Summary Paper

Animal Materials

**Wool, mohair, alpaca, yak, cashmere, down**

In partnership with an International Working Group, Textile Exchange has created a first draft of the unified standard. [The draft is now available as of May 15, 2023. It is open for public feedback until July 14, 2023. You can find a full version of the draft and learn more about how to provide feedback here.](#)

**Introduction**

At Textile Exchange, our organizational goal is to help drive a 45% reduction in the greenhouse gas emissions that come from fiber and material production by 2030, while driving positive impacts across soil health, water, and biodiversity. We call this [Climate+](#).

The unified standard aims to meaningfully embed the Climate+ goal into the raw material scope for all materials included in our certification. An additional objective is to harmonize systems across the full scope of our current standards and to create stronger communication at the consumer-facing level.

The main impact areas of the unified standard system focus on Tier 4 raw material management (including the cultivation and extraction of raw materials from the earth, plants or animals), and “Tier 3.5” first processing (including processes such as ginning, retting, degumming, cottonizing, wool scouring, dissolving pulp, and chemical / mechanical recycling).

To provide highlights on key material categories included in the future standard system, we have developed a series of summary papers to supplement the draft standard criteria. The materials proposed for the scope of the unified standard include:

- Animal-derived: wool, mohair, alpaca, yak, cashmere, down
- Recycled: synthetic and natural materials
- Fiber Crops: cotton

*Summary papers are included for the above material categories but are not planned for the following; however, relevant details will be found in the discussion papers.*

- Forest-derived: MMCF, latex
- Biomaterials: biosynthetics

**Background**

We have two overarching objectives for the unified standard. The first connects to the number of certified sites participating across the eight standards that we currently offer. With this transition, we have the opportunity to provide efficiency by bringing all materials in the scope of these standards under one harmonized system. The second objective is to embed our Climate+ goal and drive impact and outcomes through participation in standards and certification. **Currently, each standard (GRS, RCS, RWS, RMS, RAS, RDS and OCS)¹** was developed separately and

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operates uniquely in terms of structure and reach. Each standard also incorporates its unique focus areas. While standards like the RWS, RMS, and RAS all contain land management and social criteria, the RDS does not include those attributes. In contrast, the journey towards unifying this system has focused on exploring where it is relevant and meaningful to incorporate Climate+ and other key impact areas, addressing how the material is managed on the ground as well as the first stage of production.

This shift in scope represents our standard for raw material certification. Certified materials will be tracked through the supply chain with our pre-existing chain of custody standard: the Content Claim Standard (CCS). While the CCS continues to provide the mechanism for tracking and handling of the certified inputs through to the finished product, the unified standard impact criteria are being developed for Tiers 4 and 3.5 of the supply chain.

Timeline
The progression of the work towards a unified standard system has been underway since we first announced our Climate+ strategy in 2019. The publication of the draft standard will come in two parts: the first draft in May 2023, which this summary paper supports, and the second draft planned for Q4, 2023.

The final standard is planned for release by 2024. However, it should be noted that when the standard is finalized, this does not mean that it is immediately effective or mandatory. 2024 will be used to conduct a full internal systems update as well as to provide the necessary implementation planning for all stakeholders in the system. This allows time to align across our assurance system, the certification bodies’ systems, and sites that will need time to prepare their operations to get certified.

During this period, we will draft the accompanying documentation that makes the standard implementable. We will also update pre-existing documents to reflect the new standards system.

According to our current timeline, in 2025 the standard will be effective. This means that sites will be able to request certification by certification bodies equipped and approved to audit against the standard. In 2026, the standard will be mandatory, meaning all sites will need to be certified to the new system based on the unified standard system superseding applicable previous standards, which will be defined in the final standard.

For the public consultation on the draft versions, we have decided to separate the content into two drafts that will be published at different times. In this first draft consultation, the majority of the standard will be available for review including conformance-related criteria and leadership areas (recommendations) for criteria grouped in the following sections: organizational management, land use, animal welfare, human rights, and facility/environmental.

In the second draft planned for Q4 2023, we will release the revised content from the first draft (after review of feedback from the first open consultation period). Additionally, the second draft will cover supplementary criteria for group certification models, chain of custody, trademark use, and slaughterhouses, as well as impact indicators, related policies addressing areas such as supply chain voluntary modules, and a recognition program.
Overview of the standard structure

When we talk about driving positive impacts through standards, the focus of this work will span across the following categories: GHG emissions, soil health, biodiversity, water resources, human rights and livelihoods, and where applicable, animal welfare, environmental (e.g., energy use, waste management), and chemical management.

