

$N^2 = \text{NOUKK} \times \text{Nature}$

SUSTAINABILITY
REPORT 2025

NOUKK[®]



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List of Abbreviations

Abbreviation	Meaning
AWS	Animal Welfare Standards
GHG	Greenhouse Gas
CO ₂ e	Carbon Dioxide Equivalent
SFA	Sustainable Fibre Alliance
SDGs	Sustainable Development Goals
ICAO	International Civil Aviation Organization
DEFRA	UK Department for Environment, Food & Rural Affairs
GRI	Global Reporting Initiative
KPI	Key Performance Indicator
R&D	Research and Development

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Executive *Summary*

This Sustainability Report presents NOUKK's first structured assessment of its environmental, social, and governance approach, covering the period 2024–2025. As an emerging luxury brand rooted in Arabian heritage and camel fibre innovation, NOUKK positions sustainability not as a parallel objective, but as a foundational principle embedded across its identity, sourcing practices, and long-term vision.

The year 2025 represents a foundational phase, focused on building systems, conducting research, and establishing transparent processes rather than claiming fully mature performance metrics. Key milestones include the development of NOUKK's Animal Welfare Standards (AWS), alignment with the Five Domains Model, initial carbon footprint mapping, early-stage traceability systems, and active participation in global sustainability platforms such as the Sustainable Fibre Alliance (SFA).

NOUKK's environmental approach is centred on the intrinsic properties of Arabian camel fibre, a naturally regenerative material collected through seasonal shedding, requiring minimal water, energy, and chemical inputs. This positions camel fibre as a low-impact alternative within the luxury textile landscape, particularly suited to arid and water-scarce regions.

The report highlights that NOUKK operates under a remote-first model, resulting in zero Scope 1 and Scope 2 emissions, while Scope 3 emissions, primarily driven by logistics and research-

ch-related activities, represent the majority of the carbon footprint (~25–27 tCO₂e in 2025). This baseline enables the identification of key reduction levers, particularly in transport optimisation and supplier engagement.

Beyond environmental considerations, NOUKK places strong emphasis on animal welfare, community empowerment, and cultural preservation, working closely with herders to promote ethical practices, knowledge-sharing, and long-term value creation.

This report does not present sustainability as a finished achievement, but as a transparent starting point. As NOUKK transitions into 2026, the focus will shift toward strengthening data accuracy, expanding partnerships, and progressively aligning with international reporting standards, while maintaining a commitment to responsible, regenerative luxury.



Preface

This Sustainability Report marks NOUKK's first formal step in articulating how sustainability is embedded within its identity, operations, and long-term vision. Rather than presenting sustainability as a finished achievement, this report establishes a transparent baseline, documenting what has been done, how decisions were made, and how systems are being built to mature over time.

The reporting period primarily covers 2024-2025. The report draws on qualitative research, field engagement, and early quantitative assessments.

What This *First Report* Touches and What It Does Not

This first Sustainability Report is intentionally foundational. It focuses on:

- Research, frameworks, and system-building
- Transparency about current capabilities
- Early-stage data collection and tracking
- Qualitative depth supported by evidence

Like many responsible luxury houses at the beginning of their reporting journey, NOUKK has chosen to act first, measure carefully, and report honestly, allowing metrics to mature in step with operations.

What does *nature* mean to you?

Said Awad

CEO of NOUKK



Nature is a source of admiration and love, something that inspires a deep appreciation for the beauty and balance of the world around us. It represents simplicity at its purest form, reminding us to slow down, reconnect, and find meaning in what is essential.

Diletta Del Giudice

Brand Manager



Nature symbolizes balance. It teaches patience, adaptation, and respect for what is raw and real. To me, nature is not only a source of inspiration, but a living archive of knowledge that reminds us we are not separate from it, we are all simply expressions of the same ecosystem, and we all share a responsibility to preserve its beauty.

