A textile giant in the making?

A look at the Textile and Apparel Sector in Uzbekistan

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Preface



Little has been heard of Uzbekistan's recent efforts in transforming towards an economically thriving and modern state at the heart of Central Asia. It had for long lain behind a curtain of bad reputation for censorship, environmental damage and human rights violations. For the last severa

reputation for censorship, environmental damage and human rights violations. For the last several years however, Uzbekistan has made immense efforts on both the private as well as the political fronts to overcome the challenges and the associated reputation. Since 2017 the government has embarked on a reform agenda that accomplished positive developments in all areas of society, politics and the economy, and prominently also in the cotton and textile sector.

The country has a century long cotton growing tradition, as of today it is still one of the world's 10 largest cotton producers (Source: International Cotton Advisory Committee). The sector offers many opportunities for sustainable change: socially it can provide decent jobs for the immense labour force of Central Asia's most populated country, most of which will target women; environmentally, climate change adaptation and the promotion of sustainable production methods are alternatives to conventional cotton growing with large inputs of chemicals and water; economically, long-lasting business relations to markets with higher sustainability requirements provide the fundament to implement socially and environmentally sound practices. With the reforms, the sector liberalised from a state monopoly to private enterprises that are open for socially and environmentally sustainable approaches, naming drip irrigation and the introduction of Better Cotton and organic cotton production among many more examples.

The Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) assists the reform process by implementing the project "Sustainability and Value Added in Agricultural Supply Chains | Cotton in Uzbekistan" as part of a global project working on several agricultural supply chains in several countries. By working closely together with the private sector to increase sustainability, the project caters to the needs of the economy by conducting activities and capacity development whilst promoting social, environmental, and economic sustainability along the whole supply chain. The project activities span from providing trainings in organic cotton production or social compliance in processing, to capacity development in export as well as cooperating with international textile companies to open new markets. By doing so since 2019, the project had the opportunity of gaining first-hand experience of the progress and the remaining challenges.

In your hands you are holding the most recent update on the sector, nurtured from up-to-date data collected from several interviews conducted with stakeholders from the Uzbek and international industry, the public sector and individual actors. With this report, we aim to provide you with an expertise-driven neutral perspective from within the sector. The subsequent pages should:

- Inform you about the status quo of the Uzbek cotton and textile sector;
- Outline the profound developments of the last years;
- Highlight remaining challenges as well as simultaneously address measures (taken or planned) to tackle these.

If this report stimulates your interest in the Uzbek cotton and textile sector, do not hesitate to contact us. The project stands ready to inform, connect, and venture together. And with this - O'zbekistonga xush kelibsiz or welcome to Uzbekistan!

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Foreword

2017 marked the beginning of an impressive transformation for Uzbekistan

Since the fall of the Soviet Union, the country remained largely stagnant, struggling to find a place in the global economy. However, over the past several years, the government has embarked on a mission of reform that has addressed almost every structural and fundamental challenge in the economy from taxes to child labour, the investment environment, infrastructure, foreign direct investment and the judicial system.

The results are impressive and the numbers speak for themselves. Compared with 2018, FDI inflows quadrupled to reach 2.2 billion in 2023 (source: UNCTAD) with over 59,000 projects implemented in the period, creating over 2.5 million jobs. Personal income taxes were brought down from 40% to 20%, property tax was cut down from 15% to 5% and the number of taxes was reduced from 13 to 9. This has led to remarkable yearly GDP growth rates between 6 and 8% (except in 2020 due to the COVID-19 pandemic).

The reforms did not only address monetary policy but also extended to include reforms to laws and regulations to support businesses and facilitate the integration into the global economy. The country abolished systemic forced and child labour in cotton plantations, embarked on a mission to privatize state owned enterprise and implemented reforms to the judicial system.

In the so-called strategic document "Uzbekistan strategy 2030", the country plans to grow its GDP to USD 160 billion by 2030 as well as increase its exports to USD 45 billion with 85% of the GDP produced by the private sector. These might look like ambitious targets, however, judging by what has been achieved to date, the country is on the path to possibly meeting those targets.

Uzbekistan is now an attractive investment destination for first movers. Many international companies are seeing the opportunity especially after getting Europe's GSP+ status in April 2021 and the various regional trade agreements the country has with its neighbours and other key markets.



The Textile and Apparel Sector (TAS) has been at the heart of this transformation and has been both a significant beneficiary from the reforms as well as a key contributor to Uzbekistan's growth. The privatization of the cotton production, the introduction of the cluster model, the abolishment of systemic and systematic child and forced labour as well as the opening of the economy have all contributed to the attraction of significant investments into the sector.

With over 7,000 textile and apparel enterprises, exports grew to more than USD 3.9 bn in 2023. Equally important, Uzbekistan has been able to convert 100% of its cotton into yarn in 2023, transitioning towards higher value-added production and eliminating its exports of raw cotton. This is a noteworthy achievement and paves the way for Uzbekistan to become a global player, with a unique offering of a fully integrated industry from fibre to finished product, competitive manufacturing costs, duty free access to Europe and a short lead time.

1. Snapshot of the Uzbek Textile and Apparel industry

1.1 A textile giant in the making?

In recent years, the industry in Uzbekistan has witnessed large investments in state-of-the-art and integrated manufacturing facilities that are often attached to the cultivation of cotton under a structure known as "cotton-textile clusters".

Thanks to the privatization of cotton production and the establishment of 142 clusters, the country was able to convert 100% of its 1.1 million tons of cotton production into yarns, fast establishing itself as a major player in the spinning industry. Whereas the area allocated for cotton cultivation has decreased during the last decade, improved farming practices are generating a higher yield and overall production is on the rise.

Today Uzbekistan has over 7,000 companies in the TAS employing close to 600,000 workers with exports of over USD 3.9 bn in 2023. The vast majority of those companies (approx. 5,600 enterprises) consists of Ready-Made garment manufacturers, the balance includes about 150 yarn manufacturers, 130 fabric makers, 250 knitting companies and 110 hosiery manufacturers as well as a number of accessory makers and services. Although the industry has expanded into spinning, weaving, knitting, dyeing and finishing as well as garment making and home textile manufacturing, the sector has largely remained focused on cotton and has yet to grow in the manufacturing of other fibres.

To become one of the leading sourcing destinations for European and potentially US buyers, the industry will need to expand into the manufacturing of products made of Man-Made-Fibres and/ or other non-cotton natural fibres as well as elaborate the scope of the weaving, knitting, and manufacturing of finished-products. Thus, this strategy will enable Uzbekistan to offer products with higher value-addition and serve the ever- developing needs of international brands and retailers.

Uzbekistan might also want to attract investments into the Technical Textiles subsector and diversify from its current focus on cotton fibres and basic garment and home textile products. Finally, Uzbekistan will also need to focus on adhering to internationally recognized social and environmental standards in order to be able to be more attractive to the European market.

Fibre	Spinning	Fabric and processing	Garment / Made ups
Production of 1.1 m tons of cotton in 2023	Production of 932 k tons of yarns in 2023	Capacity of 1,364 million m ² of woven fabrics and 370,000 tons of knitted fabrics	Modern CMT operations
Increasing penetration of BCI and organic cottons	Massive investments in state-of-the-art technologies including compact spinning	Capacity to manufacture a rather large cotton centric range of fabrics (denim, sportswear, knits, bedlinen, terry, etc.)	Growing production capacities in terry towels, bedlinen, jeans, knitted goods, etc.
Yield level improvement and better water management with new technologies (drip irrigation, seed varieties, new fertilization methods, etc.)	Yarn exports were over \$1,700 million in 2023 up from \$880 million in 2019	Fabric exports grew 3 folds from \$153 million in 2019 to over \$460 million in 2023	Exports of finished goods HS61, 62 and 63) increased from around \$400 million in 2019 to over \$1,500 million in 2023
Cotton land regained area (>100,000 hectares)	Total spinning capacity reached 3.9 million spindles in 2023	Installed capacity in weaving exceeded 11,000 looms and 3,900 circular knitting machines	
3rd largest silk producer in the World			

Key figures (2023)

1 HS61-HS63 are the codes pertaining to manufactured textiles and garments in the Harmonized System used globally to classify traded products

1.1.1 Cotton production

Uzbekistan has been among the world's largest cotton producers and exporters since the Soviet Union era. Cotton still represents approx. 30% of total agriculture land in Uzbekistan with around 1 million hectares of cotton cultivated crop land (source: Uzbekistan Textile and Garment Association - UTGA). In 2017, the government embarked on a mission to privatize cotton production and today the industry is entirely in the hands of the private sector represented by the 142 clusters.

Almost 2 million people are recruited every year for the annual cotton harvest in Uzbekistan. The country has succeeded in eradicating systemic forced and child labour since 2021 cotton production cycle, according to ILO findings (Third-Party Monitoring Report of the Cotton Harvest in Uzbekistan).

In 2023, Uzbekistan ranked among the largest cotton producers in the world (China, India, USA, Brazil, Australia, Pakistan) producing several varieties of cotton. The choice of cotton variety in agriculture is one of the main factors affecting yields and product quality. Currently, varieties include "S-6524", "Bukhoro-6", "Namangan-77", "Omad", "Bukhoro-102", "Bukhoro-8", "Andijon-35". At the same time, new promising varieties have been developed with improved fibre quality and yield, e.g. "S-6541", "Namangan-34" and "Al-Termizy".

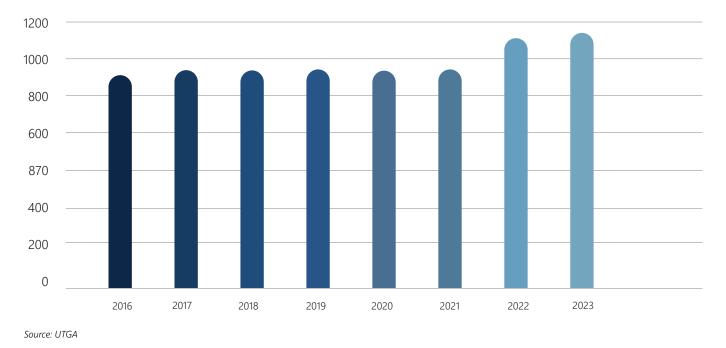
The average cotton yield in Uzbekistan was 661 kg/ha in 2022/2023, which is roughly a 10% increase in yield compared to the previous year (source: ICAC) and although the yields are lower than some of their competition (China 1,992 kg/ha, Turkey 1,775 kg/ha and USA 844 kg/ha), productivity is ahead of several other large players (India 445 kg/ha, Pakistan 388 kg/ha). The USDA report (USDA-GAIN, 2020) attributes the recent improvements in Uzbekistan's cotton productivity to improved resource efficiency (such as water usage), adoption of modern technology, and improved agronomic practices in cotton clusters.

The country has also taken steps in expanding its current production of sustainable and organic cotton. As of 2023, around 7,000 ha are under organic cotton cultivation and the Better Cotton Principles and Criteria are applied on more than 35,000 ha. The area is expected to further increase within the next years as more clusters are getting involved into sustainable cultivation methods. In addition, regenerative agricultural practices are piloted in two different regions.

Key figures (2023)

Cotton crop area	1.03 million hectares
Cotton crop area allocated to clusters	100%
Cotton fibre production	1.1 m tons
Export of cotton fibre	0 tons





Cotton fibre production (k tons)

1.1.2 Spinning & yarn dyeing

There were 175 spinning companies in Uzbekistan in 2023 with 3.9 million spindles and 242,000 rotors installed. Yarn production reached 1.3 million tons in 2023, with around one third (448,000 tons) going to exports. The industry largely focuses on 100% cotton yarns with a small production of cotton blends. The local industry must rely on imports for its needs of Man-Made-Fibres (MMF) and non-cotton natural fibres. Some future investments in yarn production intend to expand into MMF and other fibres.

The yarn dyeing capacity in Uzbekistan remains small and is estimated at 64,400 tons in 2023 (source: UTGA) mainly due to the current product focus of the local textile industry. This may change with further investments into the sector, especially focusing on higher value-added products.

Yarn imports are also quite small and stood at slightly above 25,000 tons in 2023. Imports of cotton yarn grew at a Compounded Average Growth Rate (CAGR) of 3% while imports of MMF yarns grew at a 7% CAGR in the same period.