In each of these impact areas, we have gone through an exploratory exercise to determine the long-term outcomes and impacts we want to see. This includes looking at how these relate to best practices on the ground for how the raw material is managed as a resource. We then determined related criteria that need to be evaluated at certified sites to have an impact on Climate+, so we can monitor and evaluate change on the ground.

For several of the material categories included in our current standards, impact-related criteria already exist. So, part of the drafting process included a review of pre-existing criteria, aiming to continuously improve practices as well as shift relevancy to be more focused on our Climate+ goal.

Since we are bringing several different input scopes and materials under one master standard, we also considered the efficiency of Tier 4 and Tier 3.5 thematic groupings (sections) for cross-cutting criteria. Then, for some sub-sections, we determined that the criteria only apply to certain material categories (for example: chemical management in recycled). The sections in the draft standard appear as follows:
**Section 6: Supplementary Requirements**

*Supplementary Requirements will not be included in the first draft consultation but will be part of the second draft later this year.*

Within these sections, we have three different types of criteria:

- Conformance-related criteria
- Leadership criteria
- Impact indicators that drive outcomes (not included in the first draft)

One of the goals of having three types of criteria is to ensure the standard is accessible for organizations at different stages in their sustainability journey. We do not want to set up a new standard system that sets the bar so high that participation and certification is not achievable for organizations that want to embark on the Climate+ journey with us. We want to create a pathway
for continuous improvement for those that are certified so that they are progressing with each version of our standard(s). For new participants, we want them to see that there is a way for them to take part so that they understand where their practices need to improve over time.

The three types of criteria

Conformance-related criteria are evaluated for certification decisions. Depending on the degree of conformance, the certification body assesses criteria as fully met, or raises non-conformity reports to address non-conformances. There are three levels of conformity for these criteria. The current draft standard identifies when a criterion is critical, meaning conformance is required to achieve and maintain certification. Other criteria currently show TBD: Major or Minor to represent we do not have proposed levels of conformity ready for review.

Leadership criteria will not be evaluated for conformance, but will indicate where an organization can improve over time. By meeting these criteria, organizations demonstrate leadership in the applicable areas. In future versions of the standard, leadership criteria may become conformance-related criteria. This is similar to our current system where we have “recommendations” in some standards that are not evaluated for conformity but indicate where the standard is heading for conformance in future versions.

Impact indicators represent where we will collect data and information to support driving outcomes. Indicators will be used for monitoring and evaluating progress related to impact areas so we can learn and adapt as we move forward as an industry. Where we have defined best practices related to the criteria above, are they relevant to driving outcomes? Are they delivering the intended change on the ground that we want to see? We are embarking on a careful process to define metrics and data deemed most meaningful to collect and monitor progress on our Climate+ goal and other key impact areas.

How to read the draft standard
To navigate the first draft of the unified standard, it is important to understand the following key terms:

- Sections: The high-level themes in which the unified standard criteria are divided into groups for cross-cutting criteria addressing all or some materials in the scope of the standard.
- Sub-sections: The next level down to further categorize different themes of criteria.
- Criteria #: Consecutive numbering consisting of three digits to identify the section, subsection, and the given criterion number.
- Criteria: Collective term for all areas checked during the audit; a specific TYPE is used for each criterion (conformance-related, leadership, indicator)
- Performance determination: In the first draft, this is a starting point to provide information on evaluation of the criterion in different contexts.
- Level of conformity: Level of expected conformity per each criterion; if a conformance-related criterion is not met, a non-conformity report at that level shall be issued by the certification body.
- Materials: Each criterion applies to one or more sources of materials. This is the place to record material scope applicability so in the future we can filter for specific standard modules per material source. In the current draft, this is where stakeholders can check criteria applicability for materials they are interested in.
Chain of custody considerations

When the desired goal is to make claims about certified materials, the rest of the supply chain (Tiers 1-3) will need to be certified against Textile Exchange’s Content Claim Standard (CCS), representing chain of custody requirements for the tracking and handling of certified materials. The CCS is not scheduled for revision currently, but it will be the applicable chain of custody standard that supports the implementation of the unified standard system when this becomes effective after 2024. This means Textile Exchange will review the CCS for any necessary updates following the finalization of the unified standard.