Aya Kaskas

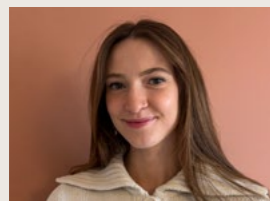
Project and Sustainability Lead



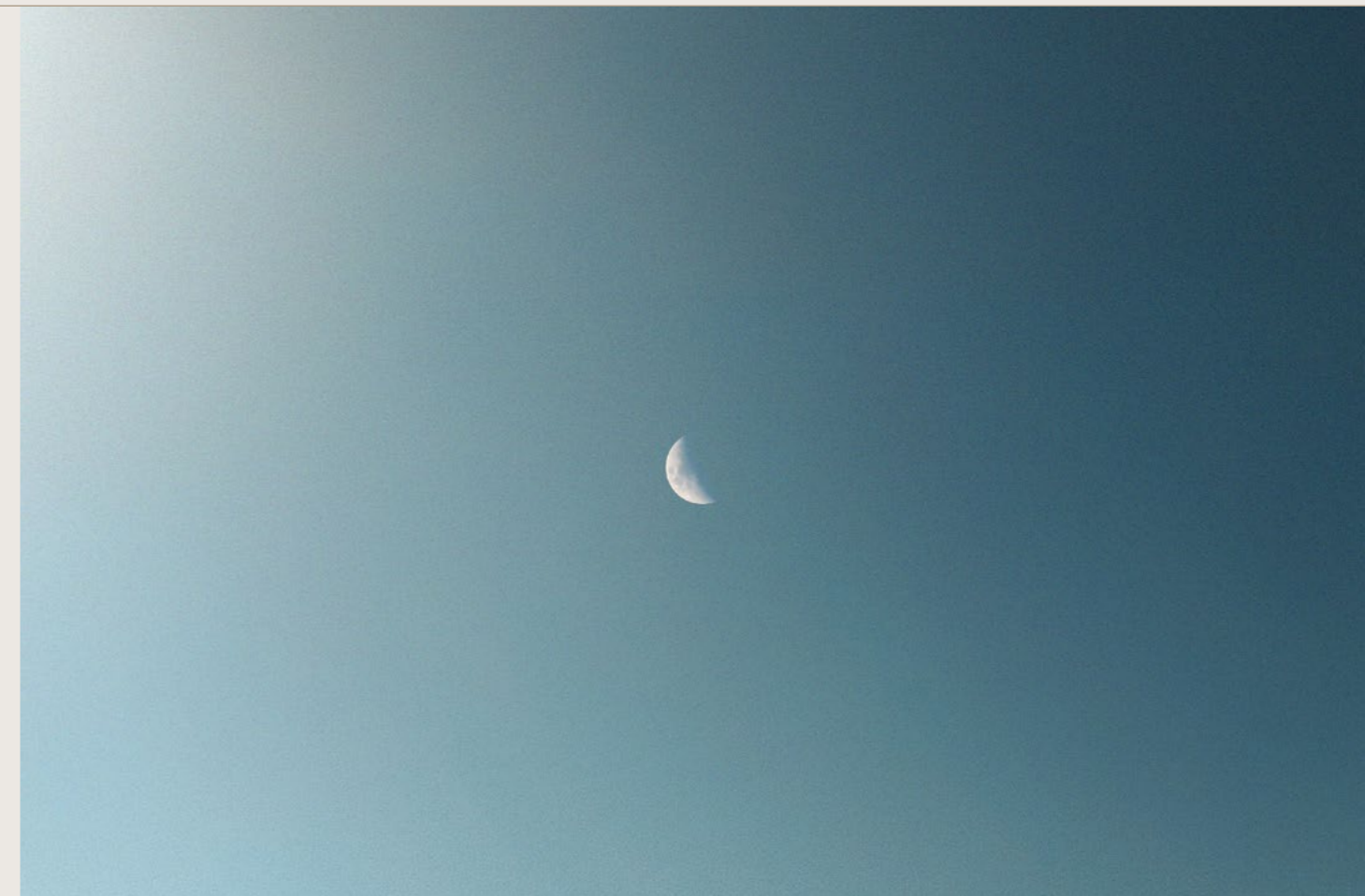
Dear Nature, it's time we realize we are a part of you and not apart from you. Thank you for all the things you do for us and for teaching us what true resilience mean, thank you for letting us enjoy living within your beauty.

Sophie Fairbrother

Sustainability Officer



Nature to me means beauty and growth. It works in quiet harmony, supporting life in ways we don't always see. It can be powerful and unforgiving, but when given time, nature heals and flourishes again. Nature carries a strength which lasts, and I believe that is reflected in NOUKK's mission: connecting nature, beauty and heritage.



THE DOUBLE N: NOUKK & Nature (N²)

NOUKK NATURE

Where *Luxury* Meets *Responsibility*

At NOUKK, sustainability is not a parallel track to luxury; it is its foundation. The concept of N² reflects this belief: Nature and NOUKK, inseparable and mutually reinforcing. It captures a relationship of respect rather than extraction, continuity rather than exploitation, and long-term value rather than short-term gain.

This chapter sets the context for NOUKK's sustainability journey: what has been achieved in 2025, why it matters within the global and regio-

nal luxury landscape, and how NOUKK positions itself within a textile industry undergoing profound transformation.



2025 at a *Glance*: Laying the Foundations

2025 marked a foundational year for NOUKK's sustainability work. The focus was placed on building credible systems, research-based frameworks, and transparent processes that can mature over time.

Key sustainability achievements in 2025 include:

- Researching, drafting, and publishing NOUKK's first Animal Welfare Standards (AWS), aligned with the Five Domains Model.
- Developing and piloting a carbon footprint data collection tracker database.
- Initiation of engagement and communication with herders to explain, apply, and refine AWS in practice.
- Mapping the fibre journey from desert sourcing to textile development, identifying environmental pressure points.
- Becoming members of the Sustainable Fibre Alliance (SFA) and participating in ongoing knowledge exchange, such as being part of the Camelid Standard Working group.
- Preparing and publishing NOUKK's first Sustainability Report, establishing a transparent baseline.
- Conducting in-depth research on camel biology, fibre processing, and greenhouse gas (GHG) emissions.

Luxury and Sustainability: A Global and Regional Shift

Globally, the luxury sector is undergoing a fundamental redefinition. What once symbolised exclusivity through rarity alone is now increasingly judged by responsibility, traceability, and long-term stewardship. Leading luxury houses are moving away from purely aesthetic value toward systems that protect ecosystems, respect communities, and preserve craftsmanship.

In the Arab world, this shift carries additional meaning. Luxury has always been deeply tied to heritage, environment, and survival in arid landscapes. Scarcity of water, harsh climates, and nomadic traditions shaped cultures that understood balance long before sustainability became a global discourse.

NOUKK positions itself at the intersection of these two realities:

- Global expectations for responsible luxury
- Regional knowledge rooted in desert ecology and Arabian ancestry



NOUKK's Story: Sustainability Through *Ancestry* and *Culture*

NOUKK's relationship with sustainability is deeply tied to Arabian ancestry, camel culture, and desert resilience. For centuries, camels have represented balance, providing fibre, milk, transport, and companionship.

