

G-STAR RAW

G-STAR RAW DETOX REPORT 2019

February 2020

Introduction

In January 2012, G-Star RAW committed to ban the use of hazardous chemicals from all products and production processes by 2020. One year later, G-Star RAW reconfirmed this target by publically agreeing to the [Greenpeace DETOX Commitment](#) and publishing a first action plan that included measures necessary to integrate this commitment into its business activities.

Since then, much has changed in the apparel industry on the topic of chemical management that simply could not be envisioned when signing the Commitment. G-Star RAW has consistently reported on progress made with regard to phasing out hazardous chemicals from its supply chains in annual DETOX Progress reports. Now that the final deadline has passed, it is time to look back at the past years to recap the efforts taken and report on what is achieved.

While G-Star RAW will continue to work with its supply chain partners on this important issue in the future, G-Star RAW is proud to report it has successfully banned the intentional use of hazardous chemicals – as listed in the DETOX Commitment – from its products and production processes and we have verified data to support this. Aligned with other efforts to be a transparent company, this report explains how G-Star RAW has achieved this and provides further context as to how these figures should be understood.

The report starts with an explanation of the G-Star RAW DETOX Commitment in Chapter 1. This is followed by analysing the (absence of a) baseline to which progress could be reported in Chapter 2. Subsequently, it reflects on the work and activities G-Star RAW deployed to start working towards its goals in Chapter 3. This is divided in two work streams 1) contributing to industry alignment through the ZDHC organisation 2) direct engagement with supply chain partners to improve their chemical management performance. In Chapter 4, the actual results achieved in G-Star RAW's supply chain are reported. This forms the core of this progress report. Lastly, in Chapter 5, G-Star RAW shows how it will continue to engage the industry and its supply chain partners on the topic of safe and sustainable chemicals management in the years to come.

Chapter 1. G-Star RAW's DETOX Commitment

In 2011, environmental NGO Greenpeace launched its 'Dirty Laundry Campaign'. In this campaign, Greenpeace linked discharged wastewater containing traces of hazardous chemicals of Chinese apparel factories to the brands that had production there. Greenpeace published a report in which it analyzed the discharged wastewater from these factories and found levels of hazardous chemicals that could potentially harm the environment and marine life.

In 2012, a second Dirty Laundry report followed in which Greenpeace reported findings of hazardous chemicals in garments of various international fashion and apparel brands. By purchasing a set of garments from each brand and have them tested for traces of hazardous chemicals by professional laboratories, Greenpeace exposed that fashion brands did not take full responsibility in protecting consumers for the potential negative health effects of traces of hazardous chemicals in clothing.

G-Star RAW was amongst the brands that Greenpeace targeted in the second Dirty Laundry report. Greenpeace tested a total of five G-Star RAW garments and three of them did not meet the detection limit for Nonylphenol Ethoxylates (NPE) of 1 mg/kg. Following this report, G-Star RAW signed a DETOX Commitment with Greenpeace to reinforce its goal to ban the intentional use of hazardous chemicals from its products *and* production processes in its supply chain.

The signing of the DETOX Commitment followed G-Star RAW's membership to the Zero Discharge of Hazardous Chemicals (ZDHC) initiative that was established by six leading apparel and footwear brands in 2012. The ZDHC member brands unite around a Joint Roadmap to ensure safe and sustainable chemical use in the fashion industry¹.

¹ As per January 2020, thirty brands are member to ZDHC. Moreover, close to 160 organizations active in the industry are 'contributors' to the ZDHC community.

From its establishment onwards, ZDHC has been widely recognized as the industry response to the Greenpeace DETOX campaign, and is one of the first brand-led sustainability initiatives that has resulted in industry change throughout the world. As will be shown in this report, ZDHC plays a key role in the way G-Star RAW can now report on achievements made.

G-Star RAW has its individual and specific DETOX Commitment and goals published on its website since 2013. Many of the goals, such as making a plan for the phase out of listed chemicals and publishing case studies on two specific chemical groups (APEOs and PFCs) and researching possible alternatives for use in the industry, were due quickly after the signing of the Commitment. These and other efforts and their success have been reported in previous G-Star RAW DETOX reports and will not be repeated here.

However, the main goal listed in the Commitment is to provide proof that G-Star RAW has actually succeeded in banning the use of 11 priority groups of hazardous chemicals from its supply chains by 2020. The subsequent chapters will recap how G-Star RAW implemented this and what has been achieved.