Claims and labeling

Accompanying the transition to a unified standard system is the development of a new brand, which includes an official standard name and logo, as well as an updated claims and labeling system. We anticipate having a single logo that represents the various materials and scopes of the standard to promote one visual presence while incorporating material type specification into the label lockups and claims to clearly convey the certified material type.

To support this shift, we are in the process of creating a transition plan that will allow adequate time for certified organizations to move to the new claims and labeling system while phasing out the current standards logos. We are aiming to share the new name and logo alongside the final standard at the end of the year and will be working on a revision of our Standards Claims Policy to be released the next year, to be followed by the defined transition period.

While developing the new claims and labeling system, among other topics, we will also be actively looking at and aligning with legislation on green claims, including but not limited to the current efforts to address misleading claims and greenwashing in the European Union.

Introduction to the Animal Materials Criteria

The objective of the unified standard scope is to identify, promote, and monitor responsible practices that lead to greenhouse gas reduction and measure progress toward our Climate+ goal, including areas addressing soil health, biodiversity, water, animal welfare, and human rights & livelihoods. Many of the criteria applicable to animal materials in the current draft of the unified standard represent an evolution of the Responsible Animal Fiber (RAF) standards as well as the Responsible Down Standard (RDS). Many of these requirements are found in the cross-cutting criteria sections as summarized below with information to help illustrate key criteria and proposed changes in the draft standard.

Two new fibers are proposed in the unified standard: cashmere and yak. The current draft standard does not specifically highlight cashmere as a material since our proposed plan is to look at options for recognizing certified cashmere from other standards. Many of the cross-cutting criteria for animal fibers also apply to yak, but there are also some criteria proposed that are specific to yak.

In addition to this summary paper, we will provide discussion papers with more detail on our proposed approaches to land use management, animal welfare, as well as recognition of certified inputs from other standards.

Important notes when reviewing the criteria in the 1st draft:

- The applicable animal materials in the “Material” column are sheep wool, mohair, alpaca, yak hair, down;
- Criteria applicable to farm-level practices include sections for organizational management, land use, some facility/environmental, animal welfare, and human rights & livelihoods;
• Criteria applicable to animal fiber and material processing at the facility level for first processing include sections for organizational management, human rights & livelihoods, and facility/environmental;
• When reviewing the criteria, please note that the term “organizations” in the context of land use and animal welfare refers to farms and producers;
• Performance determinations have been introduced to the draft standard to define conformance expectations based on organizational characteristics such as size and scale. This has been done primarily for human rights & livelihoods in the first draft. Applicability for animal materials (e.g., farm size) will be considered for the second public consultation.

The following are section summaries for criteria within the unified standard as they apply to animal materials (see “Overview of the Standard Structure” above).

**Organizational Management**
The purpose of this section of the unified standard is for the certified organization to demonstrate how it is internally organized, regardless of the activities performed or the materials produced. Some of the criteria in this section will be familiar from the RAF standards, but the unified standard brings all the organizational management requirements together, as well as expanding on existing criteria.

Having an organizational management system in place includes having a general management plan and specific planning documents, designating accountable persons in charge of each activity within the scope of the certificate, clearly defining and documenting the sites, activities, and materials which are part of the scope of the certificate, showing compliance with applicable regulations and legislation, and demonstrating its personnel are adequately trained and under good supervision.

Sample Criteria:

- **1.1.5:** The organization has a written Management Plan in place, which includes the following:
  a) the management objectives;
  b) the land tenure status;
  c) a description of the resources to be managed; and
  d) the procedures for how the main activities under the certificate scope (i.e., agricultural practices, animal husbandry, etc.) are to be carried out.
- **1.1.9:** The organization maintains complete and up-to-date records of relevant documents to demonstrate its conformity with all applicable certification requirements.
- **1.2.5:** Personnel receive adequate training and supervision to ensure proper implementation of this standard, including the organization’s management plans, procedures and policies.