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Key figures (2023)

Number of spinning companies	175
Installed capacity	3.9 million spindles and 242,000 rotors
Annual spinning capacity	1.3 million tons
Actual yarn production	0.9 million tons
Yarn exports	448,000 tons
Yarn imports	25,680 tons

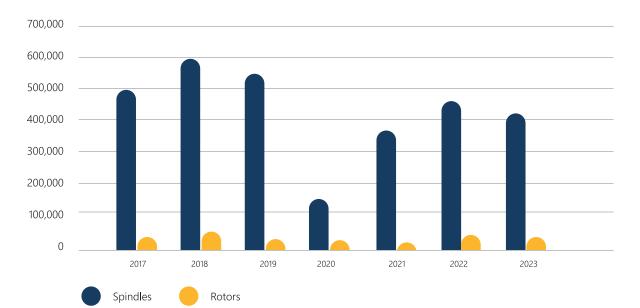
Source: UTGA

`	arn exports	Volume k tons	Value m US\$	Yarn imports	Volume k tons	Value m US\$
	2020	455	947	2020	30.7	46
	2021	563	1,618	2021	29.5	61
	2022	409	1,422	2022	8.4	16
	2023	448	1,172	2023	25.7	30

Source: UTGA

Partner countries: Russia, China, Turkey, Kyrgyzstan, Kazakhstan, Poland

Source: UTGA



Shipment of short-staple spindles and rotors (units)

Source: ITMF

1.1.3 Fabric production and processing

There are more than 250 weaving companies in Uzbekistan producing over 1,364 million m^2 of fabric. While exports stood at around 589 million m^2 (around 45% of total production), volumes have increased almost sevenfold since 2017.

The number of knitting factories exceeds 260 manufacturers, producing over 369,600 tons of fabric. Similar to weaving, exports of knitted fabrics were quite small compared to production with 60,850 tons exported in 2023. Nevertheless, exports have more than quintupled since 2017.

Exports of both woven and knitted fabrics have gone primarily to neighbouring countries and regional markets such as:

Russia, China, Turkey, Kyrgyzstan, Kazakhstan and Poland. The industry is currently dominated by cotton production and basic fabrics. Uzbek producers have yet to move towards higher value-added production and more sophisticated fabrics.

This focus on cotton has pushed the local industry to rely on imports for their needs of MMF fabrics and more complex products leading to imports of 121 million m² of woven fabrics and around 28,900 tons of knitted fabrics. Although both figures have seen a decrease over the past 2 years, the fact remains that the industry continues to depend on imports for their needs of MMF primary textiles.

Key figures (2023)

Number of weaving companies	250
Number of knitting companies	260
Installed capacity - shuttleless looms	11,000
Installed capacity - knitting machines	3,942
Annual capacity of woven fabric	1,364 million m ²
Annual capacity of knitted fabric	369,601 tons
Number of processing units	>100
Export of woven fabrics	589 million m ²
Import of woven fabrics	121 million m ²
Export of knitted fabrics	60,850 tons
Import of knitted fabrics	28,900 tons

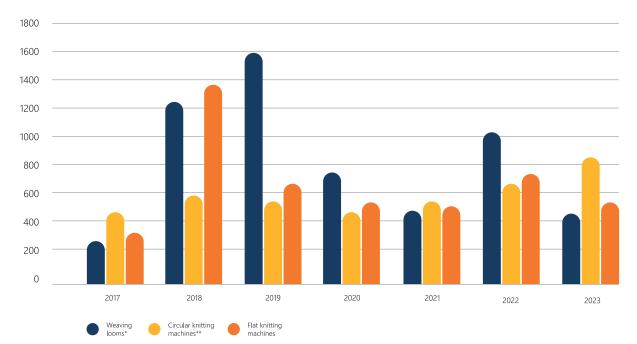
Source: UTGA

Export of woven fabrics	Volume m m²	Value m US\$	Export of knitted fabrics	Volume k tons	Value m US\$
2017	87	40	2017	11	43
2018	185	75	2018	16	63
2019	216	74	2019	20	79
2020	297	104	2020	33	140
2021	319	146	2021	46	238
2022	305	168	2022	50	301
2023	589	172	2023	61	290

Partner countries: Russia, China, Turkey, Kyrgyzstan, Kazakhstan, Poland

Source: UTGA

Shipment of shuttleless looms and knitting machines (unit)



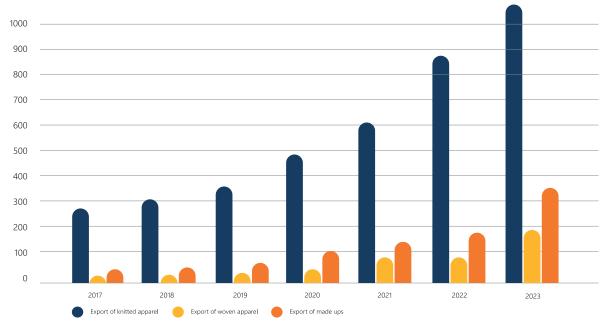
*Air-jet, rapier and projectile, water-jet **Single and double

Source: ITMF

1.1.4 Apparel and home textile manufacturing

There are over 6,000 Ready-Made Garments (RMG) and home textile manufacturers in Uzbekistan producing over 2.3 billion pieces in 2023 (source: UTGA) up from 2 billion pieces in 2021, a 15% increase in two years. Exports of the sector have witnessed significant growth since 2017 climbing from USD 300 million to over USD 1,500 million in 2021, almost a fivefold increase. The industry is largely focused on basic cotton products and exports are mainly going to neighbouring countries. Although strategically positioned close to European markets, exports to Europe have been very limited so far.

Exports of apparel and home textiles (value in million USD)



Source: Comtrade

Export of knitted apparel

Partner countries: Russia 33% in 2021 Partner countries: Russia 54% in 2022 Partner countries: Russia 59% in 2023

Source: Comtrade

Export of woven apparel

Partner countries: Russia 33% in 2021 Partner countries: Russia 43% in 2022 Partner countries: Russia 45% in 2023

Export of made ups

Partner countries: Russia 53% in 2021 Partner countries: Russia 61% in 2022 Partner countries: Russia 50% in 2023

1.1.5 Others (silk, ancillary industry, etc.)

Silk

Uzbekistan's silk-production tradition dates back to ancient times and is a point of national pride. Today, the sector is still strictly controlled by the government, however delivering the annual harvest through family-based production. Ranking as the world 's third largest silk producer, Uzbekistan harvests approx. 25,000 tons of raw cocoons annually.

According to Uzbekipaksanoat Association, the sector employs over 850,000 persons (mostly seasonal). In 2023, the country exported more than USD 79.4 million (source: Comtrade) of silk-related products (silk wool, raw silk, silk fabrics, waste, etc.) mainly to China, Tajikistan, Iran and Vietnam (>85% of total exports). The country has great ambitions to boost the silk sector through dedicated investments for mulberry seedlings growing areas, modernization of the existing processing units and silk fabric production.

Accessories

Approx. 40 companies (50% in the Tashkent region) representing 1,000 employees are involved in the local production of accessories for the garmenting industry which includes the following:





1.2 A sourcing partner with a lot to offer

Uzbekistan is one of only a handful of countries that are relatively newcomers to the Textile and Apparel value chain and can compete head-to-head with well-established sourcing destinations. The country enjoys several, very attractive advantages that are making it a key supplier for buyers from both the east and the west.

The attractiveness of Uzbekistan doesn't only come from its competitive costs but equally importantly from its proximity to the market, the ability and the potential for traceability of its products from the fibre to the finished product and, the government's determination to support the sector with an array of incentives and tools. The state has put in place a range of policies and legislation addressing labour rights, environmental protection, investment facilitation and trade support, in addition to the privatization of its cotton production. These new laws and regulations have led to significant investments in the entire value chain, with state-ofthe-art machinery and equipment in fully integrated production facilities, putting Uzbekistan as one of the top producers of cotton fibre and products in the world.

Additionally, investments in infrastructure, logistics and private sector support have been instrumental in securing the growth that the industry has witnessed both in terms of production as well as exports.

1.2.1 Labour a chief resource

Uzbekistan passed a range of legislation designed to protect labour rights as well as abolish the systemic and systematic use of child and forced labour in cotton production. The laws cover minimum wage (which was raised from USD 75 in 2022 to USD 85 in 2024), as well as a variety of labour rights including: working hours, minimum working age, freedom of labour, freedom of association and vacations among others. The most recent legislation dated in 2022 (which came into force in 2023) covers several key principles and follows ILO principles and recommendations:

- Equality of labour rights, prohibition of discrimination in the sphere of labour and occupation;
- Freedom of labour and prohibition of forced labour;
- Social partnership in the area of labour;
- Guaranteed security of labour rights and performance of labour duties;
- Inadmissibility of worsening the legal status of an employee.

Source: Azizov and partners

Equally important is the fact that in 2022, the ILO issued a statement (found below) confirming that systemic forced and child labour in cotton harvesting has been eradicated by the Uzbek government. This recognition by the ILO marked the end of an era and motivated the Cotton Campaign in March 2022, to lift the boycott on Uzbek cotton in place since 2009.

The 2021 ILO Third-Party Monitoring Report of the Cotton Harvest in Uzbekistan found that Uzbekistan had eradicated systemic forced and child labour during the 2021 cotton harvest. The ILO has been working with Uzbekistan since 2013, to reform agricultural and economic practices in the cotton sector. The work included changing attitudes as well as behaviours and making child and forced labour unacceptable in both law and practice. There has also been progress in establishing social dialogue and collective bargaining practices in the cotton sector. In 2021 civil society representatives were trained to take part in the cotton harvest. Source: ILO

In January of 2024, a cooperative agreement between the Centre for International Private Enterprise (CIPE), the Solidarity Centre, the Association of Cotton-Textile Clusters of Uzbekistan, and the Uzbekistan Ministry of Employment was signed with the objective to enhance transparency and accountability in the cotton industry. This is a positive step in a series of actions that are being taken by the Uzbek government and the industry to ensure the sustainability of the reforms.

Furthermore, in June 2023, the International Labour Organization (ILO) and the International Finance Corporation (IFC) launched a new Better Work programme in Uzbekistan. This initiative aims to improve working conditions and enhance competitiveness in the country's textile and garment industry. The programme involves compliance assessments, training, and advisory services, with a focus on promoting labour standards. The tripartite constituents—government, employers, and workers' organizations—signed a memorandum of understanding (MoU) on May 30, 2023, outlining the programme's conditions.

Key laws	Legislation name	Date	Overview
	Labour code	1995	Labour code for the Republic of Uzbekistan.
	Social partnership	2014	Law of the Republic of Uzbekistan ZRU-376 "On social partnership".
	Labour protection and child protection	2016	Law no: ZRU – 410 - Labour protection law and protection of child labour
	Labour law	2022	New edition of the labour code of the Republic of Uzbekistan coming into force on April 1st, 2023.
	Labour code	2023	The new Labour code, signed by the President of the Republic Sh. Mirziyoyev in October 2022, entered into force on April 30, 2023 was drafted in accordance with ILO recommendations
	Labour law	2023	On February 9, 2024, at the fiftieth plenary session of the Senate, the Law "On Ratification of the International Labour Organization Convention No. 95 on Wage Protection (Geneva, July 1, 1949)" was approved.
	Minimum wage	2023	Minimum wage set at 1 050 000 UZS (approx. USD 85).

Source: UTGA

There is no doubt that the lifting of the boycott on Uzbek cotton in 2022 (put in place in 2007 by the Cotton Campaign) removed one of the key challenges that the Textile and Apparel industry was facing and has given the sector the opportunity to address new markets such as the EU and US. The government's continuous efforts to maintain the current achievements and to further improve working conditions is a positive indication that things can only get better for workers in Uzbekistan.

The lifting of the boycott and the recognition of the ILO of the efforts made by the Uzbek government marks the abolishment of one of the key challenges that the Textile and Apparel Sector was facing.

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1.2.2 The environment is a priority

According to the Constitution of the Republic of Uzbekistan, the earth, subsoil, waters, plant and animal life, and other natural resources are considered national wealth. They are subject to rational use and protected by the state. Law No. 754-XII on the protection of nature has undergone several amendments, with the latest one in 2024. The government continues to introduce legislation, decrees, and tools aimed at conserving the environment. The Ministry of Ecology, Environmental Protection, and Climate Change of the Republic of Uzbekistan (MEEPCC), along with its various agencies, oversees different aspects of environmental protection and promotes the expansion of green practices. This demonstrates a clear government priority to place environmental protection at the forefront of its agenda.

List of environmental laws

Uzbekistan has created a legal framework designed to protect the environment as well as make available the tools to manage and monitor the implementation of the laws that were put in place. The legal framework includes over 100 laws and 50 decrees, by-laws, and regulatory documents. The list includes – but is not limited to - the following:



Constitution of Uzbekistan

Defines land, subsoil, water, flora, fauna and other resources as national wealth subject to the protection of the state.



Law on Environmental Expertise

State Environmental Expertise (SEE) is the state body responsible for assessing environmental impact of the various activities within the country and is regulated by decree No. 949 of 2018.



Law on Nature Protection

This law regulates the relationships between the various bodies within the Uzbek government and the private entities regarding all aspects of environmental protection and the use of natural resources. The law also addresses, education, research, principles in environmental management, standards and limits to be enforced. It also covers greenhouse emissions, cooperation and integration with international bodies with the purpose of preserving the environment.



Law on Water and Water Use

This law regulates the use of water as well as defines the rights and obligations of users as well as manages the administration of water rights, licensing and monitoring of water use as well as enforcement of regulations.



Law on Air Safety

This law is concerned with protection of the atmosphere from human activities. It defines maximum concentration of pollutants and gas emissions.