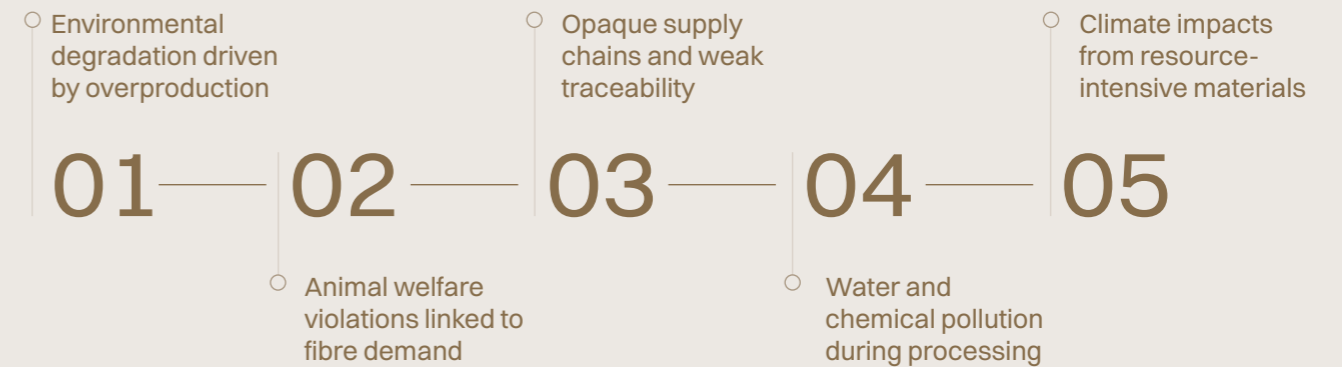
This philosophy informs NOUKK's approach:

- Fibres are collected through natural shedding, never forced.
- Animals are valued as living beings, not raw material units.
- Craft prioritises longevity over volume.
- Production decisions respect environmental limits port, establishing a transparent baseline.



Challenges in the Textile Industry and *NOUKK's Role*

The global textile industry faces structural challenges:



By focusing on Arabian camel fibres, an underutilised, naturally adapted, and resilient resource, NOUKK offers an alternative narrative to the dominant unsustainable fibre systems.



Alignment with the Sustainable Development Goals (SDGs)

NOUKK’s sustainability approach aligns with a selected set of Sustainable Development Goals (SDGs) that are most relevant to its value chain and stage of development. The grid below illustrates where NOUKK contributes directly and indirectly across its sourcing, processing, research, and partnership activities.

NOUKK Value Chain	1 NO POVERTY	3 GOOD HEALTH AND WELL-BEING	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	17 PARTNERSHIPS FOR THE GOALS
Camel Rearing & Herding	●	○	●	○	○	●	○
Fibre Collection (Natural Shedding)	●	○	●	○	●	●	○
Animal Welfare Standards (AWS)	○	●	●	○	●	○	○
Fibre Processing & R&D	○	○	○	●	●	○	●
Traceability & Transparency Systems	○	○	○	●	●	○	●
Carbon & GHG Research	○	○	○	○	○	●	●
Community Engagement & Training	●	●	●	○	○	○	●
Partnerships (SFA, researchers, industry)	○	○	○	○	○	○	●

This grid highlights areas of direct and indirect contribution based on NOUKK’s current scope and 2025 activities.

○ SDG 1 - No Poverty

NOUKK supports local herders by improving livelihoods through fair engagement, training, and access to better tools and resources.

○ SDG 3 - Good Health and Well-Being

Through the development and implementation of Animal Welfare Standards, NOUKK promotes healthier animals, safer working environments, and improved community well-being.

○ SDG 8 - Decent Work and Economic Growth

NOUKK fosters dignified work conditions and supports local economies through responsible sourcing, ethical practices, and long-term collaboration.

○ SDG 9 - Industry, Innovation and Infrastructure

Innovation is embedded in NOUKK’s approach through investments in traceability systems, research, and improved production and welfare practices.

○ SDG 12 - Responsible Consumption and Production

NOUKK prioritises ethical sourcing by collecting only naturally shed camel fibres, minimising waste and avoiding harm throughout production.

○ SDG 13 - Climate Action

By working with camels, animals naturally adapted to arid ecosystems and associated with lower methane emissions, NOUKK supports low-carbon production and climate-resilient systems, while advancing carbon research and tracking.

○ SDG 17 - Partnerships for the Goals

Collaboration with the Sustainable Fibre Alliance (SFA), researchers, processors, and industry partners underpins NOUKK’s sustainability strategy.

$$N^2 = \text{NOUKK} \times \text{Nature}$$

In this equation, value is created only when NOUKK’s actions are multiplied by respect for natural systems; if either term approaches zero, the outcome diminishes. N², therefore, represents a balanced model in which responsibility, accountability, and long-term thinking are constant variables shaping sustainable luxury.

Fibre Processing & Supply Chain

From the Desert to a Refined Textile

Fibre Processing: Honouring a Natural Cycle

Arabian camels follow a natural rhythm shaped by desert life. Each spring, as temperatures rise, camels undergo a seasonal shedding process, a vital biological adaptation that allows them to regulate body temperature and remain resilient in arid environments.

At NOUKK, this natural cycle is the starting point of our fibre journey. Rather than imposing industrial extraction, we align our processes with animal welfare standards and environmental responsibility, ensuring that every fibre collected reflects respect and authenticity.

Our Value Chain

NOUKK's value chain extends from fibre sourcing to product end-of-life, reflecting a holistic approach that integrates sustainability considerations across upstream, operational, and downstream activities. Upstream stages, including raw material sourcing and initial processing, are guided by established ethical and environmental principles, while operational and downstream phases continue to evolve as NOUKK refines processes related to production, distribution, product use, repair, reuse, and recycling in line with its capabilities and long-term sustainability objectives.

Throughout the value chain, NOUKK recognises the importance of animal welfare and wildlife conservation and is committed to full compliance with applicable national and international laws and regulations. The brand adheres to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the EU Regulation on the protection of species of wild fauna and flora (EC Regulation No. 338/97), ensuring that sourcing, processing, and trade practices respect both legal requirements and ecological boundaries.

This phased and integrated approach supports transparency, responsibility, and accountability across the product lifecycle, while allowing sustainability practices to strengthen progressively over time.