Chapter 2. The (Missing) Baseline

With the DETOX Commitment signed, G-Star RAW had to review its current business practices and policies to start working on improvements. First, its work to ensure product safety had to be improved by ensuring that no traces of hazardous chemicals ended up in the garments that could potentially harm the customer. Second, new standards and policies had to be established to guarantee that chemicals used in the production processes (but that do not end up in the product) are safe and sustainable.

While related, these two goals require different approaches. Moreover, on both accounts G-Star RAW needed to start collecting (verified) data that could show that improvements were being made, whereas no real standard for reporting and a baseline of current performance was yet available.

2.1 Restricted Substances List to guarantee product safety

Fortunately, first steps had already been taken to monitor and report the ban on hazardous chemicals on *product level*. G-Star RAW worked with a Restricted Substances List (RSL) that prescribed to suppliers which hazardous chemicals were banned from being used. Evidently – through the outcomes of the Dirty Laundry Report – G-Star RAW's product-testing program was not perfect yet, but at least there was a standard in place.

Since 2013, G-Star RAW has updated the requirements in its RSL annually and it has expanded and intensified its risk assessments and RSL product testing. G-Star RAW now implements an RSL that goes beyond EU REACH legislation and has put considerable time and effort in training and guiding suppliers on how to meet these requirements. Moreover, the product-testing programme is now set up on a seasonal basis.

In short, G-Star RAW requests two samples that are first out of bulk production to test for compliance with the G-Star RAW RSL.² G-Star RAW nominates an independent testing institute that is familiar with G-Star's RSL and sends the piece to an accredited laboratory closest to the supplier for testing. All orders that are subject to testing can only be shipped after compliant test results and approval of the RSL team.

2.2 Manufacturing Restricted Substances List to guarantee no harm to environment

What was still lacking at G-Star RAW and in the wider fashion industry was a uniform standard and an approach that regulates the use of all chemicals in the manufacturing stages of the supply chain. Many chemicals used in the dyeing, finishing and laundry stages of garment production do not necessarily end up in the product, but may still harm the environment or the workers.

² G-Star requests samples from bulk production to ensure the rest of the order is compliant as well. If a salesmanship sample would be tested, G-Star RAW cannot be sure the same chemicals will be used for the bulk production.

However, the industry (including other brands targeted in the DETOX campaign) were not aligned on the definition and detection limits of hazardous chemicals, nor how this should be tested and regulated. The industry needed to align on a Manufacturing Restricted Substances List (MRSL)³ and had to create testing programs and tools that could show (progress towards) compliance.

Without a uniform standard to work with, nor a holistic, pragmatic, scalable chemicals management framework that allows for progress reporting, there was very little opportunity for G-Star RAW to show how it was working with its supply chain partners to make the required progress and credibly claim any improvements made.

Chapter 3. The Work

It soon became evident what G-Star RAW needed to do to reach the goals as listed in the DETOX Commitment. Two distinct areas of work unfolded. G-Star RAW contributed to the work of ZDHC's Joint Roadmap to ensure a uniform standard and approach would materialize. At the same time, immediate improvements were necessary in G-Star RAW's own supply chain, so engaging its suppliers on improving their chemical management performance was prioritized.

G-Star RAW supply chain engagement

With the first version of the ZDHC MRSL pending, G-Star RAW established its own MRSL with the input of industry experts in 2014. G-Star RAW trained its suppliers on the intent and use of its MRSL and visited the factories to assess their chemical management performance based on its newly published Environmental Guidelines. Following these visits, action plans for improvement were agreed on with the individual suppliers – if so required. Key strategic suppliers were visited in subsequent years to ensure improvements lasted.

Simultaneously, and as part of the intermediate goals listed in its DETOX Commitment, G-Star RAW analyzed where and how three distinct groups of chemicals (APEO's, PFC's, and Phthalates) were used and researched how these could be phased out. G-Star RAW's production managers and its chemical specialist worked diligently with suppliers to introduce more sustainable alternatives that would yield similar results. In earlier DETOX reports, we have explained how this has been achieved.