Law on Waste

Law No. 362-II (2002, modified 2011) addresses minimizing the production of waste, re-use treatment and disposal. The law also involves citizens through active participation in the discussions relating the waste.

For example in 2023-2024 the MEEPCC, in cooperation with the Ministry of Health, started implementing a project aimed at developing a national platform and a mobile app for air quality monitoring in Uzbekistan. The long-term objective is to develop national standards for air quality an effort lead by the Hydrometeorology Service Agency under the MEEPCC.

Moreover, Uzbekistan resubmitted its Intended Nationally Determined Contribution in 2021 to the UNFCCC (Source: United Nations Framework Convention on Climate Change). According to this document, Uzbekistan's greenhouse gas (GHG) emissions have decreased by 0.6% since 2013. In 2017, the emissions amounted to 189.2 million tonnes, and the country has committed to reducing GHG emissions per unit of GDP by 35% by 2030 from the 2010 level by promoting energy-saving and environmentally sound technologies and dedicating resources for climate financing.

Additionally, 28 large-scale projects were launched as public–private partnerships in the construction of solar, wind, and hybrid power plants with a total capacity of 6.3 GW. Among them, the first seven projects (representing a capacity of 2.6 GW) were launched in 2023. This is all part of a target to generate 27 GW of energy through green power plants by the year 2030 (Source: MEEPCC). The National State of the Environment Report gives a detailed run down of the challenges faced by Uzbekistan and the actions taken by the government to mitigate them.

Furthermore, for textile companies, a dedicated incentive has been designed to encourage investments in waste-water treatment. The scheme reduces income tax for companies over 7 years with an amount equal to the investment a company makes in a modern treatment and sewage facilities. The government will also cover 30% of laser-levelling costs to enhance water resource efficiency. Scientific organizations will assist clusters in integrating cutting-edge techniques in agriculture / cotton production, while the government encourages alternative energy and water-saving technologies.

Moreover, to encourage companies to meet international standards, the government has provided companies with a programme that covers up to 100% of the cost of ESG certifications. This programme has yielded prompt results with several companies in the sector holding international certificates. The programme is ongoing and is expected to encourage many more companies to obtain international certifications in both environmental and social compliance. Considering the growing requirements from consumers and international buyers for responsibly sourced goods, such an initiative is of significant importance to Uzbekistan as it integrates in the global economy and sets itself up as a key regional and international production hub.

Certificate / license	No. of companies in 2022	No. of companies in 2023
Oeko-tex	56	101
BSCI	10	35
GOTS	11	8
SEDEX	20	40
BCI	0	4
OCS	8	8
WRAP	0	11

Source: UTGA

Key Message

Uzbekistan has put together a number of modern laws to protect the environment that are up-to-date with global trends and international standards. Additionally, a number of incentives are put in place to encourage manufacturers to produce responsibly and to certify their products as such. Although the enforceability of those laws and regulations is still to be seen, having the legal framework is a good start.

1.2.3 More infrastructure

The number of Special Economic Zones has grown from 22 to 25 since 2022 and the number of small industrial zones for light industries has reached over 500 zones, with 841 projects in the pipeline to be launched in 2024. With over 7,400 km of railroads and 184,000 km of roads, the country has invested in modern infrastructure to facilitate investment in trade and industry (source: Ministry of Investments and Foreign Trade of the Republic of Uzbekistan).

Industrial land is often allocated through a bidding process where bidders are requested to submit their bids including their planned projects and the output with focus on the benefit to the economy (size of investment, employment, exports, etc.). For large projects, the government is willing to negotiate directly with investors as well as provide the land and possibly the infrastructure required for the entire project. Several decrees were passed in recent years designed to support the industry with focus on exporting sectors. The decrees offer several benefits for industry at large and the TAS in specific which include:

	Legislation name	Date	Summary
1.	Support for export activities	2021	Decree No. 6306 – up to \$5 million in support for working capital and other benefits for exporting companies
2.	Support for export activities	2021	Decree No. 6091 - various tools for short-term financing for export orders
3.	Measures to realize the export potential	2021	Decree No. 4949 – support with 50% of the total cost of establishing an international presence
4.	Measures to further liberalize foreign trade	2017	Decree No. 3351 – allowing companies to export without the need for Letters of Credit and other paperwork
5.	Exempt equipment from fees	2021	Cabinet Resolution No. 352 – exempt exporting companies from VAT and custom duties on selected manufacturing equipment
6.	Expand list of exempt equipment	2020	Cabinet Resolution N. 750 – procedure for the inclusion and expansion of list of equipment exempt from customs and VAT
7.	Expand production of competitive products	2021	Decree No. 5262 – raw materials for certain exported products are exempt from customs until January 2024
8.	Support to light industries	2019	Decree No. 4453 – property tax benefits for exporting companies (more than 60% of their revenues)
9.	Stimulate export potential	2018	Decree No. 5587 – tax benefits and reductions for companies with exports exceeding 15% of their total revenue
10.	Stimulate deep processing and export	2022	Decree No. 53 – various financing and grant schemes for companies investing in fabric production and processing
11.	Stimulate investment and export	2023	Decree No. YII-2 – access to loans at preferential interest rates (4%) for projects targeting production of fabrics, carpets, finished garments and knitwear, dyeing and finishing + export support fund will provide financial resources to finance pre-export and export trade operations. The funds will be used to ensure uninterrupted revolving financing. Concessional loans are granted on commitments to ensure exports, account for 50% of the total production, the participation of own funds, including buildings and structures, working capital of at least 30%, and the lack of arrears on loan commitments. In addition, the requirement for monthly prepayment for electricity consumption by textile and clothing and knitwear companies is cancelled.
12.	Presidential decree of May 1	2024	No. UP-71 – About measures for removal on new stage of development of the textile and sewing and knitted industry: Stimulate investment and exports – investment subsidies, dedicated industrial zones for SME's, financing tools for investment and trade.

Source: Ministry of Investment, Industry and Trade of the Republic of Uzbekistan

Within the above decrees there are several specific incentives that are designed to promote exports such as:

- Various tax exemptions and duty-free exemptions for investments in the textile industry, especially with focus on exporting
- A 15% government contribution in textile projects exceeding USD 10 m (Presidential decree: UP-71, May 2024)
- Pre-export financing (100% covered)
- Transportation support (70% of the cost up to USD 20,000)
- Certification cost (fully covered by the government and up to 100% of expenses with a ceiling of USD 15,000)
- Compensation on insurance premiums (up to 0.5%)
- Conducting presentations and advertising campaigns to promote domestic goods and brands (trademarks) in foreign markets (100% coverage up to USD 20,000)
- Participation in fairs and exhibitions (100% coverage)
- Participation in international tenders and competitions (100% coverage)
- Registration of domestic products and brands (trademarks) in foreign competent authorities (100% coverage with a USD 10,000 ceiling)
- Participation in educational seminars, business seminars, trainings, trade missions and business forums held in foreign countries (up to 100%)
- Covering the costs of introducing financial statements based on international standards (up to 100% with a ceiling of USD 25,000)
- Registration of national products and brands in foreign authorized bodies (up to 100%) with a ceiling of USD 10,000
- Covering costs of the involvement of designers, technologists, marketers, quality controllers and agronomists (up to 100%)
- Covering of costs for business entities to attract prestigious international brands, as well as to establish cooperation with the owners of prestigious international brands. (up to 100%)
- Covering costs of trading houses (50% coverage)
- Cost of mailing product samples (100% coverage with ceiling of USD 2,000)

It is worth noting that receiving the above benefits is contingent on a list of criteria such as the size of the company, volume of exports and commitment to meet tax obligations.

Moreover, in March of 2024, the government Export Promotion Agency and the Export Support Fund were merged to form the Trade Development Company which will be managed by the Chamber of Commerce.

The Trade Development Company will streamline support measures and improve efficiency by prioritizing financial assistance based on the stability rating of business entities. Its key objectives include facilitating the allocation of state funds to enterprises involved in exporting high-value-added products and expanding into new markets.

Furthermore, the company will offer essential support through information dissemination, logistical advice, and assistance in certification, standardization, and quality control. It will also lead initiatives such as the "Made in Uzbekistan" programme to promote national brands and products globally as well as support participation in exhibitions and fairs.

Finally, according to a January 2023 decree, Uzbekistan plans to establish specialized industrial zones for SMEs in the textile industry in the Andijan, Namangan, and Kashkadarya regions. Additionally, an industrial technopark focused on detailed processing of textiles and leather products will be set up in the Tashkent region.



Korean-Uzbek Textile Techno-Park

Key Message

The Uzbek government has put together a long list of benefits and incentives to support the development of its textile and apparel exports for both local and international investors.

1.2.4 Textile clusters: a launching pad

In 2018 Uzbekistan passed the law on the formation of cotton-textile clusters aimed at developing the textile industry. The concept aims at giving incentive for companies to combine cotton production with manufacturing of textiles. The scheme works towards consolidating a previously fragmented industry with the objective of reducing the role of government in the trade and manufacturing of cotton as well as encouraging the private sector to lead the growth in the industry. Since 2022, the number of clusters has grown from 134 to 142, producing 100% of the country's cotton production in the 2023/2024 season.

Clusters can grow cotton either on the land that was allocated and leased to them or by contracting farmers and cotton growers and buying their production. The adoption of the cluster system follows reforms that were implemented in 2020 through the presidential decree (PP-4633), liberalizing the cotton sector which was previously a government monopoly

Supporters of the cluster structure see that it can fuel the growth of the industry and provide a better living standard for farmers. The perceived benefits of the cluster system include:

Improving the cultivation of cotton by using modern technologies (such as drip irrigation, which also reduces the consumption of water), a more scientific approach to agriculture promising higher yields. And rightfully so, by 2022, 126,000 hectares have been modernized with drip irrigation and 143,000 hectares of previously abandoned land have been reused. This represents already around a quarter of the total cotton planted land in 2023/2024.	Improving the livelihood of farmers through creating an open market for cotton where farmers are free to go into contractual agreements with the highest bidder.
Large clusters that are well invested are more capable of meeting international social and environmental standards as well provide a more consistent flow of orders.	Clusters introduced modern high-yielding and disease-resistant cotton seed varieties in the supply chain and, for the first time, tried out organic cotton production that is certified according to the European Union organic cotton standard in 2019 (USDA-GAIN, 2020).

Early critics of the cluster structure fear that the industry from cotton production to finished goods will be concentrated in the hands of a small number of companies who will eventually control the entire sector.

Other critics view that clusters have a complex transactional relationship with cotton farmers and that the cluster model is a farmers' 'bondage' by private cotton textile companies rather than the emergence of liberalized cotton markets. Clusters are state-designed monopolies because the private textile companies control the access to almost every production and marketing resource needed for cotton supply (like agricultural loans, seeds, fertilizers, fuel, cotton gins, and export licenses).

However in answer to those concerns, in October 2023 the president announced in a meeting that farmers will be allowed to enter into future contracts with any cluster within their region (not mandatory to sell to a specific cluster as was the case in the past). In practice, it still remains difficult for farmers to sell to other clusters that were not designated for them. Nevertheless, the liberalization of cotton prices by a presidential decree in January 2023 titled "additional measures to support the activities of raw cotton producers" consolidated the operation of market mechanisms. The decree stipulated that price of raw cotton is determined by "cotton-textile clusters and farms on the basis of a mutually beneficial agreement."

(Source: USDA - GAIN)

Key figures (2023)

Number of clusters	142
Total investment	USD 2.7 bn
Number of cluster employees (textile production)	~570,000
New Jobs created in 2023	>23,000
Sown cotton area in Uzbekistan	100%
Source: UTGA	

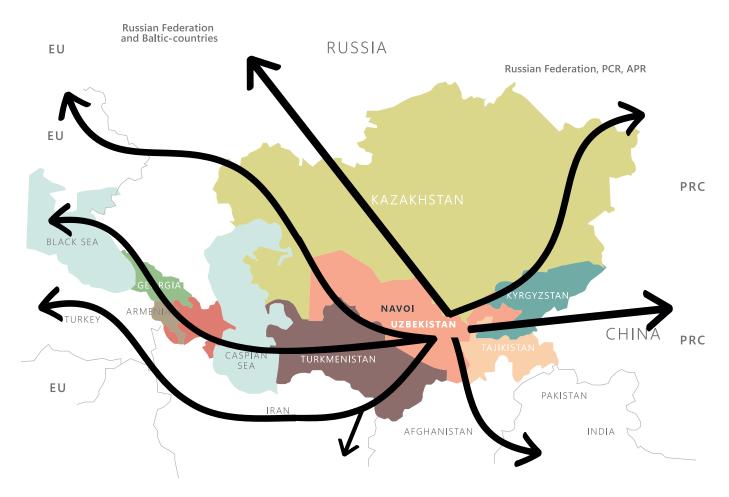
Key Message

The cluster scheme is a unique approach to developing the textile industry that combined cotton and textile production under one roof. The regime has proven successful in attracting large investments in state-of-the-art manufacturing facilities. The success of the cluster model as a driver of the industry development has also been proven, however, its ability to be economically successful as well as to also benefit contract farmers remains to be seen in the future.