Traceability

At NOUKK, we are continuously evolving to strengthen transparency, accountability, and traceability across our entire supply chain. We are currently in the process of partnering with a traceability company to ensure that every stage of our production, from sourcing camel hair to the final textile, is fully documented and verifiable. NOUKK's commitment to traceability guarantees that every fibre remains authentic, responsibly sourced, and transparently managed.

Key areas of focus include

- Full supply chain traceability: Ensuring every stage, from herder to final garment, is verifiable and documented.
- Fibre authenticity: Preventing the blending of any suspicious or uncertified fibres with our camel hair to preserve product integrity.
- Data and certifications: Establishing systems that record, verify, and share sustainability data with trusted certifications.
- Sustainability alignment: Partnering with a traceability company that shares NOUKK's environmental and ethical values.
- Accessibility and digital innovation: Introducing a Digital Product Passport that allows consumers and stakeholders to trace the journey of each product.



Environmental Impact

Environmental Impact *Pathways*

Rather than focusing on isolated metrics, NOUKKK considers how material choices influence broader environmental systems.



Camel Fibre & Circularity

Circularity is essential to reducing waste, resource use, and environmental impact by ensuring materials remain in use for as long as possible and safely return to nature at end of life.

Camel fibre naturally supports circular systems through seasonal shedding, low-intensity processing, durability in use, and full biodegradability, making it well suited to regenerative and low-impact textile cycles. Camel wool is 100% biodegradable. At end-of-life, it decomposes naturally, returning nutrients to the soil without releasing microplastics or toxic residues. This positions camel fibre as a strong contributor to closed-loop and regenerative textile systems.

Circularity begins at the source.

Camel fibre is inherently circular by nature, supporting sustainability across its entire lifecycle, from rearing and fibre collection to use and end-of-life.

	Aim	Camel Fibre Properties	Key Facts
	Use renewable resources	Camel fibre is naturally renewed through seasonal shedding cycles	Camels shed annually without the need for mechanical shearing cycles
	Regenerate natural systems	Camels browse on shrubs and desert plants, reducing pressure on soils and vegetation	Browsing behaviour limits overgrazing and supports ecosystem balance
	Reduce pollution	Camel hair's resistance to dirt and natural colour range reduces washing and dyeing	Processing requires 30-50% less water than cashmere
	Extend product lifespan	Camel fibre is durable, insulating, and naturally resilient	Lower laundering frequency compared to synthetic blends
	Enable biological cycles	Camel wool is fully biodegradable	



Water & Resource Efficiency

Camel fibre demonstrates a clear comparative advantage in water-scarce contexts. Unlike cashmere goats, which require intensive grazing and land recovery measures, camels thrive on minimal vegetation and survive long periods without water.

Their fibres resist dirt and possess self-cleaning properties, reducing the need for frequent washing and chemical treatment. As a result, camel fibre processing typically re-

quires 30-50% less water than cashmere and generates lower volumes of contaminated wastewater—making it particularly suited to arid and semi-arid regions.

Carbon & Energy Considerations

Cashmere production is associated with high cradle-to-factory emissions, driven by feed production, transport, mechanical shearing, and intensive processing.

Camel fibre, by contrast, benefits from:

- Naturally shed fibres (minimal energy input)
- Reduced washing and dyeing
- Lower reliance on transported feed

While comprehensive lifecycle assessments are still evolving, existing research indicates that camel fibre presents a lower carbon and energy profile per usable kilogram of fibre.



Ecosystem & Grazing Impact

Camels are browsers, feeding on shrubs, halophytes, and desert vegetation, resulting in:

- Reduced competition with other livestock
- Lower soil erosion
- Preserved plant diversity

Goats, by contrast, are closely linked to overgrazing and desertification when herd sizes scale to meet fibre demand.

NOUKK's sustainability approach is anchored in:

- Low-impact rearing: Camels' natural resilience reduces emissions linked to feed, water transport, and land pressure.

- Naturally shed fibers: Collected during molting with minimal energy input.

- Reduced processing intensity:
 - Less washing and lower energy use.
 - Minimal chemical dyes due to natural fiber colors.

- Full biodegradability: Ensuring products return safely to nature at end-of-life.

Camel fibre does not offer a perfect solution, but it offers a more compatible one, particularly for regions where water, land, and resilience define sustainability itself. NOUKK camel fiber products significantly reduce water use, energy demand, chemical inputs, and carbon emissions compared to conventional luxury animal fibers.





Animal Welfare *Standard*

When using animal-derived materials, it is in NOUKK's ethics to promote animals that have lived a decent life on certified farms where no animal has been slaughtered for the purpose of textile.

For this vital reason, NOUKK has worked this past year to develop its first recognized Animal Welfare Standards in the care and handling of Arabian camels. It's a set of guidelines that outline how Arabian camels should be treated following the "Five Domains" principles. The Five Domains Model is a framework used to assess animal welfare by evaluating both physical and

mental states. It builds on the "Five Freedoms" of animal welfare and is designed to offer a more comprehensive approach by considering how various aspects of an animal's life contribute to its overall well-being. NOUKK has decided to adopt the five domains model framework and assess its operations and animal care against its criteria.

The *Five* Domains

Nutrition	Evaluates the animal's diet, providing them with sufficient fresh water and camel-appropriate food, maintaining their overall health and wellbeing
Environment	Considers the living conditions and promotes physical comfort by providing suitable shelters and clean rest spaces against adverse weather conditions.
Health	Assesses the animal's physical state, including injuries, diseases, and overall fitness.
Behavior	Minimizes threats and unpleasant restrictions, while promoting the camel's ability to express natural behaviors with its environment and other animals.
Mental State	Focuses on the animal's psychological well-being, considering emotions like pain, fear, pleasure, and contentment.