Additionally, soon after signing the DETOX Commitment, G-Star RAW became a member to bluesign®. The bluesign® system is a rigorous certification scheme for suppliers that requires them to implement a holistic chemicals management system in their factory. It is widely regarded as best practice in the industry. G-Star RAW introduced the bluesign® system to its strategic suppliers and asked them to start working towards certification. Reaching certification can take years and G-Star RAW is very proud to work with at least three trusted supply chain partners that are now bluesign® certified. However, the bluesign® system proved hard to scale to the rest of the supply chain, and did not allow for incremental steps of improvement.

ZDHC industry standard development

G-Star RAW contributed to the development of the Joint Roadmap by having its chemical specialist taking part in multiple ZDHC Task Teams that were required for industry alignment on the ZDHC MRSL and of the tools that allowed for a holistic approach to sustainable chemicals management. On top of that, G-Star RAW's Sustainability Director dedicated considerable time and effort by fulfilling a position on the ZDHC board, helping ZDHC become the industry leading initiative it is today.

Additionally, during its standard and tool developments process ZDHC required industry piloting and testing with actual manufacturers to learn what worked. With a compact supply chain and trusted partnerships with the majority

³ Similar to what an RSL does to ensure product safety, an MRSL ensures that chemicals used in the production processes do not harm the environment and/or risk for the health to the workers involved in the manufacturing of textile and apparel products.

of its suppliers, G-Star RAW was well positioned to engage its suppliers in these pilots and feedback the outcomes to the ZDHC community.

So what was the result of all these efforts of the collective brands? The vision of the ZDHC Joint Roadmap is to provide the standards, guidelines and tools to work on a holistic approach towards chemicals management in the textiles industry. At the center of this work is the ZDHC MRSL, which lists all chemical substances commonly found in textiles and leather industry. The MRSL sets detection limits per chemical substance to which chemical suppliers can have their products tested. In turn, the ZDHC Gateway now contains over 30.000 chemical products that are MRSL compliant, from which brands and suppliers can now source sustainable chemicals.

Subsequently, the ZDHC community published tools to assess and monitor the input (safety level of chemicals purchased), process (chemical storage, use, and handling at the factory) and output (safe discharge and disposal) areas of chemicals management at a facility level, to which actual progress can be reported. To appreciate fully how the ZDHC organization has developed over the years to realize a paradigm shift in the apparel and footwear industry on chemicals management, please see [ZDHC Impact Report](#).

With the development and publication of the standard for wastewater testing prioritized by ZDHC, G-Star RAW was amongst the first adopters of wastewater testing in the industry in 2017. For the first time, G-Star RAW obtained actual performance data of its suppliers with regard to the discharge of 14 priority groups of hazardous chemicals.⁴ Aligned with its DETOX Commitment, G-Star RAW ensured its suppliers published their results in the ZDHC Gateway and Disclosure Portal and at the G-Star RAW website. Subsequently, it had the results analyzed by external experts to learn how improvements could be made from this first batch of wastewater tests.

Since then, the ZDHC has released the ZDHC InCheck report that shows a factory's progress towards purchasing ZDHC MRSL compliant chemical products and the ZDHC ClearStream report that analyzes the results of a wastewater test according ZDHC Wastewater Guidelines. Lastly, it published an audit protocol for proper on-site chemicals management that is fully aligned with the Sustainable Apparel Coalition's (SAC) Higg Facility Environmental Module's chemical management and wastewater sections (see figure 1). With these assessment tools becoming available, ZDHC delivered on its promise to enable a holistic approach to chemicals management, that G-Star RAW could implement in its supply chain.