1.2.5 Uzbekistan's location: a key advantage

Uzbekistan sits at a critical intersection between Asia and Europe with land access to a number of CIS countries, Turkey, South Asia, and Europe and in recent years several projects were launched to facilitate trade between Uzbekistan and its neighbors. Moreover, air transport has gained importance.

Today goods exported from Uzbekistan can reach markets within remarkable times and at competitive costs as shown below:



The Russian war in Ukraine has closed the main route to Europe through Russia, however the government along with the industry were able within a relatively short period to develop new routes to Europe via Pakistan, Iran and Georgia.

Additionally, to find long-term solutions to its transportation challenges Uzbekistan is actively seeking various transport routes to Europe. Some of these alternatives include:

Trans-Caspian International Transport Route (Middle Corridor)

The Trans-Caspian International Transport Route (TITR), also known as the Middle Corridor, connects Southeast Asia and China to Europe via Kazakhstan, the Caspian Sea, Azerbaijan, Georgia, and optionally Turkey. It serves as an alternative to the Northern Corridor through Russia and the Ocean Route via the Suez Canal

Railway Access to Sea Routes

Uzbekistan has initiated preliminary work on a railway from Tashkent to Pakistan. This project could allow Uzbekistan to bypass Russian transport routes.

China-Kyrgyzstan-Uzbekistan Railway

Central Asian nations, including Kyrgyzstan and Uzbekistan, have agreed with China to build a railway to Europe bypassing Russia.

Key Messages

Uzbekistan sits at an important intersection between Asia and Europe with quick access to both allowing it to become both a manufacturing and trading hub for Textiles and Apparel.

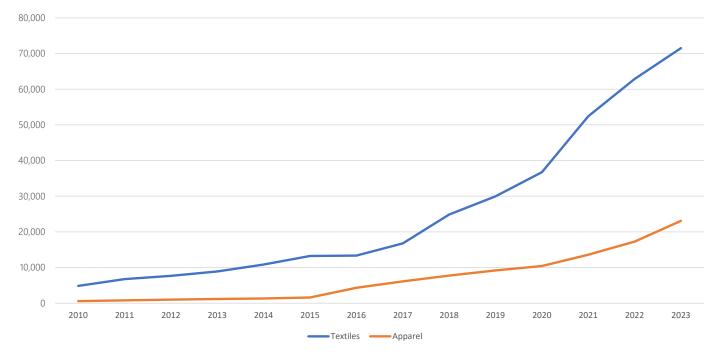
1.3 Outgrowing growth

Uzbekistan has managed over the past few years to develop its economy and open its doors to the world. The reforms were speedy and addressed several long-standing challenges which resulted in the modernization of the business environment. The results of those recent changes have started to bear fruit which can be seen in the increase in both the country's production and trade figures.

1.3.1 Production on the rise

As mentioned in various previous sections, the country's production of cotton, textiles and apparel has been growing exponentially over the past 5 years with additional capacity, improved cotton production and growing export markets. UTGA is eyeing USD 9-10 bn in exports within 5 – 7 years; a challenging but achievable target that will require a significant amount of work from both the private sector and the government. The growth is expected to come from expanding trade volumes with existing regional partners, growing in new markets with more focus on Europe – leveraging the newly acquired GSP+ status – and introducing more complex products with higher unit value.

Production of Textiles and Apparel (m m²)



Source: The State Committee of the Republic of Uzbekistan on Statistics

Importance of the Textile and Apparel sector in the Uzbek manufacturing sector (% of production value)



Source: The State Committee of the Republic of Uzbekistan on Statistics

Key Messages

In the past decade, Uzbekistan managed to grow its production in textile and apparel over 10 folds. The impact of the reforms in the last years can be seen in the exponential growth in production

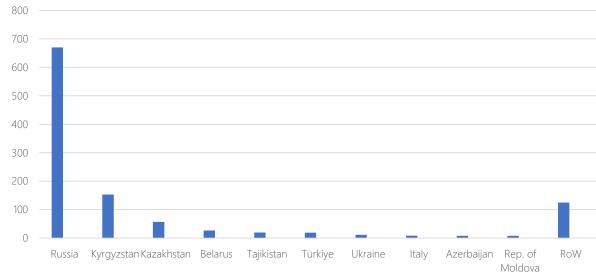
1.3.2 Uzbekistan and the World

In 2021 and despite a global pandemic that slowed down economic activity, Uzbekistan still managed to grow its exports from the TAS.

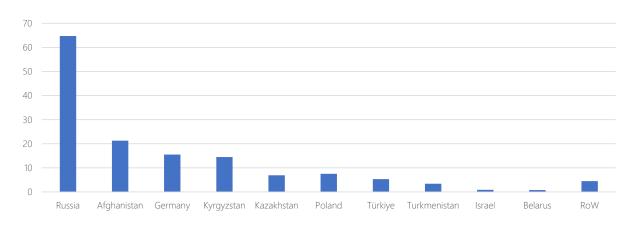
Trade statistics of Uzbekistan (m USD)	_	019 : Export	20 Import	20 Export)21 Export	20 Import	22 Export	_)23 Export
HS 50 Silk	<0.1	71.8	<0.1	75.5	3.1	78.0	<0.1	94.0	<0.1	79.4
HS 51 Wool, fine or coarse animal hair; horsehair yarn and woven fabric	4.0	1.6	3.1	1.3	2.4	1.9	5.6	1.7	7.6	1.9
HS 52 Cotton	19.1	1,293.3	23.5	1,200.7	16.1	1,926.4	43.1	1,606.6	34.9	1,687.9
HS 53 Vegetable textile fibres; paper yarn and woven fabrics of paper yarn	23.7	0.6	21.3	0.3	23.3	0.5	29.1	1.5	35.5	1.9
HS 54 Man-made filaments; strip and the like of man-made textile materials	72.3	1.7	65.8	3.0	177.5	7.8	146.5	7.9	150.9	10.6
HS 55 Man-made staple fibres	60.8	19.1	64.6	22.2	85.4	38.9	143.1	58.8	178.3	87.6
HS 56 Wadding, felt and nonwoven, special yarns; twine, cordage, ropes and cables and articles thereof	42.6	n.a.	50.3	30.9	48.4	39.7	60.9	54.3	83.0	59.4
HS 57 Carpets and other textile floor coverings	5.2	32.0	4.2	29.2	5.3	42.6	9.3	43.9	11.9	54.0
HS 58 Fabrics; special woven fabrics, tufted textile fabrics, lace, tapestries, trimmings, embroidery	17.0	4.3	13.5	6.4	19.6	12.4	28.9	21.7	32.6	14.4
HS 59 Textile fabrics, impregnated, coated, covered or laminated; textile articles of a kind suitable for industrial use	38.0	2.0	33.1	1.5	34.5	1.5	48.2	2.3	54.9	3.3
HS 60 Fabrics; knitted or crocheted	41.4	84.7	45.1	144.4	63.4	242.7	89.0	307.7	117.8	450.3
HS 61 Apparel and clothing accessories; knitted or crocheted	29.2	323.4	17.9	459.3	25.2	578.1	36.2	837.7	39.2	1,105.2
HS 62 Apparel and clothing accessories; not knitted or crocheted	n.a.	31.1	15.0	46.8	16.9	67.5	24.7	84.0	32.4	145.3
HS 63 Textiles, made up articles; set; worn clothing and worn textile articles; rags	9.0	51.8	14.3	90.9	11.3	118.1	14.5	161.4	20.6	317.1
Total	362.3	1,917.4	356,7	2,081.5	512.4	3,116.4	618,2	3,229.2	716,6	3,958.9

Source: Comtrade

Export of knitted goods (HS 61) in 2023 (m USD)

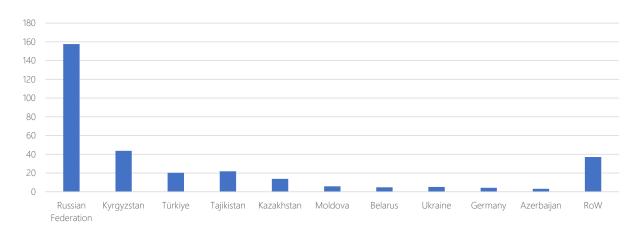


Export of woven garments (HS 62) in 2023 (m USD)



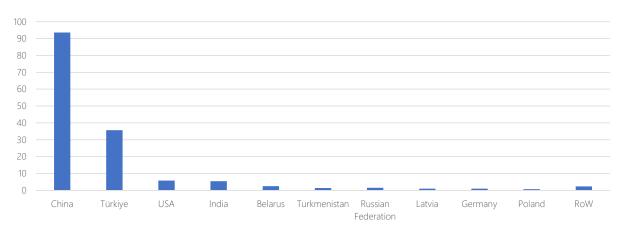
Source: Comtrade

Export of made ups (HS 63) in 2023 (m USD)



Source: Comtrade

Import of made-made filaments (HS 54) in 2023 (m USD)



Source: Comtrade

Export of cotton products (HS 52) in 2021 (m USD)

HS 5201	Cotton, not carded or combed	136.5	7.1%
HS 5202	Cotton, waste (incl. Yarn waste and garnetted stock)	44.6	2.3%
HS 5203	Cotton, carded or combed	n.a.	n.a.
HS 5204	Cotton sewing thread, whether or not put up for retail sale	0.001	0.0%
HS 5205	Cotton yarn (other than sewing thread), containing 85% or more by weight of cotton, not put up for retail sale	1,603.2	83.2%
HS 5206	Cotton yarn (other than sewing thread), containing less than 85% by weight of cotton, measuring 714.29 decitex or more (not exceeding 14 metric number), not for retail sale	10.1	0.5%
HS 5207	Cotton yarn (other than sewing thread), containing 85% or more by weight of cotton, put up for retail sale	0.06	0.0%
HS 5208	Woven fabrics of cotton, containing 85% or more by weight of cotton, weighing not more than 200 g/m ²	110.8	5.8%
HS 5209	Woven fabrics of cotton, containing 85% or more by weight of cotton, weighing more than 200 g/m ²	17.7	0.9%
HS 5210	Woven fabrics of cotton, containing less than 85% by weight of cotton, mixed mainly or solely with man-made fibres, weighing not more than 200 g/m ²	0.03	0.0%
HS 5211	Woven fabrics of cotton, containing less than 85% by weight of cotton, mixed mainly or solely with man-made fibres, weighing more than 200 g/m ²	0.6	0.0%
HS 5212	Other woven fabrics of cotton, n.e.c. in chapter 52	2.4	0.1%
	Total	1,926	

Key Message

Combining its unique location with its competitive production costs puts Uzbekistan in a unique position to become a fast and price competitive supplier to European as well as Asian buyers.

1.3.3 A regional fashion destination?

Domestically, the Uzbek local market has continued to develop and take shape. Statista published research estimating the size of the apparel market is projected to reach USD 1.43 billion in 2024 of which USD 0.68 billion are women's apparel. The research anticipates the market to grow at a CAGR of 8.06% until 2028. Furthermore, the apparel market is witnessing a surge in demand for traditional garments reflecting a cultural revival a nd a sense of national pride.

The retail market in Uzbekistan is growing on the back of both international and local brands. While some of the world's largest retail brands are present such as LC Waikiki, Armani Exchange, Pimkie and Celio, domestic fashion brands have also started carving a space in the market such as Fratelli Casa, Anor, Lali and Suzani Kasimbaeva. The local designers offer a mix of western and traditional fashion often fused together.

The growth in the local design scene is largely attributed to the presence of fashion institutions and universities such as the University of Uzbekistan with its bachelor and Master programmes in styling, the National Institute of Arts and Design through the Department of Fashion Design and the Management Development Institution of Singapore in Tashkent which offers fashion education through its School of Fashion and Design, the University of Uzbekistan with its bachelor and Master programmes in styling and the National Institute of Arts and Design through the Department of Fashion Design. Other institutions with more focus on Textiles and Apparel are also active such as the Textile Institute. The myriad academic institutions with focus on both fashion and textiles have produced a sizeable number of graduates with both the knowledge and the aspiration to be part of the fashion industry.

Moreover, UTGA in cooperation with the GIZ has launched the Fashion Incubator in Tashkent (FIT) pilot, a project aimed at supporting young fashion brands and designers through their journey to establishing viable and sustainable businesses. The FIT has successfully completed a first round of preincubation with a number of young desinger. The services include mentorship and training with future plans to include small scale production, promotion and advice among others.

