



Global Compact Network Pakistan

NET ZERO RESEARCH CHALLENGE 2023

Case Studies on four leading business enterprises from Pakistan to inspire Net Zero Transition

ARTISTIC GARMENT INDUSTRIES (AGI DENIM)





Project Brief

July 2023 was the hottest month in recorded modern history! As noted by the Secretary General of the United Nations, climate change has attained crisis proportions as a global existential threat. UN member states that had, in 2015 Paris Agreement, committed to combat global warming by reducing the planet's temperature to 1.5 degrees Celsius, the Net Zero target for 2050, must ensure achieving this commitment! Globally, 2050 is the target year by which we should extract the same amount of Greenhouse Gases (GHG) as we emit in our processes, thus neutralizing their impact to zero. Pakistan is the eighth most vulnerable country to Climate Change. The floods of 2022 are taken as the first indicators of this climate catastrophe.

The Global Compact Network Pakistan has been instrumental in supporting the private sector as a whole, and its members in particular, to incorporate sustainability in their strategic visions. As we move forward in this decade of action (2020 - 2030), awareness among stakeholders has forced business organizations to revamp their operations and create transition plans to reduce their carbon footprint. If, by 2025, businesses do not align their strategies with sustainability practices they will become irrelevant because climate change is now an existential crisis.

In Pakistan, business organizations have not been able to make commitments to the Net Zero target year despite having sustainability-focused policies in place. Only 26 business organizations have committed under the Net Zero Pakistan initiative by the Pakistan Environmental Trust. Of these, 25 organizations are from the Textile and Apparel sector. This is mainly due to the prerequisites of carbon footprints in their supply chains set by the textile and apparel products buyers in Europe and North America. Given the urgency of the situation, the agenda for a global requirement to lower the carbon footprint is pushed forward, and similar actions will be expected by stakeholders in almost every business sector. In its mandate to advocate for Climate Action, GCNP initiated the Net Zero Research Challenge 2023 as an academia-business research project to develop Case Studies on companies in Pakistan on their Net Zero Journey. The core objective of this project was to develop four Case Studies to be used as learning tools in universities for business students to understand the global transition. These case studies are also intended to, be used as guidelines for SMEs to develop their sustainability policies. GCNP partnered with four prominent large-scale organizations; Artistic Milliners (Private) Limited, Roshan Packages Limited, Pak Arab Refinery Limited, and AGI Denim (Private) Limited.

One main objective of the project was to promote experiential learning. This was achieved by engaging Research Teams from Institute of Business Administration (IBA) or NED University. Each corporate partner was deputed a Research Team to conduct in-depth desk reviews, and field visits, and to engage with the leadership to not only incorporate the initiatives already taken by these companies but also to construct a strategic roadmap for companies as a proposal for 2030 and beyond. The Research Teams, led by a faculty member, built their research on how regional business entities have adopted sustainable practices, particularly how operational transitions have helped organizations to reduce their carbon footprint either directly from their operations (Scope 1), or indirectly (Scope 2). The priority area was to structure solutions that could bring optimum efficiency regarding carbon emissions. Furthermore, integrating through the value chain and tracking carbon emissions (Scope 3) was considered and incorporated as a significant policy-backed action for companies.

The Net Zero Research Challenge was launched on 09 June 2023 with a Briefing Session for Corporate and Academic partners. In two months, Research Teams under the guidance of a Project Consultant were able to draft Case Studies on their respective companies. The Case Studies highlight key initiatives taken by companies regarding Sustainable Development Goals, Sustainability, and Carbon Emission projects, particularly the proposed roadmap to achieve Net Zero by 2050. In this Publication, four Case Studies will contextualize important solutions for reducing carbon emissions starting from the plantation of trees and mangroves, awareness raising of stakeholders, transport and operational efficiency, to carbon capture and storage. It also emphasized how interventions and collective reforms can create a substantial difference and contribute to setting up Carbon Credit and Carbon offsetting projects in Pakistan. The Concluding Event was held in Karachi on 17 August 2023 at Movenpick Hotel in which all four Research Teams presented their respective Case Studies.

