there are new additional rules that determine scoring in the FEM 4.0. FEM 4.0 scoring methodology is outlined below:

FEM questions are structured in three levels (Level 1, Level 2 and Level 3).

- Level 1 consists of 25 points out of the 100 total section points
- Level 2 consists of 50 points out of the 100 total section points
- Level 3 consists of 25 points out of the 100 total section points

Not all FEM 4.0 questions are scored.

FEM 4.0 may result in ZERO Total FEM point regardless of the performance in each impact area if a facility:

- does not obtain a valid business operating license; AND/OR
- does not obtain any required environmental permits without a valid reason.

Question scores are equally distributed in each Level depending on the number of scored questions available in the particular level. In addition, additional scoring rules that award scores based on whether a facility is meeting their energy / water / waste target and achievement are implemented automatically.

Level Advancing Methodology

FEM 4.0 continues to adopt the same 'level advancing methodology' as FEM 3.0. Level advancing methodology ensures facilities are equipped with basic practices, such as compliance, impact data tracking, and basic management systems before moving onto more advanced practices and higher scores. Therefore, facilities must achieve scoring in each scored question in Level 1 before advancing to Level 2 and Level 3 questions.

Level are defined as follows:

- Level 1 - Awareness of environmental impacts, tracking impact data,and basic management systems and practices
- Level 2 - Setting baselines and targets in impact areas, improvement implementation, and short-term achievements
- Level 3 - Implementing leading aspirational practices, and engaging local communities to improve environmental situations

Applicability Methodology

FEM implements applicability methodology to enable facilities across multiple industry sectors and tiers in the value chain to utilize the FEM in the most effective manner, allowing facilities to focus on what is relevant to them.

Facilities will answer the majority of the FEM questions as they are applicable across the value chain. However, not all facilities will answer the same set of questions, as the exact question set they answer is a result of the applicability methodology. For example, facilities making products for the Apparel sector may have a different set of questions from the facilities making products for the Outdoor Sporting or Hardgoods sectors.

Facilities will fall into one or more of the overall 23 pathways, and questions will be displayed accordingly.

Below are some of the examples of the pathways and type of applicability questions that will be asked to help determine the appropriate pathway:

- Heavy Water Users vs. Light Water Users
  - Is your facility location rated as high/very high for overall water risk?
  - Is your facility using water for production use?
  - Is your facility using 35m^3 or more of water per day?

- Onsite Wastewater Treatment (Industrial / Domestic / Combined) vs. Offsite Wastewater Treatment vs. ZLD vs. Septic System only
  - Does your facility generate industrial wastewater?
  - Does your facility have Zero Liquid Discharge?
  - Do you treat industrial and domestic wastewater together?
  - How do you treat your wastewater (Industrial / Domestic / Combined)?
    > Treated Onsite Only and direct discharged to environment after treatment
    > Treated Offsite Only
    > Treated Onsite and then discharge to Offsite for further treatment
    > Sent to a Septic system onsite
    > Not Treated

- Emitting Air Emissions from operations vs. Emitting Air Emissions from production vs. Emitting Refrigerant only vs. No Air Emissions emitted
  - Does your facility contain any of the following operations equipment?
    > Boilers
    > Generators
    > Combustion engines (eg. gasoline power pumps)
    > Industrial Ovens (for heating/drying/curing)
    > Heating and ventilation (Combustion Heating (Furnace))
    > Refrigerant devices (other than air conditioning system)
    > Air conditioning (Cooling)
    > Other sources of known air emissions from facility operations
    > Other sources of volatile organic compounds (VOCs)
  - Does your facility conduct any of the following processes or use any of the following substances?
    > Yarn spinning or synthetic fiber manufacturing
    > Finishes
    > Solvents
    > Adhesives/cementing
    > Printing
    > Dyeing
    > Tenter frames or other heating processes;
    > Spot cleaners
    > Sprayed chemicals or paints
    > Other sources of ozone depleting substances (ODSs)
  - Does your facility produce Man-made Cellulose Fiber (MMCF)?

- Chemicals used in Production process vs. Chemicals used in facility operation vs. Chemicals used in Tooling/Equipment vs. Only Spot cleaner used in Production process vs. Minimum Chemicals used onsite
  - What kind of chemicals does your facility use?
    > Production Chemicals
    > Operations Chemicals
    > Maintenances/Tooling/Equipment Chemicals
    > Spot Cleaner Chemicals
    > Minimum Chemicals used (liquid and gaseous fuels, over the counter chemicals, maintenance chemicals for factory up-keep)
  - Does your facility use commodity chemicals?
  - Does your facility implement an MRSL?
    > If yes, which of the following MRSLs does your facility implement?
      > Customer's MRSL
      > ZDHC MRSL
      > bluesign BSSL
      > Other

Verification Methodology

The Verification Protocol will be updated as per the changes in the FEM question structure. The addition of new questions will lead to an increase in the time required to conduct verification of Higg FEM 4.0. While the process for conducting a Higg FEM 4.0 verification will remain consistent, we will add more guidance and guardrails to ensure verifications are representative of the tool updates. SAC will engage members, when appropriate, to ensure stakeholder feedback is considered while making verification protocol updates.

Key Updates from FEM 3.0 to FEM 4.0

FEM 4.0 is a major update compared to FEM 3.0. Below is a high level update of what is changing:

1. There are several changes to the applicability questions and pathways. See the "Applicability Methodology" section for details.
2. Facilities will continue to complete the Site Information section first, however, the Facility Profile structure is being revamped in FEM 4.0.
3. Annual volume is reported by Facility Type. This mostly impacts facilities that have vertical processes. For facilities that have vertical processes, facilities must report annual volume by each facility type.
4. The 'annual volume unit' is standardized depending on the facility type for better benchmarking and future normalization. Facilities are required to report annual volume units by "piece/pairs" or "kg" depending on the facility type. Additional voluntary reporting options for annual volume and units of measure are also available.
5. Energy and water consumption is reported by Facility Type. This mostly impacts facilities that have vertical processes. This means a facility that manufactures final finished products and fabric in the same facility will need to track and report their energy and water consumption data separately.
6. Additional scenarios that result in zero points for the Total FEM Score are implemented to ensure facilities comply with the basic requirements, such as having a valid business operating license and required environmental permits.
7. There are automatic rules to calculate scoring based on whether a facility is meeting their energy/water/waste resource targets.
8. Groundwater and soil contamination questions are added.
9. Questions around the Energy Attribute Certificates (EACs) are added.
10. Questions around the Carbon Offsets are added.
11. Questions around Coal Phase-out, Fossil Fuel Phase-out, Renewable Energy and Science-Based Targets are added.
12. Fuel consumption for facility owned and controlled vehicles are now separately asked and tracked from the overall fuel consumption from operations.
13. Questions around Onsite Wastewater Biological Treatment (including septic systems) are added.
14. Categorization of Refrigerant Gasses has been enhanced to accurately calculate GHG emissions from potential leakages.
15. Questions around Groundwater management and usage are added, including tracking consumption and meeting legally mandated groundwater extraction limits.
16. Rainwater harvesting questions are added.
17. Questions around Wastewater Sludge management are added; these are aligned with the ZDHC Wastewater Sludge guideline.
18. Wastewater Sludge is defined as Industrial Wastewater Sludge and/or Domestic Wastewater Sludge and associated questions are added.
19. The Air section is significantly revamped. Several questions are removed from FEM 3.0 and new questions are added, and questions are repositioned across the three levels. The current version of ZDHC Air

Position Paper was used as a guide.

20. Questions around Hazardous Waste management and Non-hazardous Waste management are separated.
21. Questions around the circular system for Production Waste are added.
22. Waste disposal pathways are revamped based on known industry-wide definitions and ZDHC Guidelines.
23. Questions in the Chemicals Management section are repositioned across the three levels.
24. Questions in the Wastewater Management, Air Emissions and Chemicals Management sections have been aligned with associated ZDHC Guidelines.

FEM 4.0 Questionnaire

The FEM 4.0 questionnaire is longer as a result of this update. Some questions were removed from FEM 3.0 as they were determined to be no longer valid in the ever-changing environment, and new questions were added to align with the industry standards and expectations. Others remained but may have been modified to fit the intent and drive improvement actions and impacts.

SAC is providing this overview of the FEM 4.0 questionnaire to start preparing FEM users to adopt the new requirements in FEM 4.0. Note that the final questions, answer options, sequences and format of FEM 4.0 may end up being slightly different from this document.

See "Appendix A" to access the FEM 4.0 Questionnaire.

Start Preparing for FEM 4.0

Data to be Collected Between January 2023 and December 2023

SAC is working on writing the 'How-to-Higg FEM Guide' for FEM 4.0, which will not be ready until, at the earliest, Q2 2023. In order to support facilities in preparing for the FEM 4.0, which will officially be launched on the Higg platform in November 2023 for the 2023 performing year, below is a list of data and documentation that the SAC is recommending facilities begin tracking and collecting from January 2023 onwards. This will help facilities prepare for the FEM 4.0 when it launches.

See "Appendix B" to access the list of data points to be collected.

Ongoing Support to Prepare for FEM 4.0

Throughout 2023 and beyond, SAC and its partners will continue to provide additional material to support facilities in the adoption of FEM 4.0. As a first step, this Technical Paper provides facilities information on what will be expected in FEM 4.0. SAC is currently developing the 'How-to-Higg FEM Guide' for FEM 2023, and will be releasing it when complete.

SAC will also be hosting webinars, events and/or forums to introduce FEM 4.0 throughout the year.

The SAC's approved Trainers can be of assistance if facilities require a deeper level of understanding on FEM. You may find the list of SAC Approved Trainers online.

In the meantime, there are great resources available on the howtohigg.org site that can help prepare for FEM 4.0 and continue to improve and excel in environmental sustainability.

Appendix A

This section provides an overview of the questions that are included in each Level and impact area section of FEM 4.0.

Questions with an asterix (*) symbol are new questions in FEM 4.0 or have been considerably amended from FEM 3.0.

As noted, the final question set is being completed, and, therefore, the final questions, answer options, sequences and format of FEM 4.0 may end up being slightly different than what is shown in this document.