1.4 An old industry with a new potential



1.4.1 The magic sauce

Despite being a newcomer to the industry, Uzbekistan managed within a short period to attract significant investments in the sector. A large number of clusters have built ultra-modern spinning, weaving, and knitting facilities with state-of-the-art technologies. The reasons for these new investments are many and range from a healthy investment environment to attractive trade agreements and a growing economy. One of the key advantages are significantly competitive manufacturing costs. The country's labour wages, utilities and raw material costs are some of the most competitive in emerging economies. With a young and growing population, wages are expected to remain competitive for the foreseeable future. Benchmarked against its regional and global competition, the country fairs quite attractively:

Key figures

	Unit	value	
Monthly net wage (€)	€	225	
Monthly net wage (€)	€	1.6	
Electricity	€/KwH	0.07	
Water	€/m³	0.22	
Uzbekistan - Germany	€/40' container # days	7,000 – 8,000 (20+ days)	
Uzbekistan - Turkey	€/40' container # days	2,500 – 3,500 – (12 days)	
Sewerage	€/m³	0.16	
Fuel	€/liter	0.75 (Diesel)	
Gas	€/m³	0.11	
Industrial space rental	€/m²	2.8-12	

Key Message

Combining its central location with its competitive production costs puts Uzbekistan in a unique position to become a fast and price competitive supplier to European as well as Asian buyers.

1.4.2 A future leader in sustainability, and transparency?

Over the last decade it has become apparent that it is no longer sufficient to be a cost competitive and quality supplier. Responsibly produced products are no longer targeting a niche market but have become a basic requirement at par with quality and price.

As explained above, Uzbekistan has made several leaps in terms of sustainability with several decrees and initiatives directed at improving working conditions, conserving water, and addressing environmental issues. Additionally, the government has offered incentives for textile companies to get international environmental and social certifications by covering 100% of the cost of certification. The results were guite positive with scores of companies (see table page 17) benefiting from the programme and according to UTGA, many more are on the way. Moreover, with the support of the GIZ and other donor and development organizations, the industry is getting a significant exposure to the importance of certifications for penetrating the EU and US markets with Uzbek products.

However, certification tells only part of the story. What makes the country quite unique is the fact that Uzbekistan enjoys strong fibre production (cotton) and large farming entities (clusters). This makes tracing cotton products through value chains within Uzbekistan significantly easier than in many other countries where raw materials are imported. Moreover, one of the positive impacts of the Cotton Pledge was that in its efforts to lift the ban, the industry and the public sector became more open to sharing information transparently with international bodies.

The ability to track products through the value chain and the openness to share such information are becoming a key requirement for many retailers in Europe due to a growing set of laws and regulations requiring European businesses to exercise due diligence on their entire supply chain.

Additionally, businesses are responding to what is quickly becoming a core demand for consumers to buy only products that were sourced responsibly by both monitoring their entire value chain and publicizing their sources of supply. In terms of traceability and transparency, Uzbekistan is well positioned to be ahead of many of its competitors by promoting the cluster regime. Although additional mechanisms need to be put in place and more companies need to join the effort, a good start for Uzbekistan is expanding certification for social and environmental compliance and thereby improving their environmental and social management systems.







Moreover, the government, private businesses and the civil society have taken concrete steps to bolster sustainability practices and protect the environment :

- Uzbekistan's aims to reduce its GHG emissions by 35% by 2030 (source UNDP) and to reach carbon neutrality by 2050 (source EBRD).
- In the presidential decree No. UP-71, May 2024, a clause relating to the construction of dedicated industrial zones for SME's.
- In the textile industry, defines water treatment plants as an integral part of the development of the industrial parks.
- Control Union, OEKO TEX, Better Cotton Initiative (BCI) and ILO Better Work have launched operations and / or representative offices in Uzbekistan.
- In 2023, BCI developed and signed a Roadmap of Sustainability Developments with key stakeholders including UTGA and the Chairperson of the National Commission to Combating Human Trafficking and Forced Labour.
- On June 12, 2023, Uzbekistan deposited with the ILO the instrument of ratification of the Working Environment (Air Pollution, Noise and Vibration) Convention, 1977 (No. 148).
- In October 2023, Uzbekistan issued its first international sovereign bonds for green financing, raising UZS 4.25 trillion (about USD 336 million) (Source UNDP).
- The Republic of Uzbekistan became on October 20, 2021 the member of International Union of Conservation of Nature (IUCN), the world's oldest and largest conservation organization.

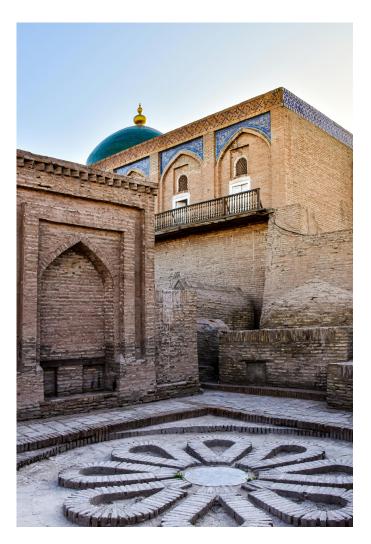
1.4.3 GSP+ status

On April 10, 2021, Uzbekistan became the 9th country to be granted the GSP+ status by the EU. This preferred access to the EU will give Uzbek products a significant advantage over many of its competitors. With Textiles and Apparel being one of the largest exporting sectors in the country, the GSP+ status is expected to benefit tremendously the industry and the country's international trade volumes. It is also expected to encourage manufacturers to look at Europe as an alternative market as opposed to its traditional partners such as Russia and CIS countries, Turkey and China (of around USD 3.9 billioin in exports in 2023, only around USD 120 million went to Europe).

To Uzbek manufacturers, supplying Europe could mean a variety of advantages and benefits including increased value per product, bigger volumes, higher efficiency and quality, long term commercial relationships and a more disciplined performance. It will also encourage companies to switch towards more complex products with higher value addition, contributing further to Uzbekistan's returns from international trade.

For many EU buyers, having a producer of duty-free products, competitive production costs and relatively short transit times could be a game changer, especially as importers are looking to diversify their sourcing away from China specifically and the Far East generally in search of suppliers closer to home.

The GSP+ status provides quite an attractive incentive for European buyers to invest in developing a solid supplier base in Uzbekistan. It also provides a good opportunity to speed up the compliance efforts of Uzbek textile companies to demanding social and environmental standards in order to maintain the status as long as possible.



What is GSP+

"The GSP+ is a special incentive arrangement for Sustainable Development and Good Governance that supports vulnerable developing countries. Next to fulfilling the eligibility requirements of the Standard GSP, GSP+ countries are required to ratify 27 international conventions on human rights, labour rights, environmental protection and climate change, and good governance.

In order to ensure effective implementation of the conventions as well as compliance with reporting obligations, the EU engages in monitoring activities with the GSP+ countries. GSP+ beneficiaries can benefit from complete duty suspensions for products across approximately 66% of all EU tariff lines."

Source : GSP Hub

List of GSP+ beneficiary countries (as of 2024)



Bolivia



Cabo Verde



Kyrgyzstan



Mongolia



Pakistan



Philippines



Sri Lanka

Source: European Commission



Uzbekistan (since 09.04.2021)

32

1.4.4 New trade agreements

Uzbekistan has concluded bilateral investment treaties (BITs) with 46 countries. In 1994, Uzbekistan signed a BIT with the USA, but it has not been ratified. Several BITs with other countries, including Belarus and South Korea, have yet to come into force. In 2004, Uzbekistan and Russia signed a strategic framework agreement providing for free trade and investment concessions, and an alliance agreement in 2005. Uzbekistan has signed bilateral free-trade agreements with 11 countries of the former USSR (Russia, Belarus, Ukraine, Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Turkmenistan and Tajikistan). In 2004, Uzbekistan and Ukraine agreed to remove all bilateral trade barriers. Uzbekistan joined the CIS Free Trade Area Agreement in 2014. In 2020, Uzbekistan was granted observer status in the Eurasian Economic Union (EAEU). In December 2015, the Uzbek government officially announced that Uzbekistan would not join the Shanghai Cooperation Organization (SCO) free trade zone. Finally, Uzbekistan has been working towards its accession in the WTO.

Uzbekistan has 12 trade agreements in force (including the most recent one signed with the UK end of 2021), 0 signed agreements pending ratification, and 0 trade agreements under negotiation. Of the economy's total exports, 37.4% are directed to its trade agreement partners, while 43.6% of its total imports come from trade agreement partners.

Trade agreements of Uzbekistan

	Status	Year in force
Russian Federation-Uzbekistan	in force	1993
Commonwealth of Independent States (CIS)	in force	1994
Uzbekistan-Republic of Moldova	in force	1995
Azerbaijan-Uzbekistan	in force	1996
Tajikistan-Uzbekistan	in force	1996
Ukraine-Uzbekistan	in force	1996
Kazakhstan-Uzbekistan	in force	1997
Kyrgyzstan-Uzbekistan	in force	1998
Economic Cooperation Organisation Trade Agreement	in force	2008
Georgia-Uzbekistan	in force	2010
Uzbekistan-Belarus	in force	NA

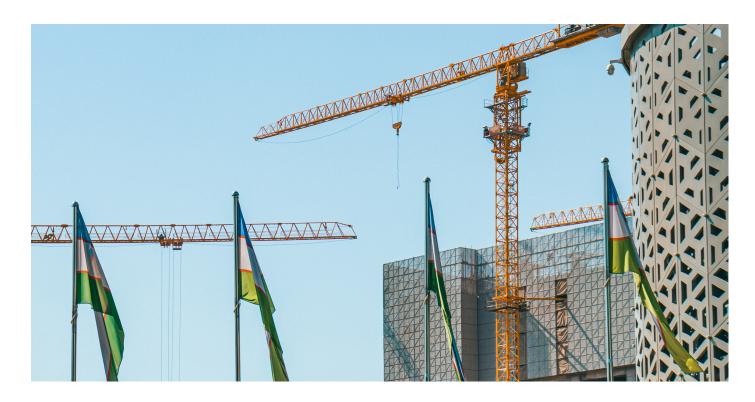
Source: WTO

2. Some challenges to overcome

There is no doubt that Uzbekistan has been able to implement a number of hard reforms that yielded remarkable results in an exceptionally short time. However, the industry still faces several challenges that are curbing its ability to meet its full potential. Some of these challenges are being addressed by the government and the industry while others will still require additional focus.

2.1 Reputational issues to be addressed

For several years, Uzbekistan's economy has been shielded and stagnant. The country suffered from either a bad reputation for corruption and violations of human rights or – at best – has largely been kept outside of the global arena leading many to know little about the country. The recent progress achieved by the current administration has yet to be communicated to the rest of the world.



2.1.1 More effort post the Cotton Pledge

"The Cotton Campaign is a coalition of human and labour rights non-governmental organizations (NGOs), independent trade unions, brand and retail associations, responsible investor organizations, supply chain transparency groups, and academics who work to end forced labour in cotton production" (Source: ILO).

In 2011 the Cotton Campaign called for a boycott of Uzbek cotton due to the widespread systematic use of child labour and forced labour during the cotton harvest. 331 brands and retailers joined the campaign and signed a declaration that became known as the "Cotton Pledge". Exports of Uzbek cotton were affected dramatically, even companies that did not officially sign the pledge stopped sourcing products made of Uzbek cotton.

In response to the Cotton Pledge, the Uzbek government started taking steps to eliminate systemic child and forced labour from its cotton production and picking, working directly with partners such as the ILO, who monitored practices in the industry as well as provided technical support and training to help eliminate forced and child labour from the industry. The numbers of violations kept dropping in the following years until in 2021 when the country was declared free of systemic forced and child labour by the ILO as part of their independent third-party harvest monitoring. The Cotton Pledge was lifted on March 10th, 2022.

"Our collaboration has yielded good results – because after 7 years, this year's report shows that Uzbek cotton is free from systemic child labour and systemic forced labour," said ILO Director-General Guy Ryder. "There is now an opportunity for Uzbekistan to realize its goal of moving up the value chain and to create millions of decent full-time jobs in textile and garment manufacturing."

Source: ILO March 2022



An estimated two million children have been taken out of child labour and half a million adults out of forced labour since the reform process of the Uzbekistan's cotton sector began. The results of the reforms can be seen in the development of wages for Uzbek cotton pickers as monitored by the ILO (see table below).

A significant step in the reforms was the privatization of the cotton industry, removing decade long control of the government over the production and trade of the fibre. The state then switched roles from being a producer to its proper role of a legislator and a monitoring body to ensure compliance of cotton growers with regulations. The new system – through the development of cottontextile clusters – also benefits to cotton growers who saw their wages paid per kg increased thanks to a new competitive environment. Despite the elimination of the systemic use of child and forced labour in the cotton industry, there remain some reports of sporadic incidents. Those incidents, although not enough to warrant a change of the ILO's position, continue to have an impact to an already sensitive reputation. A key recommendation is for the country to encourage farmers to form unions and associations. A step that will help protect the progress that was made in eliminating forced labour practices.

The lifting of the cotton ban marked the removal of one of the biggest challenges that were facing the Uzbek Textile and Apparel industry. However, a significant effort is still needed to rebuild the country's international reputation which remains significantly affected by the years of boycott.