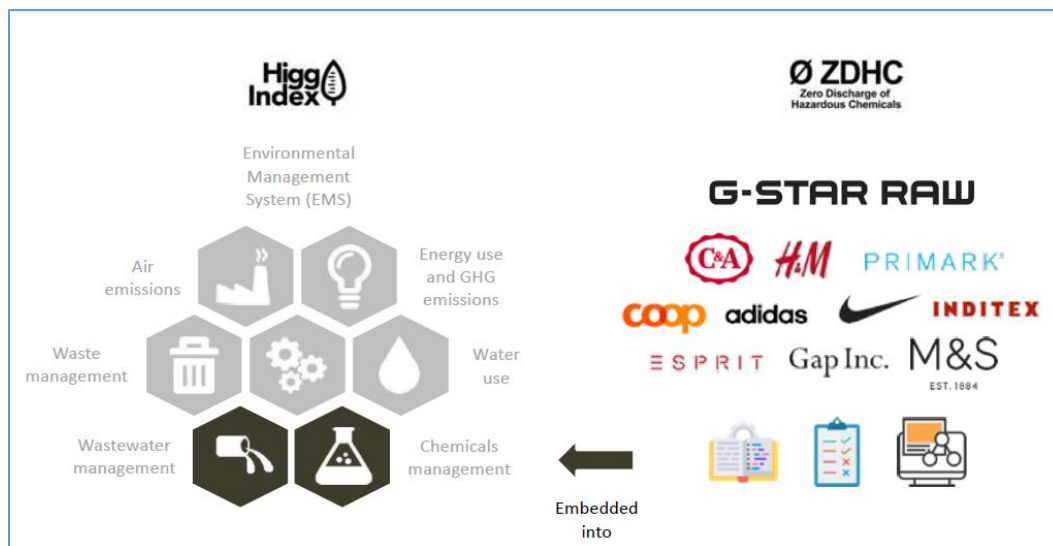


Figure 1. ZDHC audit protocol embedded into SAC's - Higg FEM (slide from SAC)

⁴ In G-Star's DETOX Commitment only 11 groups of priority chemicals are listed – as these are most common in denim manufacturing. With the wide array of brands and retailers listed, ZDHC MRSL includes 14 groups of chemicals commonly used in the wider industry. The ZDHC wastewater testing tests all 14 priority groups, giving G-Star even better assurance its suppliers comply with the industry standard.

Chapter 4. The Achievements

Since 2018, G-Star RAW tracks the performance of the wet processing facilities used by its suppliers on the input, process, and output areas of chemical management in the so-called G-Star RAW DETOX program. G-Star RAW developed this DETOX program to monitor its supply chain partners based on externally verified information and to be able to identify points of improvements.

By collecting regular updates of the ZDHC and Higg FEM tools from its suppliers throughout the year, G-Star RAW can finally share verified data that is based on a widely accepted and uniform industry standard. Most importantly, with other ZDHC brand signatories reporting to the same standards, the industry can now make credible claims on performance improvements.

In 2018, G-Star RAW dedicated considerable time and resources to introduce the newly available tools to its suppliers. With group training sessions in Shanghai and Dhaka, G-Star RAW's sustainability team explained the intent and use of the Higg FEM and the importance of wastewater testing to ZDHC Wastewater Guidelines. In 2019, we repeated and extended these training sessions to a wider group of suppliers. Not only strategic tier 1-garment suppliers and subcontractors were invited, but also our tier 2-nominated denim and fabric mills⁵ – allowing G-Star RAW to report progress on its complete manufacturing supply chain.

With 2018 being a pilot year of the G-Star RAW DETOX program, we fully rolled out the 2019 program to include the wet processing facilities of our tier 1 and 2 suppliers, that together represent 85% of G-Star RAW's annual production volume.⁶ G-Star RAW's suppliers played an instrumental role in ensuring that their facilities purchased the tools, used them to assess their performance, and have their data verified by external and certified verification companies and laboratories. As a result, G-Star RAW can now proudly report two distinct sets of data, to show its overall supply chain performance on chemical management.

Disclosure rates

In graph 1, the disclosure rates for the three different assessment tools are presented. The results for the first deadline in the year – April – are compared with the results of the last deadline – December. What is shown is that G-Star RAW's supply chain partners showed great improvements in adoption of the tools.

No less than 97% of the manufacturers in the program disclosed a verified Higg FEM report – which proves instrumental in assessing the safety of the on-site chemical management system. Furthermore, over 90 percent of the manufacturers in scope disclosed at least one ClearStream report to G-Star RAW.⁷ The ClearStream report shows the results of the wastewater test performed at the factory. Lastly, the number of facilities using the ZDHC InCheck report doubled in the year 2019.

The InCheck report was released by ZDHC at the start of 2019, and while it shows great potential to analyse the level of safety and sustainability of manufacturer's chemical inventory – it has yet to come to full potential. Fortunately, an increasing number of G-Star RAW suppliers already see the benefit of working with this tool.

⁵ Tier 1 suppliers are G-Star RAW's garment suppliers who are responsible for final product manufacturing, Tier 2 suppliers are G-Star's (nominated) fabric manufacturers that supply Tier 1 suppliers with the materials for final product production.

⁶ In 2019, G-Star RAW included the use of the ZDHC InCheck report as a requirement for all wet processing suppliers.