Site Information

1. How many days did your facility operate in this reporting year?
2. Specify the number of full-time and temporary employees at your facility.
3. What was your facility's annual volume?
4. *Does your facility operate within an industry zone/park?
5. Does your facility have onsite water treatment (i.e. Pre-treatment and/or Wastewater treatment)?
   - 5.1. *How many employees are engaged in the operation and regular maintenance of the water treatment processes?
6. Has your facility participated in industry programs related to sustainability or have sustainability related certificates valid during the reporting year?
7. *Is this facility's GHG emissions included in a broader corporate disclosure?
   - 7.1. *What reporting platform is used?
     - CDP
     - Corporate website or Sustainability report
     - Other

Permit

1. Does your facility have a valid operating license, if required by law?
2. Did your facility receive any government-issued environmental violation records for this reporting year?
3. Does your facility currently have any records in the Institute of Public & Environmental Affairs (IPE) database? *(Applicable only If, "Country or Region" = China)*
   - 3.1. *If yes, what violation is it?*
   - 3.2. *If yes, has your facility registered on the IPE database?*
   - 3.3. *If yes, has your facility supplied enterprise feedback to the database and/or taken steps to remove the record(s) from the database?*
4. Please complete the following questions to provide details on your facility's environmental permit requirements and compliance status:
   - 4.1. Is a permit required?
   - 4.2. What is your status for this permit?
   - 4.3. Name of the regulatory agency issuing the permit
   - 4.4. Is there an expiration date?
   - 4.5. Please enter expiration date (Month / Year)

4.6. Please upload a copy of the permit

EMS

Level 1

1. Are one or more employees at your facility responsible for coordinating your facility's environmental management activities?
2. Has your facility identified the significant environmental impacts associated with current operations within the factory premises?
3. *Does your facility have a company environmental policy?
4. Does your facility have a company environmental management strategy that guides long-term decision-making on environmental management?
5. Does your facility have a mechanism in place to regularly review and monitor environmental permit status and renewal (where appropriate) and ensure compliance?
6. Does your facility maintain a documented system to identify, monitor and periodically verify all laws, regulations, standards, codes, and other legislative and regulatory requirements for your significant environmental impacts (in addition to areas that are not covered in required permits)?
   6.1. Are the findings used to set an improvement plan that is regularly reviewed?
7. *Does your facility provide training to employees on environmental awareness and company environmental management strategy?
   7.1. *If yes, how many employees were trained?
   7.2. *If yes, how frequently do you train your employees?
   7.3. *Do you evaluate your employees after the training?
      7.3.1. *How do you evaluate the knowledge of your employees after the training?
8. Does your facility have documented procedures to enable employees to report on environmental incidents?
9. Does your facility have a process and schedule to maintain all equipment?
10. *Can you please confirm there is no soil and/or groundwater contamination in your facility?
    10.1. *Please describe how your facility prevented such contamination
    10.2. *Is your facility remediating and/or have you remediated the issue?
    10.3. *Upload documentations (Photographs, Report, Action plan, Legal notice if any)
    10.4. *Please describe the contamination in detail (if any)

Level 2

11. Does your facility review the environmental management system with your facility's managers each calendar year?
12. Do employees at your facility responsible for environmental management have the technical competence required to do their job?
13. Does your facility have a program to build awareness of your environmental impacts and performance with your employees?

Level 3

14. Does your facility monitor, evaluate, and/or engage with your subcontractors on their environmental performance using the Higg Index or other relevant environment assessment?

15. Does your facility monitor, evaluate, and/or engage with your upstream suppliers using the Higg Index or other relevant environment assessment?
16. Does your facility engage in environmental improvement in your local community?
    16.1. Select the ways in which your facility engages in environmental improvement:
        16.1.1. We support (financially or otherwise) conservation or improvement projects for environmental issues (e.g., preserving wetlands).
        16.1.2. We work with other similar businesses to share best practice for environmental management.
        16.1.3. We engage in dialogue with local communities to understand their views on how we as a company should manage our environmental impacts.
        16.1.4. We work within a group of other local stakeholders including government and communities, to understand and address local environmental issues together.
        16.1.5. We engage directly with local or national governance bodies on environmental regulation or management issues.
        16.1.6. We work together in a group with other local stakeholders, to engage with local or national governance bodies on environmental regulation or management issues.
        16.1.7. Other

Energy & GHG

Level 1

1. Select all sources of energy for your facility (exclude sources used for company owned and controlled vehicles):
    1.1. What is the source of biomass?
    1.2. *Under what certification system is this biomass certified under?
        - Forest Stewardship Council (FSC)
        - Programme for the Endorsement of Forest Certification (PEPC)
        - ISCC Biomass Certification
        - Sustainable Biomass Program (SBP) Certification
        - Better Biomass Certification
        - Country Specific Certification
        - Other

        1.2.1. *If Other or Country Specific Certification, please describe and give reference link to certification system
    1.3. *Does your facility know the GHG emission factor of your purchased electricity source in the reporting year?
        1.3.1. *If yes, please indicate the emission factor(kg CO2e/kWh)
        1.3.2. *Please provide a direct link to the source of this emission factor
    1.4. *Does your facility know the energy source (energy mix) used to generate your purchased steam?
        1.4.1. *Select the energy source and provide % of each energy source
        1.4.2. *What is the pressure of the steam received at the facility (kg/cm^2)?
        1.4.3. *What is the temperature of the steam received at the facility (Celsius)?
    1.5. *Does your facility know the GHG emission factor of your purchased chilled water source?
        1.5.1. If yes, please indicate the emission factory (kg CO2e/kWh)
        1.5.2. *Please provide a direct link to the source of this emission factor

2. *Select all sources of energy/fuel for company owned and controlled vehicles:
3. Does your facility purchase Energy Attribute Certificates (EACs) (e.g. Renewable Electricity Certificates (RECs))?
    3.1. What type of Energy Attribute Certificates does your facility purchase?
        - Renewable Energy Certificates (RECs) in North America
        - Guarantees of Origin (GOs) in Europe
        - Renewable Energy Guarantees of Origin (REGOs) in the UK
        - International RECs (I-RECs)
        - Tradable Instruments for Global Renewables (TIGRs) across the rest of the world
        - Green-e Energy (EACs)
        - EKOenergy certified EACs
        - Other
    3.2. How much MWh did your facility purchase and retire in the reporting year?
    3.3. Please upload your certificate
4. *Does your facility purchase Carbon Offsets?
    4.1. *What was the registry the offset was registered under?
        - CDM Registry (Clean Development Mechanism)
        - American Carbon Registry (ACR)
        - Gold Standard Registry
        - Climate Action Reserve (CAR)
        - Social Carbon Registry
        - Plan Vivo Registry
        - Verified Carbon Standard (VCS) Registry
        - Climate, Community, & Biodiversity Standards (CCBS) Registry
        - Other
    4.2. *How many carbon offsets (in Metric Tons CO2e) were purchased and retired in the reporting year?
    4.3. *Please upload your purchase invoices or other supporting document.
5. Does your facility track any of its energy use?
6. *Does your facility track energy use from each energy source your facility utilizes?
7. *Does your facility identify and track separately energy use in domestic vs. production?
    - Depending on your answer, you will be asked to provide either comprehensive consumption data or consumption data separated by domestic use and production use.
    7.1. What is the quantity of energy used by each source during this reporting year?
    7.2. Unit of Measure (in g; kg; lb; oz; ton (metric); ton (short); kWh; MJ; mmBTU; BTU; Joule)
    7.3. What method was used to track this energy source (Meters; Invoices; Calculated)?
    7.4. Frequency of measurement
8. *Does your facility track energy/fuel use from each energy/fuel source of company owned and controlled vehicles that your facility utilizes?
    8.1. What is the quantity of energy/fuel used by each source during this reporting year?
    8.2. Unit of Measure (Liters; US gallons; kg; kWh; m^3)
    8.3. What method was used to track this energy/fuel source (Meters; Invoices; Calculated)?

Level 2

9. Has your facility set a baseline for any of its energy use?
10. Which energy source does your facility set baseline on?
    - 10.1. Is this a normalized or absolute baseline?
        - Depending on your answer, you will be asked to provide information based on absolute baseline, or normalized baseline. For vertical facilities, if you can set your baseline per facility type, then you will be asked to provide information based on each facility type.
    - 10.2. What is the baseline quantity for each source?
    - 10.3. Unit of Measure (g; kg; lb; oz; ton (metric); ton (short); kWh; MJ; mmBTU; BTU; Joule)
    - 10.4. Enter baseline year (cannot be longer than 5 years before the reporting year).
    - 10.5. *If Normalized Baseline*, normalized baseline must be based on the Unit of Measure set from Annual volume).
11. Does your facility know what facility processes or operations use the most energy?
    - 11.1. Does your facility utilize any of these to help you identify?
        - Identifying individual machines that consume energy by creating a machinery list.
        - Analyzing the power ratings of equipment multiplied by the hours of operation to estimate energy use.
        - Installing electronic devices to track energy usage over time (e.g., data loggers, data recorders, or sub-meters).
        - Hiring a certified professional energy engineer to conduct an energy assessment.
        - Consolidating the energy consumption per manufacturing process/ machine type and sort them from highest consumption to lowest consumption.
        - Other
12. Has your facility set targets for improving energy use?
13. Which energy source does your facility set targets on?
    - 13.1. Is this a normalized or absolute target?
        - Depending on your answer, you will be asked to provide information based on absolute target, or normalized target. For vertical facilities, if you can set your target per facility type, then you will be asked to provide information based on each facility type.
    - 13.2. What is your target for change (in %) in energy use from each source?
    - 13.3. Enter the Intermediate and/or final target year (cannot be more than 5 years from the reporting year).
    - 13.4. Describe the measures planned to achieve this target.
    - 13.5. *If Normalized target*, normalized target must be based on the Unit of Measure set from Annual volume).
14. Has your facility set targets for reducing your facility overall Scope 1 and Scope 2 GHG emissions?
    - 14.1. What is your overall GHG emission baseline quantity (in Metric Tons CO2e)?
    - 14.2. Enter baseline year.
    - 14.3. What is your target for reducing your facility's overall GHG emissions (in Metric Tons CO2e)?
    - 14.4. What is your target year?