Wages and forced labour percentages (2015-2021)

	2015	2016	2017	2018	2019	2020	2021
Forced labour (% of total picker workforce)	14%	14%	13%	7%	6%	4%	1%
Wages for cotton pickers (som/kg)	200	280	450-700	700-1,300	800-1,400	1,000-1,500	1,200-1,900

Source: 2021 third-party monitoring of child labour and forced labour during the cotton harvest in Uzbekistan (ILO)

Key Messages

The recognition by the ILO of the eradication of systemic child and forced labour has led to the removal of the cotton pledge and has granted Uzbekistan a fresh start that will require the industry to put effort in rebuilding the country's reputation internationally.

2.1.2 An «unknown» new export platform

In addition to the impact caused by the Cotton Campaign, Uzbekistan until 2016 remained largely secluded from the global economy. Few in the western world know much about it. Even with the leaps that the country has taken in the last several years, few buyers in Europe are aware of the presence of a significant textile industry in Uzbekistan. The country needs to do more to inform the world of its position and its progress in recent years.

In a survey conducted by Gherzi in 2022 with a number of European buyers, only a few were aware that Uzbekistan had a textile industry. The small number who had some knowledge, were still ignorant to the advantages that the country could offer them. The boycott due to systemic forced and child labour has over the years also created a negative association for Uzbekistan. Uzbekistan will need to work hard to be able to communicate to the world, especially European importers, brands, buyers and retailers that Uzbekistan is not only free of those negative associations but that it is also capable of delivering products at competitive prices and conditions. The results of those recent changes have started to bear fruit which can be seen through the increase in both the country's production and trade figures.

Key Messages

Uzbekistan's Textile and Apparel industry with its significant potential, remain unknown to a large portion of buyers and traders in the sector. More efforts will be needed to inform the world about the opportunities in sourcing from Uzbekistan.

2.2 Product and market mix and diversification

As it was mentioned earlier in several parts of this report, the focus on cotton and basic products is one of the key challenges for Uzbekistan and resolving this risk should be a priority for the near future. With its proximity to Europe, Uzbekistan has a significant opportunity to become a short lead-time supplier to European importers. This entails the ability to deliver fashionable products, in good quality and a variety of materials, workmanships and finishes. The current focus on cotton will make it difficult for buyers to place their orders for products with the highest value addition in Uzbekistan and will – if anything – just focus on cheap and basic cotton products.

While the global consumption of Fibres is quickly shifting towards Man Made Fibres and cotton's share is shrinking to around 20%, the Uzbek industry is positioned as a supplier of basic cotton products. Moreover, the relatively young and nascent industry has focused largely on simple products that are exported to Russia and Asian countries, which has further positioned the country as a supplier of cheap and basic goods. Nevertheless, there are several state-of-the-art manufacturing facilities that – with little help – could become world-class manufacturers and exporters of higher value-added and complex products. As of now, manufacturers rely on imports for their needs of MMF yarn and fabrics, however, there are discussions about investments in synthetic Fibres that are fast coming to Uzbekistan supported by a focus of the industry to make available locally produced MMF products.



Uzbekistan Matrix 360° snapshot

In addition to the challenges imposed by a cotton-focused product mix, the country's exports have – so far – been largely targeting a small number of destinations. The country's exports of finished goods (HS 61, 62 and 63) totaled USD 1.5 bn in 2023 (source: Comtrade), of which 57% went to Russia while 13% went to Kyrgyzstan and another 15% to other CIS countries. Although these are natural markets for Uzbekistan due to the language, historic relations, and geography; this concentration of 70% of exports in only two countries is not only risky but also limits the country's product / quality mix as well as puts a cap on its growth potential by forgoing some of the largest consuming markets in Europe, the US and Asia.

Key Message

Uzbekistan's product and market mix is quite limited with a strong focus on cotton products and on neighboring markets. The expansion into synthetics and non-CIS countries will give the country a significant long-term growth potential.

2.3 Skills

Although enjoying a significant advantage in terms of labour wages and availability, there is a limited supply of trained and skilled labour. Many factories have invested generously in acquiring the latest technologies and erecting some of the most impressive manufacturing facilities by all global standards, but little has been done in terms of vocational and technical training of machine operators, labour and middle management. With the absence of a sufficient supply of skilled labour, it becomes even more challenging to manufacture complex products with higher value addition. There are some initiatives within the government and donor community, however, a significant gap still persists.

There are 6 main textile institutions in Uzbekistan delivering university education in the Textile and Apparel industry:

01

Tashkent Textile Institute, including:

Faculty of Cotton Industry Technology; Faculty of Technology of the Textile Industry; Faculty of Light Industry Technology and Design; Faculty of Printing Technology;

04

Bukhara Institute of Engineering, including:

Faculty of Cotton Industry Technology; Faculty of Technology of the Textile Industry; Faculty of Light Industry Technology and Design; Faculty of Printing Technology;

02

Namangan Institute of Textile Industry, including:

Faculty of textile design; Faculty of textile machinery; Faculty of textile technologies;

05

Kashkadarya region, Karshi district,

Karshi college of light industry

03

Fergana Polytechnic Institute

06

Tashkent city, Almazar college of Light Industry In addition, a number of private academic institutions deliver design and fashion-oriented courses and diplomas. However, the output in terms of number of graduates remains smaller than what the industry will need to grow its production and exports to meet its plans and targets. The lack of practical training centres – even if significant efforts are currently deployed – will remain a weak point for the Textile and Apparel sector.

In the survey conducted in 2022 by Gherzi with European buyers, the few respondents that had conducted any business with Uzbekistan have complained of a significant gap in understanding the needs, requirements and business practices of European businesses by Uzbek companies. Issues with communication, meeting deadlines, defining and respecting quality parameters were mentioned several times. Such issues can only be mitigated by training middle management.

Moreover, in a set of interviews conducted in 2022 by Gherzi with Uzbek manufacturers, it was noticed that a growing number of companies is relying on expatriate calibers for middle and upper management positions. This could be a viable temporary solution for a transitional period, however, for the long-term development of the industry, Uzbekistan will need to rely on a base of local middle and technical workforce able to manage Uzbek companies efficiently and competitively to a global standard.

Key Message

Although labour wages are competitive, there remains a significant shortage of skilled labour and middle management that are capable of driving the country's ambitious export growth and product diversification.

2.4 Environmental challenges

Despite the bundle of regulations and decrees that were passed to protect the environment, as well as the efforts made to educate and bring manufacturers up to international standards, the country still faces some challenges to be able to fully satisfy modern requirements for a more responsible production in terms of environmental sustainability.

National Agricultural Development Strategy

"The 2020-2030 National Agricultural Development Strategy and its roadmap made it a priority to implement smartsticks and mini gauging stations in irrigation schemes across the country. The tools are to be put into use to facilitate effective water delivery and payment for water services nationwide, helping to alleviate water scarcity. According to this strategy, investment projects are being implemented jointly with international financial institutions in order to introduce water management units, canals and reservoirs, to introduce new technologies, implement water-saving technologies, as well as to implement the public and private partnerships. The roadmap aims to reduce water consumption in agriculture by improving irrigation systems and expanding the use of water-saving technologies."

Source: European Union

Water scarcity

Uzbekistan was placed 25th out of 164 in the world's most water-stressed countries in a ranking published by the World Resources Institute. Agriculture uses over 90% of total water consumed in Uzbekistan.

According to the UNDP in Uzbekistan, out of 3.7 m hectares of irrigated land served by the Uzbek Association of Water Consumers (AWC), 1.28 m hectares were used for cotton in 2016. Uzbekistan's old irrigation system with tunnels is reportedly the cause of 30-60% losses in water. If not addressed, cotton production might be at risk in the future.

Environmental regulations and the future



Despite the efforts by the government and due to the low price of power and gas, companies are not encouraged to reduce their Green House Gas emissions, and most manufacturers are unaware of the concept or ways to measure their environmental footprint. However, and since Uzbekistan enjoys a significant advantage in abundance of sun, in 2023, 150 enterprises installed solar panels with a capacity of 10,000 megawatts (source: UTGA).

Additionally, the local regulations allowing companies to dispose of their wastewater to municipal Effluent Treatment Plants is a double-edged sword, on one hand it has forced companies to start treating their wastewater, however, the fines are not a large enough deterrent for companies to respect the effluent water parameters imposed by the government. This could lead to companies choosing to pay a fine over going through the process of pre-treating their water and on the long run having a solution provided by the state will not offer an incentive for companies to recycle wastewater which is a practice that could greatly support the government's efforts to preserve water. A major contributor to the issue of wastewater is the lack of awareness by manufacturers of not only the impact of poor waste-water management practices but also the absence of real knowledge of the available technologies and solutions for managing effluent liquids. A survey by Gherzi in 2023 with a small sample of companies revealed that none was meeting international standards in water treatment. A move towards Zero Liquid Discharge will have a positive impact on the environment and would – additionally - reduce the amount of water consumed by the industry.

Despite the efforts done by the government and the traceability advantage of Uzbek production, there remain several issues to be addressed for Uzbekistan to position itself as a market leader in sustainability as the industry desires.

2.5 Access to finance

The government has provided two types of financing instruments for use by companies for both their short and long term needs. The financing facilities have lower interest rates (around 11% on Uzbek Som compared to the 17% going rate – and 4% on the USD), however, investors and exporters are still facing difficulties in securing funding for both working capital and investment.

Recently, the government has also increased the term of the working capital loans from 6 months in order to cover for a full cycle of cotton production and up to 2 years. In consideration of the usual terms of differed and lengthy payments from most European importers, securing short-term financing for working capital at competitive rates will remain a key requirement to expand exports of Textile and Apparel products to Europe and other western markets. Similarly, the government has made available an additional USD 150 million for financing exports as well as 112 million for providing soft loans to the industry. The impact of which is yet to be evaluated.



2.6 Transport and logistics

Probably one of Uzbekistan's biggest challenges. The country faces two main hurdles when it comes to shipping and logistics:

2.6.1. Uzbekistan is double landlocked

Uzbekistan became landlocked after the fall of the Soviet Union in 1991. Its only access to global trade must go through at least two other countries with a small number of options available, each coming with its own costs and challenges. To access the ocean, Uzbek goods will need to cross at least two countries in any direction, while road / railroad options are just as complex.

Until recently, most of the trade was going through the north of Eurasia and crossing Russia, Ukraine, and Belarus. Over 80% of Uzbekistan's trade transits through Kazakhstan, Kyrgyzstan and Russia and these 3 countries combined represent 50% of all of Uzbek's exports of finished goods. Other routes include passing through Iran or Afghanistan, which are - again – regions with high risk.

The limitation increases both the cost and time of transportation. The risks and challenges have been further complicated by the ongoing war in Ukraine, which not only affected the northern path but also any route options via the black sea. The country is serious about resolving those issues and is working on several solutions simultaneously. However, for the time being, transportation is still a challenge.

2.6.2. Domestic infrastructure is still weak

Uzbekistan ranked 88th (out of 160 countries) in 2022 up from 99th in the 2018 World Bank: International Logistics Performance Index, an impressive progress, however, the country still ranks poorly with a score of 2.6/5. Trade costs are high to the point where farmers and SME's are sometimes paying up to 200% of production cost to deliver their goods. This is due to a poor local infrastructure of roads, railroads, and airports as well as an uncompetitive domestic trucking industry (82% of international trade is carried out by foreign operators). Several initiatives are in place to develop the domestic transportation sector and infrastructure and will be discussed later in this report.



3. The way forward

Uzbekistan has made several leaps over the past years in terms of its business readiness in general and with regards to creating an enabling environment for the Textile and Apparel industry. The reforms have resulted in remarkable growth both in terms of investments as well as international trade. Moreover, the lifting of the cotton pledge, a major hurdle to the country's integration in the global industry, has unleashed new opportunities.

The country is on a growth path and is hoping that its exports from the Textile and Apparel sector will reach USD 9-10 billion within the medium term, an ambitious but achievable target considering how investments, production and exports have developed over the past several years.

However, the Uzbek Textile and Apparel sector has grown largely on the back of an existing cotton production, delivering basic products to a small number of countries with natural economic and cultural ties. In order to position itself as a global player in the industry, the next phase of growth will require looking at new markets with a different product and service offering.

Achieving medium and long-term targets is not new to Uzbekistan. In 2017, the industry set several targets for itself in a strategy covering a five-year period. The main objectives of this first strategy were a move towards processing its cotton domestically rather than exporting it in raw form, a goal that was fully achieved in 2021 with nearly 100% of the cotton being processed in Uzbekistan. Other objectives included job creations in rural areas and increasing revenue from exports. Again, both targets were achieved.

Now, in its plans for the next years, UTGA produced another strategy spanning the years 2022 to 2026 with several new priorities including reaching TAS exports of USD 7.6 bn by 2025, product diversification with production of MMF, penetration of new markets including the EU, focusing on transparency and traceability as well as expanding regional and international cooperation an effort which was crowned with the EU award of the GSP+ status.

The challenges that Uzbekistan will need to overcome in the next years have been mentioned earlier in the report and will need to be addressed by the government to be able to achieve their targets. Most of those hurdles are acknowledged by the state as well as the industry and in many cases there are existing or imminent initiatives designed to resolve them.