**Human Rights & Livelihoods**

Human Rights and Livelihoods criteria apply at the producer level as well as the initial processing stage across each fiber and material category. This is similar to the scope of the social criteria which is included within the RAF Standards, though extended past the farm to the initial processing stage in alignment with our Climate+ goal impact area. The updated criteria are more focused on building management systems, understanding risks, and supporting due diligence processes compared to our other standards.

The criteria are split into five sub-sections: Policies, Management Systems, and Records; Labor Rights; Social Justice; Livelihoods; and Specific Contexts. Conformance level thresholds have
been adjusted to account for the size of the producer across many of the criteria, as indicated by the “performance determinations” column.

The Policies, Management Systems, and Records section contains criteria to ensure that certified sites have commitments to upholding human rights and systems in place to support this, including policies and procedures, risk assessment process, stakeholder engagement, implementation of a grievance mechanism and recruitment management system.

Sample Criteria:

- 2.17: The organization has a publicly available commitment to actively engage with rightsholders and other stakeholders to meet their right to meaningful and effective participation in decisions which may affect them.

The Labor Rights section contains criteria relating to minimum requirements for remuneration, working hours, child labor, forced labor, freedom of association, discrimination, harassment & abuse, and health & safety.

Sample Criteria:

- 2.2.23: Wages are not withheld as a penalty or to force personnel to work as a payment against debt to the organization.

The Social Justice section outlines criteria relating to the recognition of Indigenous People and Local Community (IP/LC) rights. Where applicable, there are requirements relating to preventing the infringement of IP/LC rights, as well as remediation plans, should infringement occur.

Sample Criteria:

- 2.3.3 – The organization has and implements a remediation plan for any identified cases of infringement of IP/LC rights, including those caused by potential environmental harms.

The Livelihoods section includes criteria on tracking costs of production, as well as leadership criteria for paying inflation-adjusted prices over time.

The Special Context section includes a requirement on worker housing, applicable where accommodation is provided by the organization.

**Land Use**

An overarching theme for land management updates within the unified standard draft is a shift of focus to prioritize outcomes, recognizing that these are key to our Climate+ goal. With the development of land use criteria for fiber crops/cotton (see separate summary paper) it was also important to align on topics that are relevant to both grazing livestock and crops and therefore new topics such as water management when irrigation is used have been introduced. Finally, as with animal welfare (see section below) all existing recommendations in the current standards were reviewed and some have been proposed as new conformance-related criteria.

- **Strategic management planning:** The land use section calls for more detailed management planning for all main land use sectors (land, water, biodiversity, nutrient, and integrated pest management). While this is not a totally new concept, the outlines for these plans are clearer in the draft standard. A new criterion proposed is that personnel responsible for implementation of the Land Management Plan are knowledgeable in current best practices for land management and are competent to recognize when they need to call on experts (3.1.4).
• **A stronger emphasis on monitoring**: The land management section acknowledges the context-specific nature of farm-based operations and the landscapes where they are implemented. It is for this reason management needs to rely on monitoring to help set baselines and track efficacy of interventions over time to support adaptive management. Monitoring efforts need to be relevant to the topic being addressed and the scale of the impacted area. (See examples 3.3.3 and 3.3.9)

• **Water management**: This section covers the management of water when this is used for irrigation, being specifically relevant to crops (including forages) being managed on the certified site for animal production. This section sets out to ensure efficient use of water (water quantity) and conserving water quality and the impact of this management on natural aquatic ecosystems. (3.2)

• **Biodiversity management planning**: Biodiversity planning has been streamlined to systematically consider sensitive conservation areas (such as protected areas, biodiversity priority areas, and key natural resources/ecosystems). Planning then requires consideration of farming operation risks posed to biodiversity (grazing, cropping, alien and invasive species, and human-wildlife conflict management) and the measures required to avoid or mitigate these risks. Management plan guidance and templates will be adjusted to align to this new structure. (3.6)

• **Human-wildlife conflict**: Proposed draft criteria recognize all human-wildlife conflicts, not only the predator conflicts covered in the current RAF standards (see 3.6.8 and following criteria). This section includes a new criterion that frames the conditions and requirements for the strict use of poisons to control specific invasive-species wildlife conflicts that cannot be resolved in other ways (3.6.13). The draft standard includes a criterion for certified sites producing down to adhere to human-wildlife conflict management practices that guide what is meant by humane control and the need to take a proactive approach to human-wildlife conflict.