14.5. Is this a normalized or absolute target?
14.6. Describe the measures planned to achieve this target.
15. Does your facility have an implementation plan to improve energy use and/or GHG Emissions?
16. *Has an energy audit been conducted at your facility within the last 5 years?
17. *Does your facility have a plan to phase-out Coal?
17.1. *Have you done any financial analysis/cost impact to replace Coal as an energy source?
17.2. *What is your plan and what are your steps to phase-out?
17.3. *What is your final date to complete your Coal phase-out?
18. Has your facility improved energy consumption compared with its baseline in the reporting year?
18.1. What is your achievement for change (in %) in energy use from this source compared to its baseline?
18.2. Please describe strategies used to achieve this improvement.
19. *Has your facility reduced your facility overall Scope 1 and Scope 2 GHG emissions compared with its baseline in the reporting year?
19.1. *How much (in Metric Tons CO2e) have you reduced in this reporting year compared to its baseline?
19.2. *Is this a normalized or absolute reduction?
19.3. *Please describe strategies used to achieve this improvement

Level 3

20. Were your facility's annual Scope 3 greenhouse gas (GHG) emissions calculated during this reporting year?
20.1. Report your facility's annual Scope 3 GHG emissions in Metric Tons CO2e.
20.2. Describe your Scope 3 calculation.
21. Has your facility set a Science-Based Target?
21.1. *Please indicate which methodology you use to set the Science-Based Target (SBTi; Other).
21.2. *Has this Science-Based Target been approved?
21.3. *What is your Science-Based Target?
21.4. Please provide the name under which the approved target is reported.
22. *Does your facility have a plan to phase-out any fossil fuel, other than Coal?
22.1. *Have you done any financial analysis/cost impact to replace any fossil fuel, other than Coal as an energy source?
22.2. *What is your plan and what are your steps to phase-out?
22.3. *What is your final date to complete your fossil fuel phase-out?
23. *Has your facility successfully replaced any fossil fuel(s) with renewable energy?

Water

Level 1

1. Select all water sources used by your facility.
2. Does your facility track any of its water use?

3. *Does your facility track water use from each water source your facility utilizes?
4. *Does the water consumption you track and report include the rejected water quantity from pre-treatment?
    4.1. *Please select the type/s of treatment.
    4.2. *Does your facility measure the quantity of water rejected from the pre-treatment?
        4.2.1. *What are the water sources that you send through pre-treatment?
        4.2.2. *Please indicate the annual quantity (m^3).
        4.2.3. *What is the reject percentage (%)?
    4.3. *What is the method of disposal of the rejected water?
5. *Are you able to identify and track domestic and production water use separately?
    - Depending on your answer, you will be asked to provide either comprehensive consumption data or consumption data separated by domestic use and production use.
    5.1. What quantity of water was used from this source during this reporting year?
    5.2. Unit of Measure (gal; liter; m3)
    5.3. Which method was used to track this water source(Meters; Invoices; Calculated)?
    5.4. What was the frequency of measurement?
6. *Are there any Legally Mandated Groundwater Abstraction Restrictions in your country?
    6.1. Please upload the relevant legal regulation.
    6.2. How much ground water in m3/h is your facility allowed to abstract (m^3/h)?
    6.3. How much ground water in m3/day is your facility allowed to abstract (m^3/day)?
    6.4. How much ground water per unit time is your facility allowed to abstract (m^3/unit time)?
    6.5. Are you abstracting within the legal limit?
7. *Does your facility have a schedule to monitor the water supply network in your facility for leaks ?

Level 2

8. *Has your facility set a baseline for any of its water use?
9. *Are you able to set a baseline separately for water use in domestic vs. production?
10. Which water source does your facility set baseline on?
    10.1. Is this a normalized or absolute baseline?
        - Depending on your answer, you will be asked to provide information based on absolute baseline, or normalized baseline. For vertical facilities, if you can set your baseline per facility type, then you will be asked to provide information based on each facility type.
    10.2. What is the baseline quantity for each source?
    10.3. Unit of Measure (gal; liter; m3)
    10.4. Enter baseline year (cannot be longer than 5 years before the reporting year).
    10.5. If Normalized Baseline, normalized baseline must be based on the Unit of Measure set from Annual volume).
11. *Which water source for domestic use does your facility set baseline on?
    11.1. Is this a normalized or absolute baseline?
        - Depending on your answer, you will be asked to provide information based on absolute baseline, or normalized baseline. For vertical facilities, if you can set your baseline per facility type, then you will be asked to

provide information based on each facility type.

11.2. What is the baseline quantity for each source?
11.3. Unit of Measure (gal; liter; m3)
11.4. Enter baseline year (cannot be longer than 5 years before the reporting year).
11.5. If Normalized Baseline, normalized baseline must be based on the Unit of Measure set from Annual volume).

12. *Which water source for production use does your facility set baseline on?
12.1. Is this a normalized or absolute baseline?
- Depending on your answer, you will be asked to provide information based on absolute baseline, or normalized baseline. For vertical facilities, if you can set your baseline per facility type, then you will be asked to provide information based on each facility type.

12.2. What is the baseline quantity for each source?
12.3. Unit of Measure (gal; liter; m3)
12.4. Enter baseline year (cannot be longer than 5 years before the reporting year).
12.5. If Normalized Baseline, normalized baseline must be based on the Unit of Measure set from Annual volume).

13. Has your facility implemented a water balance or another analysis to evaluate and trace water intake against usage (i.e. which processes) and output (i.e. to wastewater treatment plant)?
13.1. Which one of the below activities were conducted to evaluate and trace water intake against usage and output? Select all that apply:
- Conduct water balance / analysis (apply across the board)
- Conduct water audit in last 5 years
- Other

13.2. Which one of the below activities were conducted to evaluate and trace water intake against usage and output? Select all that apply:
13.2.1. *List down the highest water use processes or operations at your facility (from highest to lowest) that account for 80% of your water use?

14. *Has your facility set targets for reducing blue water use from any source, except rainwater?
14.1. Is this a normalized or absolute target?
- Depending on your answer, you will be asked to provide information based on absolute target, or normalized target. For vertical facilities, if you can set your target per facility type, then you will be asked to provide information based on each facility type.

14.2. What is your target for change (in %) in blue water use from each source?
14.3. Enter the Intermediate and/or final target year (cannot be more than 5 years from the reporting year).
14.4. Describe the measures planned to achieve this target.
14.5. If Normalized target, normalized target must be based on the Unit of Measure set from Annual volume).

15. *Has your facility set targets for increasing grey water use from any source?
15.1. Is this a normalized or absolute target?
- Depending on your answer, you will be asked to provide information based on absolute target, or normalized target. For vertical facilities, if you can set your target per facility type, then you will be asked to provide information based on each facility type.

15.2. What is your target for change (in %) in grey water use from each source?
15.3. Enter the Intermediate and/or final target year (cannot be more than 5 years from the reporting year).
15.4. Describe the measures planned to achieve this target.
15.5. If Normalized target, normalized target must be based on the Unit of Measure set from Annual volume).

16. *Does your facility set targets to improve the rainwater harvesting capacity at your facility?

16.6. *Have you utilized the maximum roof /ground area that is feasible for rainwater harvesting for your facility?

17. Does your facility have an implementation plan to improve water use?
18. *Has your facility reduced blue water use for any sources, compared with your baseline?
18.1. Has your facility reduced water consumption for this source compared with its baseline?
18.2. What is your achievement for change (in %) in water use from this source compared to its baseline?
19. *Has your facility increased grey water use for any sources, compared with your baseline?
19.1. Has your facility reduced water consumption for this source compared with its baseline?
19.2. What is your achievement for change (in %) in water use from this source compared to its baseline?
20. *Does your facility have a plan to reduce your absolute bluewater use?

Level 3

21. *Have you eliminated (reduced more than 90%) the use of groundwater for your production processes?
22. *Can your facility demonstrate you have reduced your overall absolute bluewater use?
22.1. How much has your facility reduced (%)?
22.2. What is your baseline absolute quantity?
22.3. Describe the strategies used to achieve this improvement.
23. *Does your facility report or disclose water risk and consumption to an external reporting standard, i.e. GRI / CDP?
23.1. Please provide a link to the report / disclosure.
24. *Can your facility demonstrate a positive impact onto the water catchment/basin area or water source in your community?
25. *Does your facility implement any “leading technology” practices to significantly reduce water use in the manufacturing process?
26. *Has your facility set a Science-Based Target on Water?
26.1. *Please indicate which methodology you use to set the Science-Based Target (SBTN; Other).
26.2. *What is your Science-Based Target?

Wastewater

Level 1

1. Does your facility track its wastewater volume?
    1.1. What is the quantity of wastewater discharged from your facility during this reporting year?
    1.2. What method was used to track wastewater volume (Meters; Invoices; Calculated)?
    1.3. What was the frequency of measurement?
    1.4. How many wastewater discharge points do you have?
    1.5. Have you labeled all wastewater discharge points?
    1.6. Do you monitor all identified wastewater discharge points?
    1.7. What was the final discharge point for your facility's wastewater?
2. *Does your facility monitor the BOD5 Level of your wastewater?
    2.1. How does your facility monitor the BOD5 level of your wastewater?
        - Before Treatment only
        - After Treatment only
        - Before and After Treatment
        - All processes including sub process level
    2.2. *How many biological treatment subprocesses does your treatment plant(s) consist of?
    2.3. Indicate whether each subprocess is Aerobic, Anaerobic or Facultative
    2.4. What is your BOD5 level prior to treatment?
    2.5. What is your BOD5 level after the treatment?
3. Does your facility have a mechanism to prevent stormwater from being contaminated before it is discharged into the environment?
    3.1. How do you prevent stormwater pollution at your facility?
    3.2. Can you please confirm that contaminated stormwater is not directly discharged into the environment?
4. Does your facility maintain a copy of the current contract, permit, agreement or invoices regarding wastewater discharge regulatory compliance requirements for your facility to the off site wastewater treatment plant?
5. *Does your facility have a mechanism or process to monitor whether your wastewater treatment plant is functioning as per the design parameters (Volume, Flow Rate, Input /Output Quality)?
    5.1. If yes, which of the following activities do you have and are being conducted?
        - Policy
        - Standard Operating Procedure
        - Training
        - Communication
        - Continuous monitoring
        - Continuous Sampling & Testing
        - Ongoing Maintenance
        - Other
    5.2. What is the design capacity of your onsite wastewater treatment plant (m3/h)?
    5.3. What is the average volume of wastewater treated by your wastewater treatment plant per day (m3/day)?

5.4. Do you monitor process control parameters with your wastewater treatment plant?
5.4.1. If yes, how frequently do you monitor them?