3.1 Development scenario

In a hypothetical scenario where Uzbekistan is able to convert 100% of its cotton production into finished products and export the entire output, it could in theory reach exports of no more than USD 6-7 Billion. Moreover, if - in theory - it were to continue to focus on the existing markets (predominantly CIS countries), Uzbekistan would also not be able to cross – more or less - the same figures (imports in those markets would not be able to absorb higher volumes. Therefore, to reach its target of USD 9-10 Bn in exports, the country will need to take two key actions:





02



Import / expand production of raw materials

3.1.1 Penetrate new markets

One of the most attractive markets for Uzbekistan would be the European market for the following reasons:



Due to the above combination of advantages, matched with a trend towards shorter lead times and a general move by buyers to source closer to markets, Uzbekistan has the opportunity to become a short lead time supplier to European brands, retailers and importers.

To be able to serve this market, Uzbekistan will need to develop its offering both in terms of product as well as service to meet the requirements of European buyers. Some of the key areas that the country will need to focus on are listed in section 3.3 below.

The industry and the state are aware of the need to diversify their markets and have set a target to reach USD 1 bn in exports of garments and home textiles to the EU by 2026. In their current strategy, UTGA has prepared two relevant roadmaps to achieve those plans. The first roadmap has to do with a methodological and consistent marketing effort to reach brands, retailers, and importers in the EU and the second is to focus on bringing local producers up to international standards by helping companies obtain international certificates in social and environmental compliance.

3.1.2 Import / expand production of raw materials

To reach a target of USD 9-10 bn in exports of TAS products, Uzbekistan will need to make available a larger volume of raw materials (fibres, yarns and fabrics) than it is currently producing and importing. Moreover, with MMF representing over 70% of the world consumption of fibres, the country will need to be able to integrate synthetics into its offering of products. This will require expanding both the production and processing capacity of its fibres, facilitation of importation of such raw materials.

UTGA and the government are quite aware of this need and in their '21-'26 plans, a clear target is set to reach 1.6 m tons of fibre consumption per year at least 30% of which to be from MMF. Furthermore, to secure a local production of synthetic fibres, the state is granting a 10% rebate on investments in weaving and processing of MMF with a ceiling of USD 0.5 m. Fibre production is also on the list of priorities with the government willing to contribute to the establishment of MMF production facilities with both CAPEX and financing. Moreover, the industry is in high level talks with the Oil and Gas sector as well as international producers of spandex to establish their facilities in Uzbekistan serving both the domestic market and the region. The state and the industry are confident that within 5 years, Uzbekistan will have its own production of MMF to add to its existing facility using recycled PET bottles.



3.2 Positioning

To be able to address the EU market (and potentially the US), Uzbekistan will need to position its industry as a reliable sourcing partner with several attributes:

Short lead times

Flexibility and lean manufacturing to be able to produce orders from sampling to production within a short lead time (sometimes in as little as 4 weeks). Moreover, focusing on improving logistics including the import of raw materials and accessories as well as shipping and delivery to Europe.

· Responsible production, transparency and traceability

Training and certifications to meet international standards for responsible sourcing including environmental, social and business practices.

• Product diversity

Expand the existing product offering from basic cotton products to higher value-added fashion garments and home textiles. Production of Man-Made Fibres and more complex products in order to penetrate segments with higher value.

Service

Develop the industry's offering to include services such as design, product development, sourcing of raw materials and logistics support. Moreover, Uzbekistan will need to ensure that it has a supply of middle management able to handle the complex requirements of European buyers, manage communication and work proactively to develop new products.

3.3. What needs to be done

In order to achieve the above targets the industry will need to work on several key issues. Plans and initiatives to address some of those issues are already in motion and others are still to be put in place. Key priorities include the following list and are further detailed in the next section:

- 3.3.1 Open up to the world (imports of raw material, etc.)
- 3.3.2 Diversify products (include strengthening of feeding industries)
- 3.3.3 Conquer new markets
- 3.3.4 Communicate
- 3.3.5 Improve skills
- 3.3.6 Focus on responsible production
- 3.3.7 Improve ease of doing business
- 3.3.8 Transportation and logistics

3.3.1 Open up to the world

As discussed earlier in this report, the Uzbek Textile and Apparel industry is highly focused on cotton and its exports are concentrated in a small number of countries. In order to grow its exports, the industry will need to diversify its products. The sector needs to consider the current trends governing the growth in the global industry (such as the growth in MMF, smaller order sizes with higher diversity and shorter turn-around times) as well as address larger markets with finished products such as EU and US to diversify its risks as well as increase its volumes; the country is well positioned to do both. Moreover, the successful implementation of reforms in Uzbekistan is a remarkable story that needs to be told to the world and opportunities made available due to those reforms should be known to investors, traders, and buyers globally.

The government is offering its support to companies and trade organizations to reach a wider audience and has put in place incentives to encourage companies to explore new markets. Support in the cost of participation in trade-fairs, the costs of opening representation offices and rolling out marketing campaigns in foreign markets are a few of the incentives available to Uzbek manufacturers to explore traditional as well as new export markets.

3.3.2 Diversify products

Cotton is slowly losing market share to MMF. Today, cotton represents somewhere between 20-25% of the world consumption of fibres while MMF take-up over 70% of the world consumption. While Uzbekistan has a clear advantage in manufacturing cotton products fueled by its local production of the fibre, this focus on cotton products is limiting its ability to appeal to a wider base of buyers as well as positions the country as a supplier of basic quality products with lower value addition.

The country will need to expand its focus to value added fibres such as sustainable cotton – where it already has a clear advantage - as well as MMF

The government and industry efforts to draw investments in MMF into the country will be a significant support to the sector's diversification into non-cotton products. Moreover, with the education and training programmes in place, the human resources needed to go into higher value-added products should – according to the government plans – be available.

3.3.3 Conquer new markets

As mentioned previously, Uzbek exports of finished goods were more than USD 1.5 billion in 2023, of which over 90% went to neighbouring CIS countries. In order to diversify, the industry will need to look at additional destinations for its exports. Europe is a natural nearby market that will find in Uzbekistan an ideal quick sourcing partner if and when Uzbekistan is able to meet the product mix, quality and lead times.

Going forward, the government will continue to support the development of new markets. The bundle of incentives is principally targeting Europe as can be safely assumed from the support in obtaining the environmental and quality certificates required by buyers in Europe as well as the support to transportation of up to 3,000 km which covers European destinations. Moreover, the GSP+ status recently granted to Uzbekistan will give it a significant preferential access to the European market that the local industry should exploit.

Those factors coming together are starting to yield results, for instance during the UzTextileExpo in Spring 2024, one of the largest European retailers visited Uzbekistan with a sizeable mission to assess the social and environmental compliance as well as explore the sourcing opportunities in the country. Other buyers and brands have also eyed Uzbekistan as a potential supplier of goods to the EU. Moreover, the industry along with UTGA have visited the US and participated in an AAFA event about sustainability in a first effort to explore the North American market.

The industry should continue its strategy of communicating with international players in the industry as it helps both educate importers on what Uzbekistan can offer as well as expose the local manufacturers to the dynamics of the global industry.

3.3.4 Communicate

For years the local industry has suffered from the cotton pledge which prevented European and US buyers from sourcing from Uzbekistan. This has resulted not only in a smaller accessible market but has also impacted what the international Textile and Apparel community know about the Uzbek Textile and Apparel industry. This lack of knowledge combined with a negative reputation needs to be addressed and the significant reforms that were put in place should be communicated to the international community as a first step to attracting new investments and buyers.

Following the lifting of the cotton pledge, the country is now able to participate again in international events, which will open doors for actively marketing Uzbekistan as a sourcing destination for Textile and Apparel products. With the existing package of incentives supporting companies in participation in events, memberships in international bodies and the cost sharing in marketing campaigns as well as the opening of international offices, the industry has a significant opportunity to be present in new markets at minimal cost.

Uzbekistan should work first on attending and participating in international events such as:



The participation should be both as an industry and as individual companies. And in a later stage, Uzbekistan should be targeting organizing its own events (such as Textile Days) with attendance from international buyers.

Moreover, the industry should launch a rebranding campaign and establish its own communication tools which will require the allocation of dedicated resources and developing a network of professionals that can assist in the development and implementation of a global marketing campaign and the long-term positioning of the country using a variety of tools such as:

- A YouTube channel
- · Sector publications with information relevant to key decision makers in target markets
- A country profile that is updated regularly
- · Social media campaigns targeting both sector professionals as well as individual consumers
- Making available trade and investment statistics as well as industry news
- Online resources for buyers such as a database of manufacturers

The above actions will require the allocation of dedicated resources and developing a network of professionals that can assist in the development and implementation of a global marketing campaign and a long-term communication and positioning of the country.

The industry and the government are already putting plans in place and have started with an effort through Uzbekistan's diplomatic missions to communicate with buyers, retailers, and importers in various markets.

Moreover, UTGA is working in partnership with a number of organizations such as the ILO and BCI to communicate the Uzbek success story in the elimination of systemic forced labour as well as their efforts in social and environmental compliance.

3.3.5 Improve skills

In order to achieve its objectives, expand its market base and grow its exports, Uzbekistan will need to change its product mix and address clients in new regions. This will require a skilled workforce, modern management techniques and a more sophisticated product and service offering.

There are currently 3 key institutions offering academic training for textile engineers as well as a number of vocational training programmes for machine operators and line supervisors, however, the output in terms of number of graduates and level of skills required is still not matching the current market requirements. A comprehensive vocational training programme following an in-depth analysis of the industry's needs is an imperative step to be able to develop the country's product offering to meet European standards and product quality and diversity. In order to expedite the process, the country should consider a special scheme to employ foreign talent to bridge the gap until the local labour and middle management is trained to meet the industry demands, especially where exports to European markets are concerned.

The government as well as the industry are recognizing the challenges in finding and training skilled labour and middle management for the industry. Several efforts through international organizations are put in place such as the TVET programme by the GIZ to support and empower vocational training centres in the textile sector across the country (for more information, see chapter 2.3 above). Moreover, a new administration for the textile institutes has been put in place with the objective to develop technical education for middle management, industrial engineers and technicians. Finally, Uzbekistan also joined the World Skills Improvement programme working with both India and Germany on the vocational training systems.

The industry is also looking at tools to attract young talent to the industry, positioning the TAS as an attractive employer with rewarding benefits and promising career opportunities.

3.3.6 Focus on responsible production

There are no questions that the reforms implemented over the past few years have yielded remarkable results and have positively impacted the business environment, the investment climate and have propelled Uzbekistan into the global economy. Moreover, in order to penetrate global markets, Uzbekistan will need to not only meet international standards but to exceed them to be able to erase the old reputation. The country will need to truly be at the forefront of sustainability and responsible production in order to gain a space in the international arena. However, there are still challenges with regards to social and environmental sustainability that will require further efforts from the government and industry in order to fully exploit the country's potential.

ESG policy and initiatives as a sector's motto

Uzbek manufacturers in the textile industry are actively moving towards international quality and control as well as sustainability standards. The goal of the state policy of Uzbekistan is to ensure the competitiveness of domestic textile products both in the domestic and foreign markets by supporting the industry to receive such standards. There are several initiatives, certificates and standards that are recognized internationally and would facilitate the industry's access to buyers in Europe and the US as well as help the sector communicate its commitment to sustainability to the world.

Uzbek manufacturers should hence be prepared for such demands by their international clients. The government is already supporting local manufacturers in obtaining those certificates and today, more than 150 textile companies have ISO 14001, BSCI, Sedex, Oeko-tex Standard 100, BCI, BSCI ,etc. certificates and the government is committed to supporting the process.

Better Cotton is a global not-for-profit organization with the aim of making global cotton production better for the people who produce it, better for the environment it grows in, and better for the sector's future. The organisation is headquartered in Geneva and supports farmers in more than 20 countries. In the 2022-23 cotton season, out of the 2.43 million farmers who received training, more than 2.13 million received a license to sell their cotton as 'Better Cotton' and produced 5.47 million tonnes of Better Cotton. This represents around 22% of global cotton production. In 2022, Better Cotton launched a formal programme in Uzbekistan, based on several years of piloting the implementation of the Better Cotton Principles and Criteria in cooperation with the International Finance Cooperation (IFC) as well as GIZ Uzbekistan. The programme in Uzbekistan has contributed to the enhancement of environmental, social, and economic sustainability practices within the cotton sector. As of the cotton season 2022-23, eleven clusters have started to implement the Better Cotton Principles and Criteria, covering twenty large farms. Four cotton clusters were already licensed as Better Cotton producers and Better Cotton from Uzbekistan can be physically traced to end buyers. More clusters have expressed keen interest in participating and receiving a license, indicative of the programme's growing appeal and impact.

3.3.7 Improve Ease of Doing Business

In 2020, Uzbekistan took a score of 69.9 in the Ease of Doing Business report by the World Bank. The country ranked poorly in several categories:



The ranking was slightly better but still needs improvements in the areas of:

Registering property	Getting loans	Paying taxes

The achievement of the ambitious manufacturing and export goals for Uzbekistan will be highly contingent on the country's ability to address some of its structural issues. A comprehensive study of the major regulatory impediments will be required with clear recommendations on specific legislations and procedures that need to be amended to improve the business climate for both local and foreign investors.