Khalid Junejo
Executive Director

**GLOBAL COMPACT NETWORK PAKISTAN'S
ENLIGHTENED CORPORATE PARTNERS:**



AGI DENIM



**Global Compact
Network Pakistan**

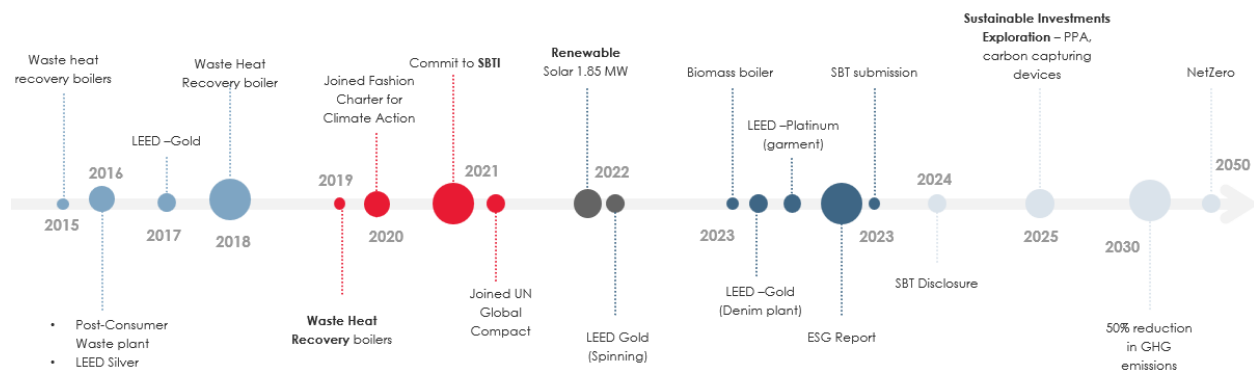
AGI Denim (Artistic Garment Industries) is a leading vertical premium denim manufacturer in Pakistan, with a long-standing history dating back to 1949. The company operations are spread over 17 factories with multiple offices located in Pakistan, Spain, and the USA. Running a family-owned business enterprise, AGI works closely with several leading brands across the world. With a workforce of over 16,000 employees, AGI can sustain its business turnover of USD 216 million in the 2022-23 fiscal year.

Focus on Sustainability:

In line with the company's core values, sustainability is incorporated into the firm's work ethos that dictates all its business decisions and procedures. This is primarily because of its mission and vision 2025, which dictate efforts to be made in line with its Environmental, Social, and Governance (ESG) initiatives. Comparing these initiatives with the 17 Sustainable Development Goals (SDGs) established by the UN, several interesting findings come to light. In an attempt to shed light on these initiatives, the following section of the case study compares and contrast specific actions and ventures of AGI that run parallel to each of the SDG in hand.

	AGI Denim provided its employee with support during Covid-19 lockdown, saving 10,000 families going below poverty line.		Among leading adopters of modern technology for climate action targets
	Company carried continuous food supply to flood affected areas of 2022 floods		AGI denim has set targets to increase the number of woman in leadership positions
	Company is targeting to health and social protection of its entire workforce.		Providing support of 5 million annually under CSR initiatives at community level
	AGI Denim is among tops donors for scholarships in Pakistan.		Evaluating entire operations to achieve minimum waste and focused product circularity.
	Featured as among top employer of females in the country		Leading enterprise for Net Zero Pakistan.
	AGI recycles 600,000 gallons of water daily		Achieved target of zero water pollution.
	AGI is installing solar panels capable of producing up to 2000 Kw of renewable energy		Collaborated with WWF to plant 27,000 trees.
	Recognized as Employer of the Year on Decent Work guidelines.		Creating community level support programs to strengthen harmony, tolerance and resilience to combat negative impact out of poverty.
			Building Resilience through partnerships with global change maker for impact driven projects

AGI Denim Road to Sustainability



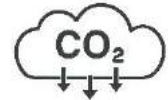
A leading Denim and Jeans Manufacturing company. Among the first to join the **Net Zero pledge from Fashion Industry Charter by UNFCCC.**



Installed of Fuel-Efficient Boilers to reduced the natural gas consumption per ton of steam generated by **17%.**



Installed Waste Heat Recovery boilers that uses exhaust gases and generate steam. This has reduced **10-12%** of steam requirements



15,344 (tco2) emissions avoided in 2022

AGI Denim committed to the Science-Based Target initiative in 2021.