6. Does your facility have a back-up plan if there is an emergency related to wastewater?
6.1. Does your facility have a process to contact appropriate government authorities or agencies as legally required in case of accidental discharge?
6.2. Select all strategies included in your facility's back-up plan for wastewater
6.2.1. Emergency Production Shutdown
6.2.2. Holding Tank
6.2.2.1. What is the size of your facility's holding tank (in m3)?
6.2.3. Availability of additional pumps, blowers, dosing pumps and critical equipment for the specific treatment plant, that are not used for day to day running of the plant.
6.2.4. Discharge to Offsite Water Treatment Plant
6.2.5. Other Backup Process
6.3. What is your facility's wastewater treatment maximum holding capacity (in m3) if the treatment plant is shut down in an emergency?
6.4. Does your facility provide training to all relevant employees regarding the backup plan?
6.4.1. If yes, how many employees were trained?
6.4.2. If yes, how frequently do you train your employees?
6.4.3. Do you evaluate your employees after the training?
6.4.3.1. How do you evaluate the knowledge of your employees after the training?

7. Can you please confirm that wastewater generated by the facility is not discharged to the environment through leaking and/or bypassing?
8. *How many separate and distinct sources of wastewater sludge are managed and disposed of?
8.1. Please describe the source of each type of wastewater sludge generated at your facility.
8.2. Do you know the % solids of your wastewater sludge you generated?
8.2.1. What are the % solids of this wastewater sludge you have generated?
9. *Does your facility track its industrial wastewater sludge generated in the reporting year?
9.1. If yes, how much industrial wastewater sludge (in Metric Tons) did you generate in the reporting year?
10. *Does your facility track its domestic wastewater sludge generated in the reporting year?
10.1. If yes, how much domestic wastewater sludge (in Metric Tons) did you generate in the reporting year?
11. *Does your facility have well-marked, designated wastewater sludge storage areas?
11.1. If yes, does your facility have the following practices in place in the wastewater sludge storage area?
11.1.1. The surface of the wastewater sludge storage area prevents permeability into the ground and is inert in nature.
11.1.2. The wastewater sludge storage area is protected from exposure to precipitation and stormwater runoff.
11.1.3. The industrial and domestic wastewater sludge are kept and stored separately.
11.1.4. The industrial wastewater sludge storage area is protected from unauthorized employees.

12. Is industrial wastewater sludge disposed of properly?
    12.1. Which disposal pathway(s) does your facility dispose of your industrial wastewater sludge:
        12.1.1. Hazardous Waste Treatment
        12.1.2. Open burning
        12.1.3. Onsite Incineration at ≥1000 °C
        12.1.4. Onsite Incineration at <1000 °C
        12.1.5. Offsite Incineration at ≥1000 °C
        12.1.6. Landfill with Significant Control Measures
        12.1.7. Building Products Processed at ≥1000 °C
        12.1.8. Landfill with Limited Control Measures
        12.1.9. Offsite Incineration and Building Products Processed at <1000 °C
        12.1.10. Landfills with No Control Measures
        12.1.11. Land Application (in H2H Composted and Fertilizer, utilize ZDHC definition)
        12.1.12. Non-disclose method by authorized third party (final disposal method not disclosed)
13. *Does your facility maintain manifests or similar documentation of the handling, transportation, processing, and disposal of sludge, accounting for all industrial wastewater sludge generated at the facility?
    13.1. Does your facility use authorized third parties for legal disposal of Industrial wastewater sludge?
    13.2. Does your facility retain documentation of all wastewater sludge transportation and disposal/treatment companies?
    13.3. Are all Industrial wastewater sludge transporters, treatment, and disposal facilities licensed and permitted?
14. Does your facility provide training to all employees whose work involves wastewater sludge handling (such as maintenance and custodial staff)?
    14.1. If yes, how many employees were trained?
    14.2. If yes, how frequently do you train your employees?
    14.3. Do you evaluate your employees after the training?
        14.3.1. How do you evaluate the knowledge of your employees after the training?
15. Is domestic wastewater sludge disposed of properly?
    15.1. Which disposal pathway(s) does your facility dispose of your domestic wastewater sludge:
        15.1.1. Hazardous Waste Treatment
        15.1.2. Open burning
        15.1.3. Onsite Incineration at ≥1000 °C
        15.1.4. Onsite Incineration at <1000 °C
        15.1.5. Offsite Incineration at ≥1000 °C
        15.1.6. Landfill with Significant Control Measures
        15.1.7. Building Products Processed at ≥1000 °C
        15.1.8. Landfill with Limited Control Measures
        15.1.9. Offsite Incineration and Building Products Processed at <1000 °C
        15.1.10. Landfills with No Control Measures
        15.1.11. Land Application
        15.1.12. Non-disclose method by authorized third party (final disposal method not disclosed)
16. Does your facility maintain documentation that shows wastewater sludge processing?

17. Does your facility manage the residue of the Septic System?
    - 17.1. *Is your Septic System adequately designed for the septic wastewater volume generated at your facility?
    - 17.2. How frequently does your facility unload your septic tank(s)?
    - 17.3. How did your facility dispose of the solids after unloading from your septic tank:
        - 17.3.1. Sent to Municipal plant for further treatment
        - 17.3.2. Hazardous Waste Treatment
        - 17.3.3. Open burning
        - 17.3.4. Onsite Incineration at ≥1000 °C
        - 17.3.5. Onsite Incineration at <1000 °C
        - 17.3.6. Offsite Incineration at ≥1000 °C
        - 17.3.7. Landfill with Significant Control Measures
        - 17.3.8. Building Products Processed at ≥1000 °C
        - 17.3.9. Landfill with Limited Control Measures
        - 17.3.10. Offsite Incineration and Building Products Processed at <1000 °C
        - 17.3.11. Landfills with No Control Measures
        - 17.3.12. Land Application
        - 17.3.13. Non-disclose method by authorized third party (final disposal method not disclosed)
    - 17.4. Does your facility obtain shipment manifest / record for offloading septic waste?
18. *Have you tested your wastewater against the legal requirements that apply to your facility?
    - 18.1. If Yes, Do the results show compliance against the requirement?
    - 18.2. Upload test reports
19. Are you reporting against any wastewater standard (additional to the legal requirement)?
    - 19.1. Please indicate which wastewater standard(s) you are reporting against:
        - ZDHC Wastewater Guidelines (for Leather & Textile) (WWG)
        - ZDHC MMCF Guidelines
        - ZDHC Sludge Reference Document
        - BSR
        - bluesign Wastewater Standard
        - Customer/Brand
        - Other

Level 2

20. *Are you reporting against any wastewater standard (additional to the legal requirement)?
21. *Are you in compliance/conformance with the reported wastewater standard?
    - 21.1. Are your parameter results available on the standard's platform?
    - 21.2. Please provide a direct link to the standard's platform to access results.
    - 21.3. Please provide additional information of why you are not compliant with this wastewater standard.
22. *If you reported against ZDHC wastewater guidelines, did your facility test your wastewater and meet foundational level conventional parameters and Anion in the reporting year?
    - 22.1. Whether Detected or not
    - 22.2. Quantity Detected

21.3. Please provide additional information of why you are not compliant with this wastewater standard.

22. *If you reported against ZDHC wastewater guidelines, did your facility test your wastewater and meet foundational level conventional parameters and Anion in the reporting year?
    - 22.1. Whether Detected or not
    - 22.2. Quantity Detected
    - 22.3. Unit of measure (mg/L; microgram(µg)/L; nanometer; Celcius; bacteria/100 ml)
    - 22.4. What is the limit quantity?
    - 22.5. Unit of measure (mg/L; microgram(µg)/L; nanometer; Celcius; bacteria/100 ml)
    - 22.6. Indicate ZDHC Level, if applicable
    - 22.7. How long have you had this problem?
23. *If you reported against ZDHC wastewater guidelines, did your facility test your wastewater and meet foundational level heavy metal limits in the reporting year?
    - 23.1. Whether Detected or not
    - 23.2. Quantity Detected
    - 23.3. Unit of measure (mg/L; microgram(µg)/L; nanometer; Celcius; bacteria/100 ml)
    - 23.4. What is the limit quantity?
    - 23.5. Unit of measure (mg/L; microgram(µg)/L; nanometer; Celcius; bacteria/100 ml)
    - 23.6. Indicate ZDHC Level, if applicable
    - 23.7. How long have you had this problem?
24. *If you reported against ZDHC wastewater guidelines, did your facility test your wastewater and detect any MRSL parameters in the reporting year?
    - 24.1. Whether Detected or not
    - 24.2. Quantity Detected
    - 24.3. Unit of measure
    - 24.4. What is the limit quantity?
    - 24.5. Unit of measure
    - 24.6. Indicate ZDHC Level, if applicable:
    - 24.7. How long have you had this problem?
25. *If you reported against ZDHC wastewater guidelines, did your facility test your wastewater and get conformance against microfiber parameters in the reporting year?

    This is likely to launch with FEM2025 only as the ZDHC guideline will only be released in the year 2024, and start testing in the year 2025.
    - 25.1. Whether Detected or not
    - 25.2. Quantity Detected
    - 25.3. Unit of measure (mg/L; microgram(µg)/L; nanometer; Celcius; bacteria/100 ml)
    - 25.4. What is the limit quantity?
    - 25.5. Unit of measure (mg/L; microgram(µg)/L; nanometer; Celcius; bacteria/100 ml)
    - 25.6. Indicate ZDHC Level, if applicable.
    - 25.7. How long have you had this problem?
26. *Does your facility track wastewater sludge by each source which includes all sludge generated onsite and its disposition in your sludge inventory?
    - 26.1. How is this wastewater sludge generated classified for this source?
    - 26.2. Does your facility track how much wastewater sludge it generates from this source in the reporting year?
    - 26.3. How much wastewater sludge (in Metric Ton) do you generate from this source in the reporting year (after any drying process is conducted, if any)?
    - 26.4. How does your facility dispose of this wastewater sludge?

26.5. If Other, please describe your disposal pathway.
26.6. How does your facility dispose of ash generated from onsite incineration?
26.7. Did you test the wastewater sludge of this source?
26.8. Were MRSLs detected in the sludge?
26.9. If MRSLs is detected, please select which one (select all that apply)
26.10. Were Heavy Metal (Total Metal) and conventional parameters tested?
26.11. If Heavy Metal (Total Metal) and conventional parameters were above allowable limits, please indicate which one.