Human development index	0.72 score
Corruption perceptions rank	140 rank
Index of economic freedom	58.3 score
Press freedom index	50.7 score
Political rights index	2 score
Civil liberties index	9 score
Prosperity index	54.37 score
Knowledge economy index	3.14 index
Bertelsmann transformation index	4.08 index
Fragile states index	72 index
Global hunger index	5.9 index
Global innovation index	27.4 index
Global peace index	2.06 index
Social progress index	64.98 index
Happiness index	6.06 index

The government is also working to improve some aspects including short- and long-term financing costs. For instance, companies that will switch to International Financial Reporting Standards (IFRS) will be eligible for international finance which could cost up to 50% less than local domestic finance. Moreover, discussions with international financial institutions such as the IFC are ongoing and some short-term financing schemes should be available within the next year. The government also allowed banks to use LCs as collateral, giving companies the opportunity to seek short-term financing against existing orders.

Although efforts still need to be made to improve the overall ease of doing business, the country is methodologically recognizing the challenges and looking to find solutions.

3.3.8 Transportation and logistics

As described earlier the country faces several challenges when it comes to transportation and logistics, primarily the fact that it is landlocked and the domestic infrastructure. Uzbekistan has indeed started to address those issues; first of all, by establishing in 2019, the ministry of transportation which is tasked with the development and implementation of a unified state policy in the development of road, rail, air, river transport, metro, and road facilities.

Regional collaboration and joint projects

One of the key actions to be taken by Uzbekistan will be to reach agreements with neighbouring countries to secure its transport routes; whether north via Kazakhstan and Russia, west via the black sea, south via Iran or east via Afghanistan and Pakistan. The challenges are shared by many of Central Asian countries and collaborations will be beneficial for everyone. Already today, Uzbekistan has reached some agreements with neighbouring countries on the implementation of new infrastructure projects such as road, aviation and rail links with Afghanistan, Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan which are in development.



Moreover, Uzbekistan and Tajikistan resumed air traffic and restored the Galaba-Amuzang-Khoshady railway. The operation of eight automobile and one railway checkpoints has been restored. The commissioning of the restored section of the Uzbek-Tajik interstate railway line Amuzang-Khoshady can play an important role in the development of transit traffic, as well as create additional opportunities for Tajikistan to enter Turkmenistan and Afghanistan. Uzbekistan and Turkmenistan have built the Turkmenabad-Farab railway and road bridges, which are important corridors of the Uzbekistan-Turkmenistan-Iran-Oman transport and transit route. This transport corridor has expanded due to the joining of Kazakhstan and India, giving the countries of the region access to the Indian Ocean. The corridor is designed to connect Central Asia with Iranian ports in the Persian and Oman Gulfs. Additionally, Uzbekistan and Kazakhstan have launched bus routes and high-speed rail links. Moreover, the country has put in place a programme to support exports with covering a significant percentage of the cost of transportation.

Investment in infrastructure

The country developed and is implementing a nationwide strategy for the transportation of goods. The strategy includes the development of new transport and transit corridors as well as a network of logistics centres, the expansion of the fleet of vehicles and aircraft, the creation of conditions for efficient transportation and handling of goods in Uzbekistan and in neighboring countries.

In addition, the "Strategy for the development of the transport system of the Republic of Uzbekistan until 2035" (source: UNECE) envisages the creation of conditions for the growth of volumes and quality of passenger and freight traffic, improvement of the transport sector management system, as well as the introduction of fundamentally new approaches to training, retraining and advanced training of workers in the transport system.

4. The GIZ in Uzbekistan

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH has been working in Uzbekistan since 1992. It has a country office in the capital, Tashkent, and further operations in Nukus, Karakalpakstan, and Termez, South Uzbekistan. GIZ aims to promote broad economic growth. To do this, it is supporting the private sector and the expansion of upstream and downstream agriculture-based sectors, such as fertilisers, agricultural machinery and trade in grain. The objective is to create new jobs and income opportunities, particularly in regions with weak infrastructure. The promotion of tourism is also receiving increasing attention. At the same time, GIZ is supporting reform processes with programmes on vocational education, promotion of the rule of law and advanced management training.

There are currently three key GIZ projects working in the fields of cotton, textile and apparel:

4.1.1 Sustainability and Value Added in the Cotton Economy in Uzbekistan

Implemented in six selected regions across Uzbekistan, the project conducts initiatives to develop essential skills in:

- Eco-friendly cotton production: The project increases the share of cotton produced with environmentally friendly methods by offering training sessions on organic cotton production or Better Cotton principles, while piloting new water saving technologies.
- Local cotton processing: It improves working conditions and environmental management by introducing systems for workers to report and resolve issues, alongside providing training on chemical and wastewater management.
- Global cotton and textile trade integration: The project promotes Uzbekistan's export potential and helps achieve internationally recognised quality and environmental standards through workshops on various certifications as well as trainings for merchandisers.

4.1.2 Support of the Reform and Modernization Process in the Vocational Education System of Uzbekistan

The project supports a comprehensive reform for vocational education and training (VET) in Uzbekistan. The strategy aims to:

- Establish effective cooperation between all relevant technical VET actors from the state, business and education. This will improve the understanding of the needs of the vocational education and training system.
- Improve cooperation between policymakers, the education sector and employers in formulating a new normative framework for vocational education and training.
- Fostering cooperation between schools and enterprises in implementing joint vocational education and training and initial dual approaches.

4.1.3 Private Sector Development and Economic Policy Advice for Green Industrialisation in Uzbekistan

The project promotes green industrialisation and cooperates with policymakers, private companies, business associations and research institutions. Its activities include:

- Providing economic policy advice and consolidating the human and operational capabilities of relevant public sector actors. This includes trainings and workshops and facilitating an exchange of experience with other countries on green economy topics.
- Supporting the private sector in adapting green technologies for resource-efficient production, for example in circular economy models and green industrial parks. Providing expertise on CO2 measurement and certification.
- Offering networking, training and technology to participating companies and research-educational institutions to increase their international competitiveness.

Reference list

- Clothes Market in Uzbekistan: Competitive Environment, Development, Askarova Mavluda Turapovna Country economic update, toward a new economy, World Bank Group
- Development Of Export Potential Of Textile Enterprises In Uzbekistan, Ahmadjon Soliev, Qodirov Humoyun Development strategy, framework of the Republic of Uzbekistan by 2035, Buyuk Kelajak
- Doing business in Uzbekistan, Deloitte
- Economic Profile Uzbekistan, Doing Business, World Bank Group
- Improvement of The Brand Strategy Development of Textile Product's Export, Abdullazizova Khushnoza Nayabovna
- Insights and future forward for fashion and textile value chain in Uzbekistan, Karan Khurana, Zamira Ataniyazova
- International textile machinery shipment statistics, ITMF
- Issues of Developing Textile Clusters in Uzbekistan, Ravshan Isaev
- Policy recommendation For the Development of Textile Industry in Uzbekistan, KOFOTI
- Priorities for further development of the silk industry in 2022-2026, "Uzbekipaksanoat" Association Progress in Uzbekistan, Environment, Social and Governance Report
- Republic of Uzbekistan, Cotton and Products Annual, Global Agricultural Information Network State-led cotton deregulation in Uzbekistan: Reforms and effects, Etenesh B. Asfaw
- Transition report 2019-20, Better governance, better economies
- Uzbekistan Diagnostic: Assessing Progress and Challenges in Unlocking the Private Sector's Potential and Developing a Sustainable Market Economy, Hans Holzhacker
- International Cotton Advisory Committee (ICAC)
- USDA GAIN, 2020
- https://cabar.asia/en/uzbekistan-s-water-sector-environmental-and-managerial-issues
- https://caspiannews.com/news-detail/azerbaijan-turkiye-uzbekistan-create-new-cooperation-format-intend-to-develop-intl-transport-corridor-2022-8-3-0
- https://defense.info/re-thinking-strategy/2022/03/central-asia-needs-a-plan-b-for-transport-and-trade
- https://documents1.worldbank.org/curated/en/305731601271791257/pdf/Policy-Dialogue-on-Agriculture-Modernization-in-Uzbekistan-Cotton-Textile-Clusters-in-Uzbekistan-Status-and-Outlook.pdf
- https://etradeforall.org/news/e-commerce-as-gateway-to-market-uzbekistans-traditional-apparel/
- https://ewsdata.rightsindevelopment.org/files/documents/01/ADB-54282-001_Oz6Awv6.pdf
- https://lex.uz/docs/4821319
- https://media.neliti.com/media/publications/333371-clothes-market-in-uzbekistan-competitive-4ad5813d.pdf
- https://openknowledge.worldbank.org/bitstream/handle/10986/34160/Uzbekistan-Building-Blocks-for-Integrated-Transport-and-Logistics-Development-Policy-Paper.pdf?sequence=4
- https://oxussociety.org/how-the-war-in-ukraine-is-hampering-connectivity-for-land-locked-central-asia
- https://thediplomat.com/2022/07/china-kyrgyzstan-uzbekistan-railway-opportunities-and-challenges-for-china
- https://unece.org/DAM/env/epr/epr_studies/ECE.CEP.188.Eng.pdf
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- https://unece.org/DAM/trans/MinisterialITC70/documents/Presentation_UZBEKISTAN_E.pdf
- https://uzjournals.edu.uz/cgi/viewcontent.cgi?article=1409&context=iqtisodiyot
- https://www.eurasian-research.org/publication/transport-strategy-of-uzbekistan-current-developments/
- https://www.euronews.com/business/2020/11/12/uzbekistan-s-rise-as-the-transport-and-logistics-hub-of-central-asia
- https://www.fibre2fashion.com/industry-article/8344/a-look-at-uzbekistan-s-supply-chain-logistics
- https://www.german-economic-team.com/wp-content/uploads/2021/12/GET_UZB_NL_15_2021_en-1.pdf
- https://www.ilo.org/resource/news/uzbek-cotton-free-systemic-child-labour-and-forced-labour
- https://www.researchgate.net/publication/324965519_The_challenge_for_developing_a_competitive_logistics_industry_in_Uzbekistan
- https://www.securitycargonetwork.com/what-do-liechtenstein-and-uzbekistan-have-in-common/#:~:text=Uzbekistan%20and%20Liechtenstein%20are%20the,the%20possibility%20of%20ocean%20freight.
- https://www.uzdaily.uz/en/post/71127/
- https://azizovpartners.uz/en/memos/new-edition-of-the-labor-code-of-the-republic-of-uzbekistan/#_Toc124244083
- National state of the environment report Uzbekistan https://www.iisd.org/system/files/2024-02/uzbekistan-state-of-the-environment-en.pdf
- https://www.uzembassy.uk/news/1047
- https://invest.gov.uz/
- https://epauzb.uz/pages/financial-aid
- USDA report, Cotton and Products Annual, 2024
 - https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Cotton%20and%20Products%20Annual_Tashkent_Uzbekistan%20-%20Republic%20of_UZ2024-0001.pdf
- https://economictimes.indiatimes.com/news/international/world-news/uzbekistans-ambitious-green-economy-drive-new-bonds-air-quality-initiatives-corporate-colLabourations/articleshow/110925138.
 cms?from=mdr
- https://gsphub.eu/country-info/Uzbekistan

Abbreviations and Acronyms

AAFA	American Apparel and Footwear Association
BCI	Better Cottton Initiative
bn	billion
BSCI	Business Social Compliance Initiative
CAGR	Compound Annual Growth Rate
CAPEX	Capital expenditure
CMT	Cut Make Trim
e.g.	for example
ETI	Ethical Trading Initiative
EU	European Union
FDI	Foreign Direct Investment
FIT	Fashion Incubator in Tashkent
GDP	Growth Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
GOTS	Global Organic Textile Standard
GRS	Global Recycled
GSP	Standard Generalised Scheme of Preferences
ha	hectare
HS	Harmonised System
IFRS	International Financial Reporting Standards
ILO	International Labour Organization
ITMF	International Textile Manufacturers Federation
k	thousand
kg	kilogram
km	kilometer
KPI	Key Performance Indicator
KUTT	Korean-Uzbek Textile Technopark
KwH	kilowatt-hour
LC	Letter of Credit
m	million
m²	Square meter
MMF	Man Made Fibres
OCS	Organic Content Standard
PET	Polyethylene terephthalate
RCS	Recycled Claim Standard
RMG	Ready Made Garments
SAP	Sustainable Apparel Coalition
Sedex	Supplier Ethical Data Exchange
SLCP	Social, Labour and Convergence
SMETA	Programme Sedex Members Ethical
TAS	Trade Audit Textile and Apparel Sector
TVET	Technical and vocational education and training
UNDP	United Nations Development Programmeme
UN	United Nations
US	United States
USD	Dollar
USDA	United States Department of Agriculture
UZS	Uzbekistzani Som
WRAP	Worldwide Responsible Accredited Production

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