Energy Consumption

Since 2015 AGI Denim has made investments in reducing its carbon footprint by installing waste heat recovery boilers, LED lights, and inverter motos across its operations. The company's way forward is to reduce its climate change impact through energy efficiency and shifting to renewable energy.

AGI Denim does not use coal-fired boilers in power generation which has pushed them one step ahead of coal power producing companies.



Energy Saving up to 56 million kW

Renewable Energy

AGI Denim has installed 1.85 MW of rooftop solar to increase the renewable energy share.

Energy Consumption Reduction Actions

Besides installing solar panels on the rooftop, we have taken the following initiatives to reduce our GHG.

- *Fuel Efficient Boiler*
- *Waste Heat Recovery*
- *Double Zero*
- *LEED-certified factories*

Green Building

LEED stands for Leadership in Energy and Environmental Design (LEED) and has multiple ratings where platinum is the highest. As the first denim manufacturer and the only textile company worldwide to achieve End-to-end LEED certification which means from spinning through garment factories are LEED certified. AGI Denim is also the first—and, currently, only—B Corp company operating in Pakistan. LEED-certified green buildings have less carbon footprint as compared to conventional buildings.



Carbon sequestration project

AGI partnered with WWF Pakistan and planted 27,000 in 2018 and 2,000 additional mangrove saplings in 2022. Mangroves secure the soil and prevent flooding, act as habitats for wildlife, and provide natural resources. During three years, these mangroves have been able to sequester 1361 tCo2 in three years.



Figure 1: Google Earth image of the area where mangroves before the plantation and after three years of plantation

GHG Emission reporting on CDP

As a signatory of the Fashion Industry Charter for Climate Action, AGI quantifies, tracks, and publicly reports its GHG emissions on an annual basis on CDP. In 2022, we received "Disclosure – Transparent About Climate Issues" status under CDP climate change evaluation.



Suggestions for 2030 and Beyond:

<u>Targets for 2026</u>	<u>Targets for 2030</u>	<u>Net Zero by 2050</u>
<ul style="list-style-type: none"> - To initiate the Climate Ambassador Program. - To test Carbon Capture through bio-reactors and store it in solid form. - To convert to battery-operated vehicles. - Product Circularity digital traceability and Product Passport. 	<ul style="list-style-type: none"> - To install bio-reactors in suitable units to convert carbon emissions into methanol. - To venture with Taiwan-based biotech companies to convert methanol into polyester fiber. - To allocate methanol to a third party for storage. - Launch Carbon Credit and Carbon Offsetting project in Pakistan. 	<ul style="list-style-type: none"> - To increase renewable energy share to 50% as compared to 6% in 2022 by opting for Wind and Hydro Power. - To venture into the Fermentation Process to create alternative disposals and carbon utilization. - To lead Carbon Credit and Carbon offsetting projects in Pakistan. - Integration through value chain for Sustainable Procurement and Product Cycle.

Climate Ambassador Program:

The Program is driven by the spirit of collective change. As an advocate for Climate Action, AGI Denim can start an E-Module and Certification on Climate Change for its workforce. The learning Module would not only create awareness about Climate Change among staff on all level, particularly lower staff who may never have understood the impact of Climate Change before but also helps in understanding how each individual could reduce their household emissions by convenient actions. Through this exercise, AGI Denim can pride itself in having a workforce that acts as an Ambassador for Climate Action.

Electrical Vehicles:

To convert conventional diesel vehicles in plants such as forklifts into battery operated, start the transition with smaller steps. These actions of converting machines or even vehicles into electrical power might not contribute significantly to the overall carbon footprint but will initiate a transition period for the company.

Renewable Energy:

Since the units are located in Korangi and Landhi Industrial zones, an area with densely allocation factory units, only limited rooftop space is available for solar panels. The reason to set the target of having 50% renewable energy by 2030 and not in the next two years is due to inconsistent renewable energy policies and limited options to purchase power through a clean process. It is expected that post COP28 in Dubai this year, the Government of Pakistan will start building a framework to address clean energy production. However, it will be till 2030 that a definite option for reliable energy may become available. In case government policies are not aligned with the strategic timeline, investment can be made in Balochistan province for solar and wind parks.