27. *Does your facility maintain manifests or similar documentation of the handling, transportation, processing, and disposal of sludge, accounting for all domestic sludge generated at the facility?
28. Do you have a plan to upgrade your septic tank to a more modern wastewater treatment approach?
    28.1. If yes, when do you plan on having the upgrade completed?
    28.2. If no, please describe why you do not plan to upgrade your septic tank?
29. Have you requested wastewater quality test results from the off site wastewater treatment plant?
    29.1. How / What action did you take to make the request?
        - Request Permit / compliance status of off site Wastewater treatment plant
        - Email
        - Research online record
        - Send official request to offsite Wastewater treatment plant
        - Other

Level 3

30. *Does your facility engage/collaborate with your off-site wastewater treatment plant to improve their wastewater treatment and/or engage in recycling?
    30.1. If Yes, please describe your engagement/collaboration activity.
31. *Does your facility reuse processed wastewater as process water?
    31.1. How much (in m3) of process wastewater was reused back into your production processes?
    31.2. Enter the percentage of process wastewater reused back into your production processes.
    31.3. Please briefly describe how the reuse process in conducted within your facility.
32. Does your facility recycle industrial wastewater for production processes?
    32.1. How much (in m3) of treated industrial wastewater was recycled back into your production processes?
    32.2. Enter the percentage of treated industrial wastewater was recycled back into your production processes.
    32.3. Please briefly describe how the recycling process in conducted within your facility.
33. Does your facility recycle domestic wastewater for domestic use (i.e. landscape irrigation, toilet)? *(only apply to Domestic wastewater onsite only)*
    33.1. How much (in m3) of treated domestic wastewater was recycled back as domestic water?
    33.2. Enter the percentage of wastewater treated and recycled back as domestic water.
    33.3. Please briefly describe how the recycling process in conducted within your facility.

Air Emissions

Level 1

1. *Has your facility created an inventory of all point source air emission sources at your facility?
    1.1. Does your facility's point source air emissions inventory include the following information? Select all that apply:
        - Unique source identifier (emission point name or number)
        - Process or Equipment the source is linked to
        - List of pollutants emitted from the source
        - Legal or other emissions testing or reporting requirements if required (testing parameters and frequency), if applicable
        - Control devices installed on the source, if applicable
2. *Has your facility created an inventory of all mobile and fugitive air emission sources at your facility?
    2.1. Does your facility's Mobile and Fugitive air emissions inventory include the following information? Select all that apply:
        - Unique source identifier (emission source name or number)
        - Process or Equipment the source is linked to
        - List of pollutants emitted from the source
        - Legal or other emissions testing or reporting requirements if required (testing parameters and frequency)
        - abatement processes for the source, if applicable
3. *Is your facility in compliance with all applicable legal requirements relating to air emissions including all permitting, reporting and testing requirements?
    3.1. Does your facility have an action plan to address the non-compliance?
4. *Do you know what refrigerant(s) your facility uses?
    4.1. *What type of refrigerant(s) do you use in your facility? (Select all that apply)
    4.2. *Which specific refrigerant do you use in your facility?
5. *Does your facility have preventative maintenance procedures in place to avoid refrigerant leakage from your equipment?
    5.1. Does your facility have preventative maintenance procedures in place to avoid refrigerant leakage from your equipment
6. Does your facility track refrigerant usage?
    6.1. Refrigerant
    6.2. Did you add this refrigerant to existing equipment in the reporting year?
    6.3. Quantity of refrigerant added to existing equipment during the reporting year
    6.4. Unit of measure (g; kg; lb; ton (metric); ton (short))
    6.5. What method was used to track use?
    6.6. Did you fix the leak associated with this refrigerant?
    6.7. How did you fix the leak / What is your plan for fixing this leak?
7. *Are you monitoring or reporting against any industry guidelines or tools for air emissions (additional to the legal requirement)?
    7.1. Please indicate which Air standard you are reporting against:
        - ZDHC Air Emissions Position Paper/ZDHC Air Emissions Guidelines
        - ZDHC MMCF Guidelines
        - Other

Level 2

8. *Does your facility track the total annual emissions quantities of key pollutants from all point source emissions from facility operations?
    - Particulate Matter
    - Nitrogen Oxides (NOx)
    - Sulfur Oxides (SOx)
    - Carbon Monoxide (CO)
    - Volatile Organic Compounds (VOC) or Total Organic Carbon (TOC)
    - Hazardous or Toxic Air Pollutants (HAP/TAP)

    8.1. Is this pollutant emitted from the facility?
    8.2. Is this pollutant regulated by a government agency?
    8.3. Was the total annual emission quantity of this pollutant from all point sources calculated for the reporting year?
    8.4. What is your annual emission quantity (in kg) of the pollutant?
    8.5. Unit of measure
    8.6. Describe the methodology used to determine the annual emissions quantity of this pollutant
9. *Does your facility track the total annual emissions quantities of key pollutants from all emissions from production?
    - Particulate Matter
    - Nitrogen Oxides (NOx)
    - Sulfur Oxides (SOx)
    - Carbon Monoxide (CO)
    - Volatile Organic Compounds (VOC) or Total Organic Carbon (TOC)
    - Hazardous or Toxic Air Pollutants (HAP/TAP)
    - Ammonia (NH3)
    - Ozone (O3)
    - Ozone Depleting Substances (ODS)
    - Carbon disulfide (C2S) *(MMCF only)*
    - Hydrogen Sulfide (H2S) *(MMCF only)*

    9.1. Is this pollutant emitted from the facility?
    9.2. Is this pollutant regulated by a government agency?
    9.3. Was the total annual emission quantity of this pollutant from all point sources calculated for the reporting year?
    9.4. What is your annual emission quantity (in kg) of the pollutant?
    9.5. Unit of measure (kg)
    9.6. Describe the methodology used to determine the annual emissions quantity of this pollutant.
10. *Has your facility established an implementation plan to reduce air emissions from production processes?
    10.1. What control devices, process modifications, or raw material/fuel/equipment substitutions will be implemented to reduce air emissions?
    10.2. Which pollutants are targeted for reduction?
11. *Has your facility established an implementation plan to reduce air emissions from facility operations?
    11.1. What control devices, process modifications, or raw material/fuel/equipment substitutions will be implemented to reduce air emissions?
    11.2. Which pollutants are targeted for reduction?

12. *Are you monitoring or reporting against any industry guidelines or tools for air emissions (additional to the legal requirement)?
13. *Are you meeting / conforming to the requirements of the industry guideline(s) on air emissions?
    13.1. If yes, which level of air performance you have achieved
    (If ZDHC Guidelines are selected)
    - Level 1: Foundation
    - Level 2: Progressive
    - Level 3: Aspirational
14. *Do you have a plan to replace your current refrigerant with low ODS / low GWP refrigerant gasses that goes beyond current legal requirements?
15. *Does the facility have business policies or procedures in effect that ensure that all Best Available Technologies (BAT) for air emissions reductions are considered in the long-term environmental plans of the facility?

Level 3

16. *Has your facility made progress on your implementation plan to reduce air emissions from facility operations in the reporting year?
    16.1. Describe the actions completed in the reporting year.
17. *Has your facility made progress on your implementation plan to reduce air emissions from production processes in the reporting year?
    17.1. Describe the actions completed in the reporting year.
18. *Has your facility replaced any refrigerant with low ODS / low GWP refrigerant gasses that goes beyond current legal requirements?
    18.1. Describe the actions taken beyond current legal requirements.
19. *Have you utilized the best available technology (BAT) for the major air emissions from your facility?
    19.1. Describe the actions taken beyond current legal requirements.
    19.2. Describe the technology currently being utilized.

Waste

Level 1

1. Which non-hazardous waste streams does your site produce?
    1.2. *If Textile Waste, does your facility segregate textile waste on material composition?
2. Does your facility track any of its non-hazardous waste streams?
3. *Does your facility track each non-hazardous waste stream your facility generates?
4. *Please complete the following questions to provide details on your annual non-hazardous waste generation during the reporting year:
    4.1. What quantity of this waste stream did you generate during the reporting year?
    4.2. Unit of Measure (g ; kg ; lb ; oz ; ton (metric) ; ton (short))
    4.3. Which method was used to track this waste stream (Weighted; Estimated; Invoices)?
    4.4. How was this waste disposed of? (Reuse; Upcycle; Recycle; Downcycling; Material Recovery; Energy Recovery for Non-Recyclables; Residual

Management (e.g. Physical/chemical/biological treatment); Onsite incineration without energy recovery for Non-Recyclables; Offsite Incineration without energy recovery for Non-Recyclables; Other Treatment; Responsibly Managed Landfills; Energy Recovery for Recyclables; Landfill/Dumping with No Control Measures; Onsite Incineration without energy recovery for Recyclables; Offsite incineration without energy recovery for Recyclables; Other)?

5. Which hazardous waste streams does your site produce?
6. Does your facility track any of its hazardous waste streams?
7. *Does your facility track each hazardous waste stream your facility generates?
8. *Please complete the following questions to provide details on your annual hazardous waste generation during the reporting year:
   - 8.1. What quantity of this waste stream did you generate during the reporting year?
   - 8.2. Unit of Measure (g; kg; lb; oz; ton (metric); ton (short))
   - 8.3. Which method was used to track this waste stream (Weighted; Estimates; Invoices)?
   - 8.4. How was this waste disposed of (Reuse; Upcycle; Recycle; Downcycling; Material Recovery; Energy Recovery for Non-Recyclables; Residual Management (e.g. Physical/chemical/biological treatment); Onsite incineration without energy recovery for Non-Recyclables; Offsite Incineration without energy recovery for Non-Recyclables; Other Treatment; Responsibly Managed Landfills; Energy Recovery for Recyclables; Landfill/Dumping with No Control Measures; Onsite Incineration without energy recovery for Recyclables; Offsite incineration without energy recovery for Recyclables; Other)?
9. Does your facility both segregate waste (hazardous and non-hazardous) and store these waste separately?
10. Does your facility have well-marked, designated hazardous waste storage areas and proper containers for all hazardous waste?
    - 10.1. Hazardous waste storage area requirements:
      - 10.1.1. The hazardous waste storage area is ventilated, dry and protected from the weather and fire risk.
      - 10.1.2. The hazardous waste storage area is protected from unauthorized employees.
      - 10.1.3. Eating, smoking and drinking are not permitted in these areas.
      - 10.1.4. The hazardous waste storage area is clearly marked.
      - 10.1.5. Where liquid wastes are stored, the floor is solid and non-porous, containers have lids, there are no water drains that the liquid could spill into, and there is no evidence of spilled liquid.
      - 10.1.6. Flammable substances are kept away from sources of heat or ignition, including the use of grounding and explosion-proof lighting.
      - 10.1.7. Incompatible waste must be segregated.
      - 10.1.8. Spill response equipment including necessary personal protective equipment (PPE) must be located near storage areas including accessible emergency eyewash and/or shower stations.
      - 10.1.9. Employees must use appropriate personal protective equipment (PPE) when in these areas.
      - 10.1.10. Adequate aisle space must be maintained between containers.
      - 10.1.11. Instructions for safe handling of hazardous waste and other appropriate signage should be displayed.