⁷ Of the remaining 10 percent (3 manufacturers), two are Zero Liquid Discharge and only one actually failed to disclose a ZDHC ClearStream Report in 2019.

Overview - Detox Disclosure

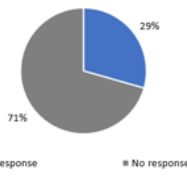
Number of Manufacturers with Higg FEM 3.0 Response



Number of Manufacturers with ZDHC ClearStream Report



Number of Manufacturers with ZDHC InCheck Report

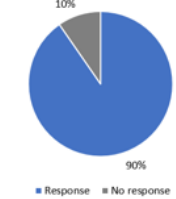


April '19

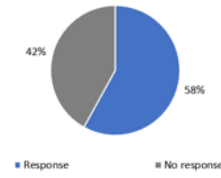
Number of Manufacturers with Higg FEM 3.0 Response



Number of Manufacturers with ZDHC ClearStream Report



Number of Manufacturers with ZDHC InCheck Report



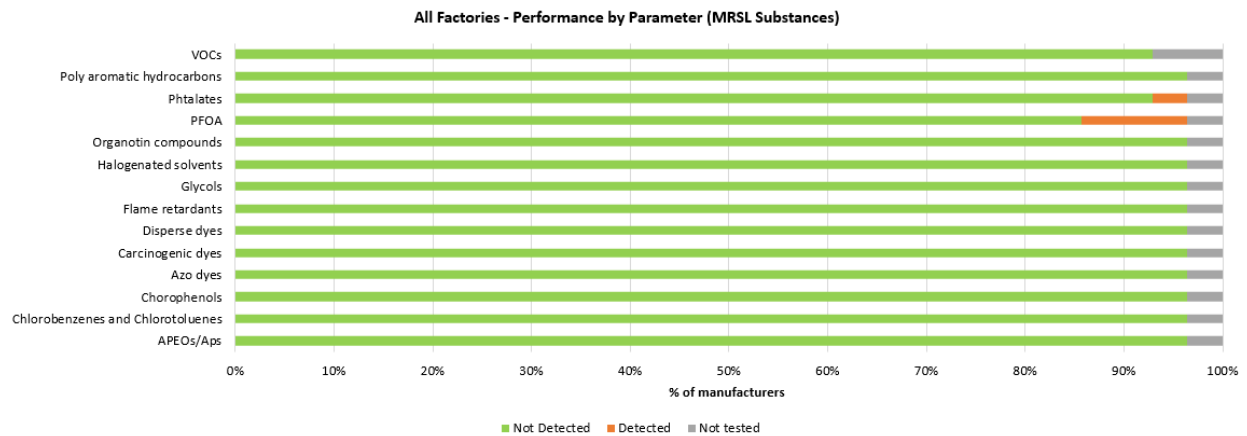
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MRSL Substances

While the disclosure rates are promising, this does not say much about the actual performance of G-Star RAW's suppliers in banning the use of hazardous chemicals from their production processes. At this point, the best available data to show G-Star RAW's progress is to share the accumulated results of the ClearStream reports of the manufacturers in scope.

In graph 2, the accumulated results of the manufacturers individual wastewater tests are presented. According to ZDHC Wastewater Guidelines, 14 groups of chemical substances are required to be tested – as these have been identified as being toxic to the environment (MRSL parameters). In total 183 different parameters are being tested within these 14 groups of chemical substances. If the detection limit for one of these parameters is breached, it ends up as a 'detected' in the chemical substance group it belongs.

What the below results show is that the overall average compliance rates for G-Star RAWs manufacturing partners is close to 95%. One of G-Star RAW's partners failed to have its MRSL substances tested, while another had no valid test results for VOCs⁸. Furthermore, three manufacturers had detection limits for one of the parameters in the PFOA group of chemical substances, and one manufacturer failed on Phthalates.



⁸ The results shown here are from treated wastewater sampling points in the ZDHC wastewater test. One of the manufacturers had only tested the raw wastewater testing point – which therefore is not included in the graph below (accounting for the grey 'not tested'). Fortunately, the raw wastewater also showed no non-compliances to MRSL substances.