Carbon Capture and Utilization

The process can be initiated by testing the biotech engineering solution for storing carbon emissions into bio-reactors, to be converted into methanol and stored. Then, as per viability, there are two potential utilization methods. AGI Denim could partner with Taiwan-based companies to convert the methanol into polyester fibre and reinstate it into production at any level or dispatch it as a raw material for any other production means. Second, utilization can be sold out to store carbon in its methanol form to third parties, which may look after its disposal. However, as an organization with a core focus on value chain sustainability, the impact is unreliable for third-party vendors. The feasibility of this entire process needs to go through the testing phase and requires the expertise of foreign engineers. The testing phase may require substantial funding but will be considered a breakthrough in Pakistan.

Carbon Credit and Offsetting:

It is a known fact that for sectors such as Textile, Energy, and large-scale industries, reducing 100% carbon emission is not possible. Therefore, the concept of offsetting was brought forward. Companies that cannot reduce their carbon budget can mitigate its impact by supporting offsetting projects which may reduce their share of carbon. The mangrove plantation at coastal sites are example of one of the offsetting projects undertaken by AGI Denim. Carbon markets are a viable option internationally where Companies purchase Carbon Credit and through a regulator, the amount of that purchase is given to initiatives of clean energy and plantation projects to reduce carbon from the air. It is essential that a similar initiative is taken up in Pakistan and gather stakeholders from the Ministry of Climate Change to International Partners to develop policies. AGI Denim can lead the way for starting a similar project by directly investing in Clean Energy and Climate Resilience businesses as an initial carbon crediting venture to facilitate the international carbon market with local companies, particularly with Net Zero Pakistan.

Circular and Sustainable Value Chain

In alignment with the European Union Parliament’s briefing on Product Passport and Traceability under the Eco-design, AGI Denim has done circular products and should now focus on circular models to reinstate fast-fashion wastage. Pakistan is among the top countries where the used garments are dumped from Europe. As the fast fashion business model gets scrutinized globally due to its high volume of waste, it is only reasonable to create a circularity business model to address the matter of high waste with effective traceability.

Collective Impact for 2050

AGI Denim understands that the Race to Zero slogan is not business-competitive but a collective call against Global Warming. As one of Pakistan's first enterprises to commit to Net Zero, the Company is focusing on building partnerships to create a path for other businesses to start their sustainability journey. The efforts made by the private sector need to be complimented by the Government through effective policymaking on Renewable Energy sourcing, duty-free import of carbon capture machinery, licensing for solar and wind parks, and stabilizing the economy for the exporters to plan out their roadmap ahead. As one of the top exporters in Pakistan, AGI Denim carries a responsibility to brand the nation and it is only possible if Pakistan can build a strong stance on its efforts towards the Net Zero target of 2050.



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GLOBAL COMPACT NETWORK PAKISAN'S ENLIGHTENED ACADEMIC PARTNERS:



The Institute of Business Administration (IBA) is a Nexus of Academic Eminence, Global Vision, and Ethical Leadership. At the crossroads of academic brilliance and entrepreneurial spirit stands the Institute of Business Administration (IBA), an esteemed institution shaping the future leaders of the business world. Established with visionary zeal, IBA has crafted an exceptional legacy, becoming synonymous with educational excellence, research innovation, and ethical leadership.

Founded in 1955, IBA boasts a rich heritage rooted in a commitment to nurturing talent and instilling a passion for learning. Over the years, it has emerged as a beacon of educational prowess, consistently delivering top-notch business education to students from diverse backgrounds. Its legacy is characterized by a fusion of tradition and innovation, a balance that fuels its academic vibrancy.

More than producing business professionals, IBA molds ethical leaders with a strong sense of social responsibility. Ethics, integrity, and a commitment to societal well-being are woven into the curriculum, shaping graduates into compassionate leaders who understand the importance of giving back to the community. IBA's emphasis on ethical leadership ensures that its alumni make meaningful contributions to both the business world and society at large.

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The era of global warming has ended; the era of **global boiling** has arrived.”

António Guterres
Secretary-General of the United Nations