10.2. Hazardous waste storage container requirements
- 10.2.1. Hazardous waste storage containers are in good condition, appropriate for their contents, closed and clearly labeled with their contents.
- 10.2.2. Containers must have lids.
- 10.2.3. Containers must be secured to prevent falling and safely stacked.

11. Does your facility have well-marked, designated non-hazardous waste storage area(s) and containers?
- 11.1. Non-Hazardous waste storage area requirements
  - 11.1.1. The non-hazardous waste storage area is ventilated, dry and protected from the weather and fire risk, and must be stored on impervious surfaces.
  - 11.1.2. The non-hazardous waste storage area is clearly marked.
  - 11.1.3. Flammable substances are kept away from sources of heat or ignition, including the use of grounding and explosion-proof lighting.
  - 11.1.4. Waste must be segregated by type.
  - 11.1.5. Employees must use appropriate personal protective equipment (PPE) when in these areas.
- 11.2. Non-Hazardous waste storage container requirements
  - 11.2.1. Storage containers are in good condition, appropriate for their contents, closed and clearly labeled with their contents .
  - 11.2.2. Containers must be secured to prevent falling and safely stacked.

12. Does your facility forbid all irresponsible waste disposal actions including open burning, open dumping, burying waste and intentional release into soil and/or water?
- 12.1. Which of the following have your facility not yet forbidden? (Select all that apply)
  - 12.1.1. Opening burning
    - 12.1.1.1. if open burning is not forbidden, please describe your current practice
  - 12.1.2. Opening dumping
    - 12.1.2.1. If open dumping is not forbidden, please describe your current practice
  - 12.1.3. Burying waste
    - 12.1.3.1. If burying waste is not forbidden, please describe your current practice
  - 12.1.4. Intentional release into soil and/or water
    - 12.1.4.1. If intentional release into soil and/or water is not forbidden, please describe your current practice

13. *Does your facility provide awareness training to employees regarding segregation of waste?

14. Does your facility provide training to all employees whose work involves hazardous waste handling (such as maintenance and custodial staff) within the facility?
- 14.1. If yes, please select all topics included in your training:
  - 14.1.1. Proper handling
  - 14.1.2. Storage and disposal techniques and procedures
  - 14.1.3. Specific operational procedures for waste minimization
  - 14.1.4. Use of personal protective equipment
  - 14.1.5. Other
- 14.2. If yes, how many employees were trained?
- 14.3. If yes, how frequently do you train your employees?
- 14.4. *Do you evaluate your employees after the training?

14.4.1. *How do you evaluate the knowledge of your employees after the training?

Level 2

15. *Has your facility set baselines for non-hazardous waste?
    15.1. Is this a normalized or absolute baseline?
    -Depending on your answer, you will be asked to provide information based on absolute baseline, or normalized baseline.
    15.2. What is the baseline quantity for this non-hazardous waste stream?
    15.3. Unit of Measure (g; kg; lb; oz; ton (metric); ton (short))
    15.4. Enter baseline year (cannot be longer than 5 years before the reporting year)
    15.5. If Normalized Baseline, normalized baseline must be based on the Unit of Measure set from Annual volume)
16. *Has your facility set baselines for hazardous waste?
    16.1. Is this a normalized or absolute baseline?
    -Depending on your answer, you will be asked to provide information based on absolute baseline, or normalized baseline.
    16.2. What is the baseline quantity for this hazardous waste stream?
    16.3. Unit of Measure (g; kg; lb; oz; ton (metric); ton (short))
    16.4. Enter baseline year (cannot be longer than 5 years before the reporting year)
    16.5. If Normalized Baseline, normalized baseline must be based on the Unit of Measure set from Annual volume)
17. *Which waste disposal methods are used for your facility's wastes? (Does your facility dispose of waste using this method?)
    - Preferred Options
        - Material Recovery - Reuse
        - Material Recovery - Recycle (including Upcycle)
        - Material Recovery - Downcycle
    - Less Preferred Options
        - Energy Recovery - Incineration with energy recovery for Non-Recyclables only
        - Energy Recovery - Residual Management (e.g. Physical / Chemical / Biological Treatment)
        - Non-valorized disposal - Onsite incineration without energy recovery for Non-Recyclables
        - Non-valorized disposal - Offsite incineration without energy recovery for Non-Recyclables
        - Non-valorized disposal - Other Treatment
        - Non-valorized disposal - Responsibly Managed Landfills (for waste that cannot be managed in any of the options under Preferred options or Less Preferred Options)
    - Least Preferred Options
        - Energy Recovery (e.g. Incineration with energy recovery for Recyclables)
        - Landfill/Dumping with No Control Measures
        - Onsite Incineration without energy recovery for Recyclables
        - Offsite incineration without energy recovery for Recyclables
    - Other

17.1. Do you have the name and contact information of the offsite incineration plant?
  17.1.1. Name
  17.1.2. Address
  17.1.3. Ownership

18. Did you set a baseline for waste disposal methods for your facility's overall waste?
  18.1. Have you set a baseline for this method?
  18.2. What is the baseline quantity?
  18.3. Unit of Measure (g; kg; lb; oz; ton (metric); ton (short))
  18.4. Enter baseline year (cannot be longer than 5 years before the reporting year)

19. *Does your facility set formal targets to reduce non-hazardous waste generation?
  19.1. Is this a normalized or absolute target?
  -Depending on your answer, you will be asked to provide information based on absolute baseline, or normalized baseline.
  19.2. What is your target for change (in %) in reducing generation from this waste stream?
  19.3. Enter the target year

20. *Does your facility set formal targets to reduce hazardous waste generation?
  20.1. Is this a normalized or absolute target?
  -Depending on your answer, you will be asked to provide information based on absolute baseline, or normalized baseline.
  20.2. What is your target for change (in %) in reducing generation from this waste stream?
  20.3. Enter the target year

21. *Does your facility set a target for improving waste disposal methods for your facility's overall waste? *For example, by switching from least preferred options to less preferred/preferred options or by switching from less preferred options to preferred options.*

22. Which of the following are you doing to manage your waste:
  22.1. Waste mapping – understanding waste flows from different processes. Includes: textile waste, sludge, emissions, discharge, etc.
  22.2. Waste segregation – segregate waste materials so they are clean/controlled. For textile waste: separate into different material types, such as cotton / nylon / polyester / blend specific
  22.3. Waste training – training specific team members to correctly segregate (textile) waste so it remains clean and retains value for recycling
  22.4. Waste storing – store waste materials separately
  22.5. Waste labeling/bagging – label/bag separate waste materials
  22.6. Waste tracking & digitized reporting – to offer information/insights to waste solution providers and traceability
  22.7. Waste matching to solution providers for recycling/upcycling/downcycling/… service providers that can valorize the waste streams
  22.8. Working with stakeholders, such as recyclers to create fully circular business models. Such as re-introducing (recycled) waste streams back into new productions.

23. *Does your facility have an implementation plan to switch to a more preferred waste disposal method

24. *Has your facility reduced non-hazardous waste generation in the reporting year, compared with your baseline?

24.1. Has your facility reduced waste generation for this stream compared with its baseline?
24.2. What is your achievement for change (in %) in non-hazardous waste reduction from this stream compared to its baseline?
24.3. Describe the strategies used to achieve this improvement

25. *Has your facility reduced hazardous waste generation in the reporting year, compared with your baseline?
25.1. Has your facility reduced waste generation for this stream compared with its baseline?
25.2. What is your achievement for change (in %) in hazardous waste reduction from this stream compared to its baseline?
25.3. Describe the strategies used to achieve this improvement

26. Has your facility improved waste disposal methods for overall waste in the reporting year, compared with the baseline?
26.1. Has your facility improved (increase or reduce) this waste disposal method compared with its baseline?
26.2. What is your achievement for change (in %) in improving this waste disposal method compared to its baseline?
26.3. Describe the strategies used to achieve this improvement.

27. Does your facility validate the final disposal and treatment of all hazardous wastes?
27.1. Describe how you work with your facility's waste contractors to ensure appropriate disposal during the waste treatment

Level 3

28. *Does your facility validate the final disposal and treatment of all non-hazardous wastes?
28.1. Describe how you work with your facility's waste contractors to ensure appropriate disposal during the waste treatment.

29. Has your facility disposed of waste through Preferred disposal methods?
29.1. Enter the total percentage of waste being disposed through Preferred disposal method.

30. Does your facility use circular economy systems to capture and reintroduce waste?

31. *Do you or are you willing to work on circular economy systems?
If yes, please describe how
- Participate Independently - on your own
- Work with industry working groups
- Work with customers
- Work with other suppliers
- Other

Chemicals

Level 1

1. *Does your facility have a written Chemical Management System (CMS) policy?
1.1. If Yes, which of the following you have included into the policy (Select all that apply):
1.1.1. Ensuring the safe use of chemicals, to ensure Health and Safety for workers and minimizing environmental impact.