• **Reduction of synthetic inputs**: Both the sections on nutrient management (3.4) and pesticide management (3.5) call for systematic management of synthetic inputs supporting a transition to avoid reliance on synthetic inputs over time.

**Animal Welfare**

An overarching theme for animal welfare updates within the unified standard is greater recognition of the Five Domains of Animal Welfare with more emphasis on requirements that should provide positive experiences for certified animals rather than avoidance of negative welfare. Additionally, all existing recommendations in the current standards were reviewed, and some have been proposed as new conformance-related criteria in the draft standard. We have also reviewed current calibrations and exemptions that have been issued by our Assurance team. These indicate areas where there were difficulties for some certified organizations to meet the current standard as written, so updates have been proposed for the unified standard.

On species-specific content, the draft unified standard also includes proposed criteria for yak. The requirements for yak follow the RAF framework that all the existing RAF standards are based on today, as well as including some yak-specific criteria (see bullets below).

• **Five Domains of Animal Welfare**: Positive welfare criteria have been added, for example requirements for pleasant and positive handling of animals from a young age (4.8.2), specifying that ruminants should be fed forage-based diets (4.2.2), and an expectation that fiber animals are raised by their mothers (4.7.12 and 4.7.17 to 4.7.19).

• **Time off water for sheep**: The current Responsible Wool Standard has an overall requirement for sheep to be held off feed and water for management practices such as shearing or transport for a maximum of 24 hours. There is also an additional sub-clause that restricts time off water for ewes that are lactating or in late pregnancy to eight hours.
This sub-clause in the standard active today has caused problems for some growers, for example, with large flocks, it is hard to guarantee this timing, plus this contradicts government guidance in Australia and New Zealand which recommends a minimum of eight hours and maximum of 20 hours off water. This time off feed and water is intended to allow animals to empty out to protect their health and comfort when they are sheared. The guidance also takes account of worker health and safety as empty sheep are lighter and cause less physical stress on the shearer as they work. The proposal for the unified standard in 4.2.14 is therefore to allow up to 20 hours off water for ewes that are lactating or in late pregnancy. Additionally, 4.2.16 requires animals held off feed and water to be monitored for any signs of distress with remedial action taken if necessary.

- **Pain relief for fiber animals**: The RAF standards require that pain relief is used to mitigate the impact of painful husbandry procedures when suitable pain-relieving drugs are available for use by growers. Currently this is only in Australia and New Zealand. For the unified standard, there were discussions as to whether these requirements should be strengthened – requiring both local anesthetic and analgesic, or dropped until more pain-relieving options are available. In the draft standard, the requirement remains that pain relief shall be used when it is suitable and available (4.4.7). In addition, the risk/benefit analysis that shall be carried out before any painful husbandry procedures take place has been strengthened (4.4.6).

- **Space allowances for animals and birds**: The current RAF standards have recommendations for space allowances when animals are held in pens or housing for 24 hours or more. The RDS has a requirement for birds to have space to move around freely but do not specify space per bird in housing. The draft unified standard upgrades these recommendations for sheep, goats, and alpaca into conformance-related criteria (4.3.25 and 4.3.26), adds conformance-related criteria for duck (4.3.54) and goose (4.3.29) space in housing, and suggests leadership criteria (recommendations) addressing space for yak in housing (4.3.27) and space for birds outside (4.3.51). There is also a new criterion for space in transport for birds (4.9.20). Setting space allowances as requirements strengthens these criteria as part of our aim to have continuous improvement in our standards over time. (Note, yak space in housing is set as a recommendation as limited information on appropriate space allowances for this species could be found.)

- **Other recommendations that are now conformance-related criteria**: The draft unified standard proposes that: audible or visual aids for handling are used in preference to physical contact (4.8.8); animals are not exposed to sudden or loud noise that could cause fear or stress (4.8.9). These areas are upgraded to conformance-related criteria rather than recommendations.

- **New conformance-related criteria**: There are several new proposed criteria such as the following examples:
  - Animals are maintained in stable groups; mixing of animals is avoided (4.6.1)
  - Animals have no more than 25% of their body covered in plaques of dirt or no more than 50% covered with liquid dirt (4.1.16).
  - Housing is well ventilated such that levels of dust and ammonia in housing do not reach levels which are noticeably unpleasant to humans (4.3.10). This is an expansion of the previous requirement that housing is well-ventilated, adding some criteria to better set expectations.