NOUKK has received highly positive responses toward its AWS, along with encouraging feedback from herders. This collaboration fosters mutual growth, allowing both sides to achieve better results together. Our focus extends beyond camel welfare; we are equally committed to empowering our herding communities. We support them by sharing best practices and techniques, such as low-stress handling and restraining methods, introducing new technologies, and providing improved shedding tools. In addition, NOUKK has developed a data-tracking form to monitor injuries, deaths, pregnancies and their causes, enabling continuous updates and refinements to our standards each year.

Among NOUKK's most essential animal welfare principles is our strict commitment to sourcing only naturally shed fibers, ensuring that camels

are never harmed. We exclusively use specialized brushes, never shearing machines and absolutely prohibit slaughtering camels for any reason. Furthermore, the company prohibits the use of painful branding methods and limits physical restraint, ensuring the camels remain wildly herd and well-treated.

Finally, compliance with these standards is reviewed annually to incorporate any necessary updates, informed by data collected through the tracking form and by insights gained from seminars introducing new technologies, all aimed at ensuring the highest welfare for our Arabian camels.

[Click here to download the full AWS report](#) / [Click here to download the summarized AWS report](#)



Certifications, partnerships and collaboration

NOUKK actively participates in international events and awards to showcase our mission and innovation, reflecting our growing recognition in the sustainable luxury sector. More details of which can be found in the Milestones and Achievements section.

Awards



Kering Generation Award

Saudi Edition - Top 10 Finalist - Jan 2025

"Aims to promote sustainability and innovation in the fashion industry, to drive meaningful change and elevate sustainable fashion initiatives."



Innovate 4 Nature

Shortlisted for stage 2 - Aug 2025

Innovate 4 Nature identifies and supports nature-positive solutions in collaboration with partners to contribute to the restoration and regeneration of nature by 2030.



Green product award

Finalist - Dec 2025

Innovate 4 Nature identifies and supports nature-positive solutions in collaboration with partners to contribute to the restoration and regeneration of nature by 2030.

Achievements



UNCCD COP16
Dec 2024

Invited to speak on a COP16 panel, at the United Nations Convention to Combat Desertification, spotlighting the Arabian camel sector and advocating for camel herders in arid regions.

CTF

Challenge the fabric
May 2025

Participated in the international symposium on innovation, regulation, and the future of responsible materials.



NFC Conference
Sep 2025

Represented Arabian camel hair on a global stage at the Natural Fibre Connect Conference.



Journey with the Sustainable Fibre Alliance (SFA)



The Sustainable Fibre Alliance (SFA) is a non-profit standard-holding and membership organisation dedicated to promoting sustainability, animal welfare, and ethical practices throughout natural fibre supply chains, especially cashmere.

Its work brings together herders, processors, brands, and global stakeholders with the goal of minimising environmental impact, safeguarding herding communities, and improving welfare standards for fibre-producing animals. With the support of SFA and through ongoing consultation and review meetings, NOUKK developed its first Animal Welfare Standards in alignment with globally recognised practices. This collaboration enhances our credibility, ensuring that our treatment of animals and management of fibre production continue to improve year after year. To further strengthen our commitment to transparency, we are proud members of the SFA and are working toward achieving full certification in the coming years. Through our membership, NOUKK actively participates in SFA seminars, webinars, and workshops to exchange knowledge with herders, veterinarians and experts, embrace innovative technologies, and integrate global best practices. Currently, we are in ongoing communication with SFA leadership regarding the in-

clusion of camelids, particularly Arabian camels, within the scope of their fibre certification, a milestone we are eager to help shape for the future of sustainable and ethical fibre production.

NOUKK has begun exploring certification pathways for Arabian camel fibre as part of its commitment to transparency and sustainability. However, as a novel and underrepresented fibre, there is currently a limited range of certifications that fully address its specific characteristics or align with its value chain. Existing frameworks often differ in scope or are not directly applicable to this emerging material. As a result, we are continuing to assess and identify the most appropriate and credible certification options, with a strong awareness of the importance of rigor, traceability, and industry recognition. We remain open and excited to collaborate with mills, certification bodies, and sustainability programs to help shape and advance suitable standards for this fibre.



Community Uplifting

At NOUKK, community uplifting is central to our sustainability approach.

Our work goes beyond responsible sourcing, it is rooted in preserving cultural heritage, promoting dignity, and building long-term, equitable partnerships with the indigenous Arab communities whose livelihoods are closely tied to the Arabian camel. Camels have long played a vital role in so-

cial, economic, and ecological systems across the region. Supporting the people who care for them is therefore essential to sustaining the fibre, the landscape, and the knowledge systems that surround it.

Empowering Herders Through *Knowledge & Tools*

NOUKK actively works with herders through presentations, learning sessions, and direct engagement, designed to support the practical adoption of our Animal Welfare Standards (AWS). To ensure accessibility and meaningful participation, these standards are translated into Arabic and communicated through tailored, context-sensitive training.

Beyond training, NOUKK has developed a simple tracking system that enables herders to record and monitor key farm data, including:

- Animal births and deaths
- Injuries and health observations
- Feed availability
- Water supply

This system supports better decision-making, improves transparency, and strengthens animal welfare practices at the source.



Collaboration, Inclusion & the Role of Women

Community engagement at NOUKK is collaborative by design.

We work alongside herders, local partners, and practitioners to co-develop solutions that reflect lived realities rather than imposing external models. Special attention is given to inclusion, particularly the role of women within camel-rearing communities, whether in fibre handling, knowledge transmission, or household-based economic activities. By recognising and supporting these contributions, NOUKK seeks to broaden participation and reinforce social resilience.



Toward Collective Representation

Looking ahead, NOUKK aims to support the establishment of a herders' association that:

- Safeguards labour rights
- Provides collective representation
- Enables access to financial and operational advantages
- Strengthens the position of herders within the Arabian camel fibre industry

Such collective structures are essential for ensuring long-term social and economic value creation.