1.1.2. Capacity building and training of staff on CMS.

2. *Have you assigned the responsibility of implementing and maintaining the Chemical Management System (CMS) to a team/staff member?
   2.1. *If Yes, which competence(s) does your CMS team have:
   - Ability to read and interpret SDS
   - Competency in RSL
   - Competency in MRSL
   - Knowledge of GHS of classification and labeling or equivalent as well as local and international regulations on chemical restrictions

3. *Does your facility have a chemical purchasing policy?
   3.1. *If Yes, which of the following criteria are being included into consideration in your chemical purchasing policy:
   - Legal requirements
   - Health and Safety requirements
   - RSL and/or MRSL requirements

4. Does your facility keep a Chemical Inventory List (CIL) and the suppliers of each chemical product?
   4.1. Does your facility include the following types of chemicals in the inventory:
      4.1.1. All chemicals used in manufacturing processes (including chemicals in production, reactants and additives, and wastewater treatment plant chemicals where applicable).
      4.1.2. All chemicals used in tooling/equipment (lubricants and grease).
      4.1.3. All chemicals used to operate and maintain the facility.
      4.1.4. Spot cleaner(s) used in the facility.
   4.2. (if Q4=Partial Yes / No,) For data not included in your facility's Chemical Inventory List, is there an action plan for obtaining this data?

5. Does your facility's Chemical Inventory List (CIL) include the following data:
   - Chemical name and type
   - Supplier/Vendor name and type
   - Manufacturer/Formulator name
   - Safety Data Sheet (SDS), Global Harmonization System (GHS) compliant or equivalent
   - Function
   - Hazard classification
   - Where it is used
   - Storage conditions and location
   - Quantities (quantity of chemicals used)
   - CAS number or numbers (when in a mixture)
   - Lot numbers (if applicable)
   - MRSL conformance
   - Purchase date
   - Expiration dates (if applicable)

6. Does your facility make Safety Data Sheets (SDS) available to employees for all chemicals used?
   6.1. Are Safety Data Sheets readily accessible where hazardous chemicals are stored/used?

6.2. Are Safety Data Sheets available in languages workers understand (at least sections directly related to operational worker safety and storage requirements, such as first aid, hazard, and flammability information)?

7. Does your facility train all employees who use chemicals on chemical hazards, risk, proper handling, and what to do in case of emergency or spill?
   7.1. Please select all topics included in your training:
   - Chemical hazards and identification
   - MSDS/SDS
   - Signage
   - Compatibility and risk
   - Proper storage and handling
   - PPEs
   - Procedure in case of emergency, accidents, or spill
   - Access restriction to chemical storage areas
   - Potential environmental impact of the chemicals in tanks
   - The physical protection provided to employees in the area(s) where the factory uses, stores, and transports these containers
   - Individual duties associated with monitoring and maintaining this protection

   7.2. How many employees were trained?
   7.3. How frequently do you train your employees?
   7.4. Do you evaluate your employees after the training?
      7.4.1. How do you evaluate the knowledge of your employees after the training?

8. Does your facility have a chemical spill and emergency response plan that is practiced periodically?
   8.1. How many employees were trained on this topic?
   8.2. How frequently do you train your employees on this topic?
   8.3. Do you evaluate your employees after the training?
   8.4. How do you evaluate the knowledge of your employees after the training?
   8.5. Does your facility keep records of all employee and environmental incidents related to chemical spills and emergency response?
9. Does your facility have appropriate and operable protective and safety equipment, as recommended by the Global Harmonization System compliant (or equivalent) Safety Data Sheet, in all areas where chemicals are stored and used?
10. Does your facility have chemical hazard signage and safe handling equipment in the areas of the facility where chemicals are used?
11. Does your facility select and purchase chemicals based on their hazards and MRSL requirements?
   11.1. If yes, do all chemicals purchased and used in production meet the facility's chemical purchasing policy?
   11.2. If no, do you have a process or plan for eliminating chemicals that do not meet the facility's chemical purchasing policy?

12. *Does your facility select and purchase chemicals based on their hazards and RSL requirements?
   12.1. If yes, do all chemicals purchased and used in production meet the facility's chemical purchasing policy?
   12.2. If no, do you have a process or plan for eliminating chemicals that do not meet the facility's chemical purchasing policy?

13. Does your facility have an environmental and occupational health and safety program specific to chemicals management?
14. Does your facility have well marked, designated chemical storage areas?
    - 14.1. The chemical storage area is ventilated, dry and protected from the weather, and fire risk.
    - 14.2. The storage area is protected from unauthorized employees (i.e. locked).
    - 14.3. The chemical storage area is clearly marked.
    - 14.4. The chemical storage area has easy entry and exit in case of any emergencies.
    - 14.5. Storage containers are in good condition, appropriate for their contents, closed and clearly labeled with their contents.
    - 14.6. Floor in the storage area is solid and non-porous, there are no water drains that the liquid could spill into, and there is no evidence of spilled liquid.
    - 14.7. Secondary containment is available for solid and liquid chemicals in tanks, drums, and temporary containers (where applicable) to ensure no unintended releases occur.
    - 14.8. Incompatible substances (such as strong acids and strong bases) are stored separately.
    - 14.9. Flammable substances are kept away from sources of heat or ignition, including the use of grounding and explosion-proof lighting.
    - 14.10. Temporary storage containers are closed and labeled with contents, lot, and hazard class.
    - 14.11. First Expiry, First Out (FEFO).
    - 14.12. Health and safety measures are in place (such as PPE, etc).

15. *Does your facility have well marked sub-storage areas?
    - 15.1. The chemical storage area is ventilated, dry and protected from the weather.
    - 15.2. Temporary storage containers are closed and labeled with contents, lot, and hazard class.
    - 15.3. The chemical storage area is clearly marked.
    - 15.4. Floor in the storage area is solid and non-porous, there are no water drains that the liquid could spill into, and there is no evidence of spilled liquid.
    - 15.5. Secondary containment is available for solid and liquid chemicals in tanks, drums, and temporary containers (where applicable) to ensure no unintended releases occur.
    - 15.6. Incompatible substances (such as strong acids and strong bases) are stored separately.
    - 15.7. Flammable substances are kept away from sources of heat or ignition, including the use of grounding and explosion-proof lighting.
    - 15.8. First Expiry, First Out (FEFO).
    - 15.9. Health and safety measures are in place (such as PPE, etc).

16. Does your facility train employees responsible for the chemical management system on Restricted Substance Lists (RSLs)?
    - 16.1. Please describe the RSL trainings conducted in the reporting year
    - 16.2. If yes, how many employees were trained?
    - 16.3. If yes, how frequently do you train your employees?
    - 16.4. Do you evaluate your employees after the training?
    - 16.5. How do you evaluate the knowledge of your employees after the training?

17. *Does your facility train employees responsible for the chemical management system on Manufacturing Restricted Substance Lists (MRSLs)?
    - 17.1. Please describe the MRSL trainings conducted in the reporting year.
    - 17.2. If yes, how many employees were trained?
    - 17.3. If yes, how frequently do you train your employees?
    - 17.4. Do you evaluate your employees after the training?
    - 17.5. How do you evaluate the knowledge of your employees after the training?
18. Does your facility have an established process to investigate and resolve a potential RSL failure?
    - 18.1. If yes, does this process cover steps such as a root cause analysis, steps for a corrective action plan and documentation procedure of such activities?
    - 18.2. If yes, does your facility have a Standard Operating Procedure (SOP) to resolve or prevent such a failure?

Level 2

19. *Does your facility engage contractor(s) or subcontractor(s) on MRSL / RSL?
    - 19.1. Please describe how you engage your contractor or subcontractor in the process.
20. Does your facility engage upstream supplier(s) on MRSL / RSL?
    - 20.1. If yes, please describe which upstream supplier(s) you engage with
    - 20.2. Please describe how you engage your upstream supplier(s) in the process.
21. *Does your facility have the following capabilities and authority in your Chemical Management System (CMS) team:
    - 21.1. Knowledgeable of chemical products and production processes and applications.
    - 21.2. You or your team have the requisite authority from the leadership to drive the CMS.
    - 21.3. Has access to In-House Testing (pH Testing, Color Fastness).
22. Does your facility have an implementation plan to improve your chemicals management system?
    - 22.1. If Yes, does your implementation plan include the following:
        - 22.1.1. Goals based on your priorities and scope for the Chemical Management System.
        - 22.1.2. Continuously improve the effectiveness of the Chemical Management System.
        - 22.1.3. A hazardous chemicals use reduction plan

23. Does your facility have a traceability procedure in place which can track chemicals and raw materials used back from the product to the inventory?
    - 23.1. If Yes, do you include the following practices in your traceability practice:
        - 23.1.1. A clear overview of the source of your raw materials and chemical products and their suppliers.
        - 23.1.2. Record lot/batch number on the purchase order of every chemical.
        - 23.1.3. Record the lot/batch number of these chemicals on each colour/product batch.
        - 23.1.4. Record the lot/batch number of these chemicals on each article type/order.
    - 23.2. Do you record the lot/batch number of your raw materials (fabric, yarn, garment etc.) on each article type/order?
24. Does your facility source already approved or preferred chemicals from a positive list?

Level 3

25. *Have you adopted and implemented the ZDHC Roadmap to Zero (or the Supplier to Zero) programme on sustainable chemical management and its impact areas or other chemical management related industry programs?
    - 25.1. ZHDC Manufacturing Restricted Substances List (MRSL) & InCheck
    - 25.2. ZDHC Wastewater Guidelines (for Leather & Textile) (WWG) & ClearStream
    - 25.3. ZDHC Chemical Management System (CMS) Framework & Technical Industry Guide & Supplier to Zero Certificate
    - 25.4. ZDHC Man-Made Cellulosic Fibers (MMCF) Certificate (MMCF ONLY) / ZDHC MMCF Guidelines
    - 25.5. ZDHC Air Emissions Guideline
    - 25.6. ZDHC Waste Guidelines (placeholder)
    - 25.7. Other
26. *Do you have a transparency policy or procedure in which you share information regarding chemical products, chemical waste, and wastewater with stakeholders *(For example: with ZDHC, chemical formulators, brands/retailers, authorities, NGOs)?*
27. Does your facility collaborate with brands and/or chemical suppliers to select chemicals for alternatives assessment?
28. Does your facility contribute a chemical analysis against human and environmental hazard criteria (e.g., persistent, bio-accumulative, and toxic) to this alternative process?
29. Does your facility contribute an analysis of lifecycle impacts to this alternatives process?
30. *Does your contractor(s)/subcontractor(s)/upstream supplier(s) source already approved or preferred chemicals from a positive list to replace chemicals not already included in RSL?
    - 30.1. Does your facility have an implementation plan to reduce the use of hazardous chemicals beyond chemicals specified by regulations and/or Restricted Substance Lists with your contractor(s)/subcontractor(s)/upstream supplier(s)?
31. *Does your contractor(s)/subcontractor(s)/upstream supplier(s) source already approved or preferred chemicals from a positive list to replace chemicals not already included in MRSL?
    - 31.1. Does your facility have an implementation plan to reduce the use of hazardous chemicals beyond chemicals specified by regulations and/or Manufacturing Restricted Substance Lists with your contractor(s)/subcontractor(s)/upstream supplier(s)?