- **Bill/beak trimming for ducks**: In the current RDS, the prohibition on any form of beak trimming/bill trimming is a Major criterion. In consideration of this being a key welfare issue, the draft unified standard proposes this become a Critical criterion (4.4.24)

- **Darkness for down**: Ducks are primarily raised for meat with down a secondary consideration. Companies worldwide are working with different criteria when providing a
mandatory darkness period to ducks, depending on the country of operation and the standard(s) prevailing for farmed duck meat production within the industry of each country. The current RDS has a requirement for a minimum of eight hours darkness in every 24 hours, but many standards for duck meat set six hours minimum and there was not a clear benefit for those farms to change their lighting programs to meet RDS requirements. The unified standard proposal is to reduce the minimum time of darkness from eight to six hours (4.3.19), but to also require a half hour dusk and half hour dawn either side of that period (4.3.20) to allow birds to acclimate to lighting changes.

- **Climate+ for Down:** The current RDS does not include criteria that directly contribute to our Climate+ goal. Unlike fiber animals, there are limited opportunities to influence land management and soil health as down production is largely split between intensive indoor systems with no land access, and smallholder systems where direct contact with sites keeping the ducks and geese is very difficult. Some recommendations relevant to Climate+ have been added to the criteria for down in the unified standard, e.g., 5.6.5 and 5.6.6 on renewable energy for facilities processing down and 4.2.10 on feed ingredients that do not come from sources at risk of deforestation, as well as a new requirement for manure management planning (3.4.11 and 3.4.12).

- **Yak:** In addition to the criteria that are applicable to all fiber animals (for example provision of feed and water, good living environment, good handling etc.), there are some specific draft criteria for yak as follows:
  - No taking of yak from the wild for fiber production (4.3.18)
  - No use of yak as pack animals (4.8.12)
  - No euthanization/on-farm slaughter of yak without pre-stunning (4.10.14)
  - Criteria added for combing for yak fiber including seasonal combing (4.5.2) and the tools used (4.5.7)
  - Combing yak only permitted when yak are standing (4.5.12)

**Facility/Environmental**

In relation to animal material, this section promotes management of natural resources, waste, and energy for on-farm practices as well as activities taking place at the first processing stage of the fiber/material. Criteria in this section include adherence to a Waste Management Plan to audit, track, and monitor inputs and outputs, reduction targets for wastes and energy inputs, and requirements for appropriate disposal of waste. Organizations are encouraged to avoid landfilling waste, monitor energy inputs and increase efficiencies, and use carbon accounting tools when possible.

The sub-sections of the new criteria include requirements addressing Chemical Management, Waste, Water, Air, and Energy Use. For the purposes of this summary paper, the following key highlights are provided for animal materials:

- **Chemical:**
  - Having a thorough chemical management strategy, thorough planning documents to monitor regulatory requirements, trained employees, and maintain a precise chemical inventory. (5.2.1)
  - Conformance-related criteria for maintaining up to date SDS (Safety Data Sheet) in accordance with established norms or directives, allowing SDS up to five years old and a process to evaluate chemical inputs. (5.2.2 - 5.2.5)
  - Specific conformance-related criterion for the process-related use of chemicals when scouring animal fibers. (5.2.9)

- **Waste:**
- Possessing a general waste management strategy and any necessary supporting documentation, including but not limited to waste records, waste reduction programs, and legal compliance. (5.3.4 - 5.3.6, 5.3.9, 5.3.14 - 5.3.19)

- **Water:**
  - Maintaining legal requirements while monitoring water use through a comprehensive water conservation plan. (5.4.1 - 5.4.3)
  - Having a general management plan and detailed planning papers to monitor and keep track of wastewater discharge records, to comply with regulatory requirements, and to safely dispose of sludge. (5.4.4 - 5.4.5, 5.4.8)

- **Air:**
  - Complying with regulatory requirements related to emissions and plans to detect and monitor air pollutants. (5.5.1 - 5.5.5)

- **Energy Use:**
  - Having a broad energy management strategy as well as detailed planning documents for tracking, monitoring, keeping track of energy use, and adhering to legal requirements. (5.6.1 - 5.6.4)
  - Leadership status for machine optimization and the utilization of renewable energy sources. (5.6.5 - 5.6.7)