Together, they reinforce NOUKK's belief that sustainability begins with people, and that ethical supply chains are built on trust, knowledge-sharing, and mutual respect. As NOUKK continues to grow, its approach to community uplifting will extend across its broader value chain, engaging employees, suppliers, and partners in ways that prioritise fairness, transparency, and shared responsibility. While systems and partnerships are still evolving, social considerations are embedded early to ensure that growth remains aligned with NOUKK's sustainability values.

Climate and GHG *emissions*

GHG Emissions *Overview*

In 2025, NOUKK conducted its first Greenhouse Gas (GHG) assessment covering January 1–December 31, 2025.

At this stage, we focus on the carbon footprint (CO₂-equivalent) rather than a full environmental footprint, to establish a measurable baseline before expanding into water, land, and biodiversity indicators. Our methodology aligns with the GHG Protocol Corporate and Scope 3 Standards, which are internationally accepted frameworks for assessing value chain emissions.

Industry data consistently shows that the vast majority of emissions in apparel and textile value chains are in Scope 3 due to raw materials and supply chain activities. For many brands with approved science-based targets, 96 % of total emissions are Scope 3 (Reuters, 2023), with more than three-quarters linked to purchased goods and services.

GHG reporting is organized into the three scopes:

- Scope 1: Direct emissions from sources owned or controlled by NOUKK
- Scope 2: Indirect emissions from purchased energy
- Scope 3: Other indirect emissions occurring in the value chain

Scope 1 & Scope 2 Emissions

Scope 1 - Direct Emissions:

NOUKK operates remotely with no owned offices, vehicles, or production facilities.

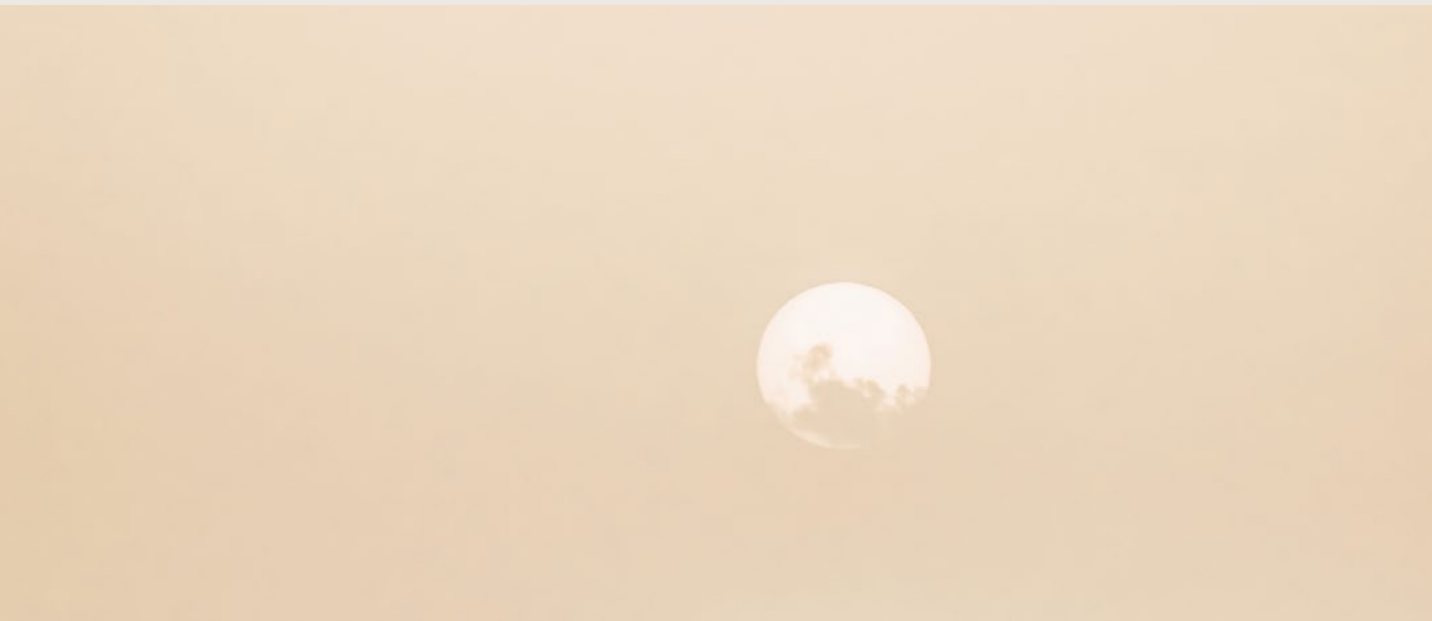
→ **Scope 1 emissions:** 0 tCO₂e

Scope 2 - Indirect Energy Emissions:

No purchased energy is centrally consumed by NOUKK operations.

→ **Scope 2 emissions:** 0 tCO₂e

Home office electricity use is excluded as it falls outside centralized operational control.



Scope 3 Emissions: Full Mapping Across 15 Categories

The GHG Protocol Scope 3 Standard identifies 15 categories of value chain emissions. Not every category will be relevant for every organization but identifying them ensures a robust roadmap for future measurement and reduction.

Category	Relevance to NOUKK (2025)	Data Approach & Uncertainty
1. Purchased goods & services	● Applicable; top priority	Initially estimated via industry data and early supplier insights; high uncertainty until primary data collected.
2. Capital goods	○ Not relevant	Excluded due to early stage and lack of major capital expenditures.
3. Fuel- and energy-related activities	○ Limited	Indirect impacts from remote work not yet quantified; medium uncertainty.
4. Upstream transport & distribution	● Major contributor (shipments)	Based on known freight movements and emission factors; medium uncertainty.
5. Waste generated in operations	○ Not applicable	No central facilities; excluded.
6. Business travel	● Measured	Travel logs × emission factors; low-medium uncertainty.