It is important to recognize that the above results are composed of snapshot of the situation at a manufacturer's site during the wastewater test. This works both ways. In case detection limits are exceeded, increased monitoring is required to prove that this is a systemic issue, for which solutions need to be identified through root cause analysis and corrective actions. G-Star RAW will therefore continue to ask regular updates from suppliers to monitor performance over time. If problems and non-compliances persist over time, G-Star RAW supports the manufacturer in taking actions to resolve this.

On the other hand, suppliers that show good results on the wastewater test will have to monitor their situation continuously to ensure they consistently treat wastewater appropriately before discharge. To strengthen claims about zero discharge, continuous wastewater testing in years to come is essential. More importantly, sound input chemistry can further attest to Zero Discharge (see next chapter).

Chapter 5. Next Steps

While the wastewater tests show promising result and G-Star RAW can confidently state that the overwhelming majority of its supply chains do not intentionally pollute the environment, the work is not finished⁹. To strengthen the chemical management performance of suppliers, the industry should not apply an end-of-pipe approach only but implement all elements of the holistic approach as envisioned by ZDHC. Therefore, G-Star RAW will continue to work on improvements in the following areas in the years to come.

Input Chemistry

Now that the industry has come up with a credible way to analyze, monitor and mitigate the output area of chemicals management, by rolling out wastewater tests on full scale, focus should now shift to input chemistry. In short, if no hazardous chemicals are introduced into the system (production process), the output – by definition – should be clean as well.

With the ZDHC Gateway now containing over 30.000 safer and more sustainable chemical products that can substitute conventionally and potentially harmful chemical products currently still used by industry, brands will need to engage their suppliers on making the right choice. By asking suppliers to use the ZDHC InCheck report, G-Star RAW will be able to monitor the level of sustainability of the chemicals used by its suppliers. G-Star RAW will allocate time and resources to train suppliers how they can effectively use the ZDHC Gateway to switch to greener chemicals that have the same performance outcomes.

ZDHC community development

ZDHC has grown from an initiative that was a first collective response by brands involved in Greenpeace's Dirty Laundry Campaign to a global industry effort (including manufacturers, chemical suppliers and affiliate export organizations) that has resulted in real change in the industry. Now that the standards, guidelines and tools for a holistic approach to chemical management have been published and adopted by industry, a process of continuous improvement is underway. Updates for the MRSL, Wastewater Guidelines, and Air Emissions are already planned.

G-Star RAW will keep supporting the ZDHC organization as a signatory brand and actively contributing to the further improvement, development and implementation of its standards and tools. While expert organizations with extensive and deep knowledge of chemical management will now play a more pivotal role in standard setting, G-Star RAW will continue to take its responsibility in implementing and engaging its supply chain partners to adopt newly available tools. G-Star RAW has every intention to continue to host annual supplier sustainability trainings and events, at which chemicals management will be a recurring topic of training and discussion. Where possible and suitable, G-Star RAW will contribute to ZDHC pilots to bring industry partners together to ensure the positive impact that has been realized can be further enhanced in the future.

⁹ G-Star RAW will expand its DETOX program to suppliers responsible for the remaining 15% of annual production volume gradually in years to come. While many of these suppliers are working on their chemical management performance independently (or via other ZDHC brands), G-Star does not yet have the data to be included in the reporting.

Product innovation

While not discussed at length in this report, G-Star RAW has built a strong track record of product innovation over the past years – with a clear focus on circularity and re-use of materials. Its expanding range of Cradle to Cradle (C2C) certified gold level fabrics and products can attest to that. The C2C certification is the most rigorous circular product certification scheme in the industry. One of the five topics that are considered in this certification is ‘material health’. To reach gold level certification, C2C applies very strict requirements with regard to both RSL and MRSL chemical management in this section. Moreover, only Zero Liquid Discharge (ZLD) facilities can obtain gold and platinum level on the ‘water stewardship’ topic in the C2C certification.

Therefore, sound chemical and (waste) water management of its suppliers is key for G-Star RAW to bring more Cradle to Cradle certified fabrics and products to market in the future. Without the continued efforts of its strategic suppliers on chemicals, wastewater and water management, G-Star RAW would not have been able to develop C2C products. With an ongoing commitment to adhere by the guidelines of this certification scheme, G-Star RAW will encourage more of its suppliers towards gold level compliance in years to come.

From its C2C gold level fabric used in its 2018 ‘Most Sustainable Jeans ever’ onwards, G-Star RAW and its supply chain partners have proven the business case for environmental care and G-Star RAW looks forward to expand this work in the future.