Appendix B

This section provides a list of data points to be tracked and collected on a regular basis from January 2023 onward. It is organized by each impact area for easier reference.

To prepare for the completion of FEM 4.0, it is suggested to track this data throughout the year 2023.

Note: not all facilities will be required to gather each of the listed data and documents. As FEM implements applicability methodology, some FEM questions may not apply to facilities depending on the result of the applicability, therefore, some data points or documents listed below may not be applicable to them.

Data to be collected from January 2023 to December 2023

Site Info & Permit Section

- Number of Operating days for the Year
- Total Number of Employees: Full time and Temporary (if applicable)
- Facility Annual Volume, based on mandatory Primary Unit of Measure and Additional Unit of Measure (if applicable)
    - This is required for default benchmarking and comparison with similar facility types; each facility will have to measure their annual quantities in predefined units of measurement.
        - For Finished Product Assembler: mandatory primary unit of measure is “Pieces or Pairs”, and an additional unit of measure is allowed to be reported in SAM (Standard Allowed Minutes)
        - For all other facility types mentioned below: mandatory primary unit of measure is “kg”, and additional units of measure will be available specific to each facility type (SAM; pcs / pairs; yards; meters; tons; bales)
            - *Finished Product Processing (Product Printing, Product Painting, Product Dyeing, Product Laundering and Product Finishing)*
            - *Component / Sub-Assembly Manufacturing (incl Packaging) (e.g. Label, Zipper, Snap, Button, Elastic Buggie, cardboard, etc)*
            - *Material Production (Raw and intermediate materials are transformed into their final state before assembly) (e.g. Fabric dye-house, Fabric manufacturer, Yarn Dyeing, PCB manufacturer, etc)*
            - *Raw Material Processing (Raw Materials are processed into intermediate material products) (e.g. Yarn Spinning).*
            - *Raw Material Collection & Bulk Refining (Materials are collected/extracted/farmed and refined to bulk commodity state) (eg. Cotton Farming and Ginning, processing of bottles, fabric scrap, etc.. into new recycled material)*
- If you have participated or are currently participating any industry programs / certification, please ensure you record the following information:
    - How long have you been in this program
    - Enrollment/Validity Period: Start Date (Month/Year)
    - Enrollment/Validity Period: End Date (Month/Year)
    - What rating/status you received

    - Direct link you can provide to view the status of this program or certificate
    - Copy of the program enrollment status or certificate
- Valid operating license as per legal requirement
- Valid environmental permits for each environment impact area as required by law

EMS Section

- Details of Employees Responsible for Environmental Activities
- List of Significant Environmental Impacts
- Company Environmental Policy
- Company Environmental Strategy
- Training to employees on environmental awareness and company environmental management strategy
    - Number of Employees Trained
    - The Frequency of Training
    - Post training evaluations
- Evaluation of Suppliers and Subcontractors
- Engagement with Local Community

Energy and GHG Section

- The Source of Biomass used and any certifications associated with the Biomass
- Energy Attribute Certificates (EACs) (e.g. RECs) Purchased by the Facility (MWh)
- Carbon Offsets Purchased by the Facility (Metric Tons CO2e)
- Overall Energy used and Energy Types (Annual consumption)
- Track and document energy consumption separately between Domestic and Production use, if you can
- For vertically integrated facilities, track energy source and consumption for each facility type (ie: for a facility that has Finished Product Processing & Raw Material Processing, separately track the energy sources and use for each of the facility types)
- If external sources of energy (such as purchased steam and purchased electricity) are used, additional information on the original source of energy, emission factors will need to be gathered.
- Document energy/fuel source and its consumption of company owned and controlled vehicles
- Methodology for identifying the highest energy use factors
- Implementation plan to improve energy use and/or GHG Emissions
- Energy audit report (within 5 years)
- Coal Phase Out Plan
- Other Fossil fuel Phase Out Plan
- Actions on Fossil fuel Replacement with Renewables
- Scope 1 and Scope 2 GHG Reduction Targets
- Scope 3 GHG Calculation/Quantity
- Details on approved Science Based Target for GHG

Water Section

- Your facility's water risk status based on your location using WRI Aqueduct Map and WWF Water Risk
- Document overall Water used and Water Sources (Annual consumption of each)
- If you use water in production, track and document water consumption separately between Domestic and Production use

- For vertically integrated facilities, track water for each facility type (ie: for a facility that has Finished Product Processing & Raw Material Processing, to separately track the water sources and use for each of the facility types)
- Legal regulations in the country on Groundwater Extraction (if applicable)
- Methodology for identifying the highest water use factors
- Rainwater harvesting potential for your facility (if applicable)
- Implementation plan to improve water use
- Demonstrate positive impact onto the water catchment/basin area or water source in your community
- Leading technology practices to significant water use reduction in the manufacturing process
- Actions and adoption of Science-Based Target on Water

Wastewater Section

- Track Wastewater Volume by Domestic, Industrial or Combined (m3)
- If you have onsite wastewater treatment, document BOD5 Level of Biological Treatment Subprocesses (Pre and Post Treatment)
- Document mechanism on Prevention of Storm Water Contamination
- Current contract, permit, agreement, or invoices regarding wastewater discharge regulatory compliance requirements to offsite wastewater treatment plant (if applicable)
- Document mechanism or process to monitor wastewater treatment plant functioning as per the design parameters (Volume, Flow Rate, Input /Output Quality)
- Back-up plan if there is an emergency related to wastewater
- Separate sources of wastewater sludge, and indicate how each is managed and disposed
    - How many distinct sources of wastewater sludge
    - What/where is the source
    - % Solids of this wastewater sludge
    - Quantity of Industrial and domestic wastewater sludge
- Disposal pathway(s) of industrial and domestic wastewater sludge by each source
- Permits & Manifests of the handling, transportation, processing, and disposal of sludge(s)
- Documentation on wastewater sludge processing
- Design Document and Management of Septic System(s) and Residue(s)
- Wastewater Test Results/Reports as per Legal Requirements
- Results/Reports from Other Standards and Guidelines to which Wastewater was tested under
- Wastewater Tested Under ZDHC Guidelines (Conventional parameters and Anion/ Heavy metal limits/ MRSL parameters)
- Wastewater quality test results from offsite wastewater treatment plant, if applicable
- Quantity of Industrial Wastewater Reused for Production (m3)
- Quantity of Industrial Wastewater Recycled for Production (m3)
- Quantity of Domestic Wastewater Recycled for Domestic Purposes (m3)

Air Emissions Section

- Inventory of all point source air emissions sources
- Inventory of all mobile and fugitive air emission sources
- Compliance status with all applicable legal requirements relating to air emissions including all permitting, reporting, and testing requirements
- Type, Specific Name and Quantity of Refrigerants used
- Preventative maintenance procedure for refrigerant containing equipment

- Action plan or methods used to fix refrigerant leaks
- Total annual emission quantities of key pollutants from all point source emissions from facility operations (kg)
- Total annual emission quantities of key pollutants from all emissions from production (kg)
- Implementation plan and progress to reduce air emissions from facility operations
- Implementation plan and progress to reduce air emissions from production processes
- Plan to replace current refrigerant with low ODS / low GWP refrigerant gasses beyond current legal requirements
- Business policies /procedures and implementation to ensure Best Available Technologies (BAT) for air emissions reductions are considered

Waste Section

- Segregate waste (hazardous and non-hazardous)
- Store this waste separately
- Document overall waste generated by each waste steam (annual generation)
- Document disposal method for each waste stream
- Awareness training to employees regarding segregation of waste
- Training to employees whose work involves hazardous waste handling (such as maintenance and custodial staff)
    - Number of employees
    - The frequency of training
    - Post training evaluations
- License and permit of waste transporter(s), treatment, and disposal facility(-ies) (for hazardous waste and, if applicable, non hazardous waste)
- Document quantity (hazardous and non-hazardous) of waste based on disposal method

Chemicals Section

- Chemical Management System (CMS) Policy, Chemical Purchasing Policy
- Comprehensive Chemical Information List (CIL) and details of each chemical supplier
- Train all employees who use chemicals on chemical hazards, risk, proper handling, and what to do in case of emergency or spill etc.
    - Number of Employees Trained
    - The Frequency of Training
    - Post training evaluations
- Train employees responsible for the CMS on RSL and MRSL
    - Number of Employees Trained
    - The Frequency of Training
    - Post training evaluations
- Chemical spill and emergency response plan
    - Number of employees trained
    - The frequency of training
    - Post training evaluations
- Select and purchase chemicals based on their hazards and RSL/MRSL requirements
- Environmental and occupational health and safety (EHS) program specific to chemicals management
- Standard Operating Procedure (SOP) to resolve or prevent a RSL failure
- Engage contractor(s) or subcontractor(s) and upstream suppliers on MRSL / RSL

- Traceability procedure which can track chemicals and raw materials used back from the product to the inventory
- Source already approved or preferred chemicals from a positive list
- Adopt and implement the ZDHC Roadmap to Zero (or the Supplier to Zero) programme on sustainable chemical management
- Contractor(s)/subcontractor(s)/upstream supplier(s) source already approved or preferred chemicals from a positive list to replace chemicals not already included in RSL/MRSL

About the Sustainable Apparel Coalition

The Sustainable Apparel Coalition (SAC) is an independent and impact-creating organization that aims to lead the industry toward a shared vision of sustainability based upon a joint approach for measuring, evaluating, and improving performance.

As a non-profit organization, it has members from across the apparel, footwear and textile sector, but exists independently outside any one company so that it can drive progress. The SAC's collective action efforts bring more than 280 global brands, retailers, manufacturers, NGOs, academics and industry associations together. They represent about half of the apparel and footwear industry along the whole supply chain – from sustainability pioneers to organizations just getting started.

Before the SAC existed, companies worked in a siloed way, using their own programmes and measurements that lacked standardization and an ability to drive collective action. In 2009, Walmart and Patagonia identified this as a serious problem. Joining forces, they brought together peers and competitors from across the sector, to develop a universal approach to measuring sustainability performance and founded The Sustainable Apparel Coalition.