7. Employee commuting	<input type="radio"/> Not currently included	Remote model reduces relevance; optional for future reporting.
8. Upstream leased assets	<input type="radio"/> Not relevant	No leased facilities.
9. Downstream transport & distribution	<input type="radio"/> Relevant in future	Shipping to customers later; medium uncertainty.
10. Processing of sold products	<input type="radio"/> Under development	Partner data being collected; provisional estimates only.
11. Use of sold products	<input type="radio"/> Future	Depends on consumer use patterns; high uncertainty.
12. End-of-life treatment	<input type="radio"/> Future	Requires lifecycle modelling; high uncertainty.
13. Downstream leased assets	<input type="radio"/> Not applicable	No franchising or leasing.
14. Franchises	<input type="radio"/> Not applicable	Not part of NOUKK structure.
15. Investments	<input type="radio"/> Not applicable	



Scope 3 – Key Emission Categories

Based on the categories above and our current data:

Scope 3 Category	Estimated tCO ₂ e
Purchased goods & services (raw materials, processing)*	TBD
Upstream transport & distribution (shipments)	~21
Business travel	~4.2
Ground transport	~0.4

Total estimated measurable Scope 3 emissions for 2025: ~25-27 tCO₂e

Transport & Shipments

Calculating upstream transport and distribution

Scope 3 Upstream Transport and Distribution carbon emissions were calculated using the DHL carbon calculator tool. These figures represent an estimate of the total well-to-wheel CO₂ emissions incurred by the organisation through air freight transport. The organisation evaluated four tools and determined that the DHL tool provided the most accurate results, accounting for uncertainty in values.

DHL carbon calculator aligns with international standards for calculating transit emissions, following the “GLEC Framework, the GHG Protocol and the ISO 14083” (DHL, 2025).

Example:

$$A \xrightarrow[2,713.45km]{10KG} B \approx 19.31 \text{ CO}_2\text{e WtW}$$

Due to the weight of shipments and insufficient data, road transit for upstream transport and distribution has been calculated to be negligible (<0,1 kgCO₂e). The organisation aims to improve systems to ensure the scope 3 carbon emissions represent the truest values.

DHL. 2025. “Carbon Calculator.” Dhl.com. 2025. <https://carboncalculator.dhl.com/user-guide>.



Business Travels

To assess emissions associated with business travel, logistics, and field operations, NOUKK developed a structured data collection system covering employee travel, on-ground transportation, and material shipments within the reporting period (January–December 2025). This dataset captures key parameters including origin and destination, distance (or route), mode of transport, purpose of travel or shipment, and estimated greenhouse gas (GHG) emissions expressed in kg CO₂e. Emissions were calculated using secondary data sources and standardized emission factors (e.g., DEFRA and GHG Protocol guidance), applying distance-based estimates for air travel, road transport, and freight. For flights, emissions were approximated based on route distance and haul type (short, medium, long-haul), while ground transport emissions were estimated using average emission factors per kilometer depending on vehicle type. Freight emissions, particularly for air shipments, were calculated based on weight-distance relationships. Where primary data was unavailable, conservative estimates were applied to ensure consistency and comparability. This approach provides a reliable baseline for Scope 3 emissions, while highlighting areas for future refinement through improved primary data collection and supplier engagement.

To estimate greenhouse gas (GHG) emissions associated with business travel, NOUKK applies a distance-based calculation approach aligned with internationally recognized methodologies, including the GHG Protocol and ICAO Carbon Emissions Calculator.

For each trip, emissions are calculated using:

- Origin and destination (including layovers)
- Total travel distance per leg
- Mode of transport (air, road, etc.)
- Standard emission factors (kg CO₂e per passenger-km)



For air travel, routes are broken down into individual flight segments (e.g., Beirut → Istanbul Berlin), and emissions are calculated per leg. A distance correction factor is implicitly considered through the use of standardized datasets that account for real flight paths, aircraft efficiency, passenger load factors, and cargo allocation.

Emission factors used are based on secondary data sources (e.g., DEFRA, ICAO), ensuring consistency and comparability across all travel activities. Where exact aircraft-specific data is unavailable, average emission intensities for the route type (short-, medium-, or long-haul) are applied.

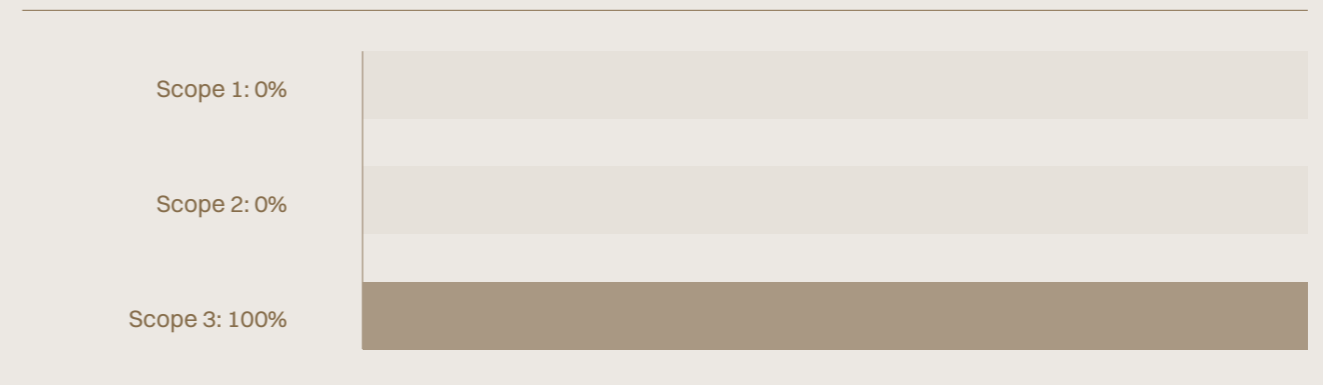
Example: Beirut → To Berlin; A Round Trip

- **Traveler:** Employee A
- **Route:** Beirut → Istanbul → Berlin (round trip)
- **Airline:** Turkish Airlines
- **Aircraft:** Airbus A350 (new-generation, lower-emission aircraft)
- **Travel Distance:**
 - Beirut → Istanbul ~1,018 km
 - Istanbul → Berlin ~1,689 km
- **Emission Factors Applied:**
 - Short/medium-haul flight: 0.115 kg CO₂e per passenger-km
 - Medium-haul flight: 0.091 kg CO₂e per passenger-km
- **Outbound Flight Emissions:**
 - Beirut → Istanbul:
 $1,018 \times 0.115 = 117 \text{ kg CO}_2\text{e}$
 - Istanbul → Berlin:
 $1,689 \times 0.091 = 154 \text{ kg CO}_2\text{e}$
- **Total Outbound Emissions:**
271 kg CO₂e
- **Round-Trip Emissions:**
 $271 \times 2 = 542 \text{ kg CO}_2\text{e}$
- **Total Estimated Emissions**
Beirut → Berlin Round Trip: ~0.54 tCO₂e per passenger

This example illustrates how NOUKK estimates emissions associated with employee air travel by applying distance-based emission factors to each flight segment. The resulting value provides a transparent approximation of the carbon impact of a typical international business trip and helps identify aviation as a significant contributor to Scope 3 emissions. As NOUKK's data systems mature, these calculations will be further refined using more detailed travel and airline-specific information.

Ground Transport

Across the global fashion and textile sector, Scope 3 emissions typically represent the vast majority of total emissions (around 90–96%), driven mainly by purchased goods and upstream transport. Many brands are responding by adopting science-based targets, with leading apparel companies committing to 50%+ Scope 3 reductions by 2030 and long-term net-zero value chains. Within this context, NOUKK's approach aligns with common industry practice for early-stage brands, focusing first on mapping emissions and strengthening data quality before setting quantitative reduction targets.



Target Framework

Until robust supply chain data exists, NOUKK will adopt process-oriented targets (e.g., supplier data agreements, freight mode shifts) that reduce emissions exposure. Future numeric emission reduction targets will be set once credible baselines are established.



2026 Vision - From Foundations to Maturity

Advancing with *Intention*

The year 2026 represents a transition for NOUKK—from building foundations to strengthening maturity. The work undertaken in 2025 established the systems, research base, and governance structures needed to support long-term sustainability. Looking ahead, NOUKK's vision is one of continuous learning, measured progress, and accountable growth, guided by both innovation and responsibility.

01

Continuous Research & Innovation

NOUKK will continue investing in research and innovation across its value chain to advance low-impact fibres, animal welfare, regenerative sourcing, and material development, recognising sustainability as an evolving process focused on improving quality, resilience, and environmental performance over time.

02

Driving Circularity Across the Value Chain

By 2026, NOUKK aims to strengthen circularity across the product lifecycle by prioritising durable and biodegradable materials, improving process efficiency, and integrating end-of-life considerations to ensure products safely return to natural systems.

03

Carbon & Climate Accountability

As data systems mature, NOUKK aims to strengthen carbon accountability across its value chain by refining GHG accounting, expanding KPI tracking, and prioritising emission reductions before compensating unavoidable emissions through carefully selected nature-based climate solutions.

04

Packaging & Process Innovation

NOUKK's 2026 vision includes advancing low-impact packaging and exploring greater control over production processes, including potential in-house dehairing and circular water management systems to reduce water use and wastewater generation.

05

Product End-of-Life Responsibility

By strengthening traceability and material transparency, NOUKK seeks to improve oversight of product end-of-life pathways, ensuring that garments are designed for longevity, reuse, and biodegradation. This reinforces the brand's commitment to full lifecycle responsibility rather than point-of-sale sustainability claims.

06

People, Training & Shared Knowledge

By 2026, NOUKK aims to provide all collaborators with access to sustainability training on SDGs, climate awareness, animal welfare, and circularity principles, recognising education as essential for long-term value chain transformation.

07

Reporting & Transparency

NOUKK will continue to strengthen future sustainability reporting by progressively aligning with GRI Standards, advancing transparency and consistency while pursuing responsible luxury through continuous improvement and integrity-driven progress.

Conclusion

A Long-Term Commitment to Responsible Luxury



NOUKK's first Sustainability Report marks the beginning of a long-term commitment rather than the conclusion of a journey. Throughout 2025, the focus has been on building the systems, partnerships, and governance structures necessary to ensure that sustainability is embedded into the foundation of the brand from the outset.

This report demonstrates that responsible luxury is not achieved through claims alone, but through deliberate choices, transparent reporting, and continuous improvement. From establishing the Animal Welfare Standard and carbon accounting systems to strengthening traceability, engaging herding communities, and advancing research on Arabian camel fibre,

NOUKK has laid the groundwork for a model of luxury rooted in accountability, heritage, and ecological respect.

As NOUKK grows, so too will the maturity of its sustainability practices, metrics, and ambitions. The company remains committed to improving data quality, strengthening environmental and social performance, and contributing to the evolution of standards for Arabian camel fibre within the global textile industry.

Ultimately, NOUKK believes that true luxury must honour the systems that make it possible: the animals, landscapes, people, and traditions behind every fibre. By embedding this philosophy into every stage of its value chain, NOUKK seeks not only to build a brand but to help shape a more responsible future for the luxury sector.

This is not the end of the journey, but the foundation upon which it will continue to grow.

The Double N:
NOUKK × NATURE =

N²

Where Luxury Meets Responsibility.