CanopyStyle 下一代解决方案
未来粘胶展望

Next Generation Solutions are the designs, systems and technologies that will enable us to achieve the goal of "Nature Needs Half"[i]. These solutions can offer radical reduction in the use of raw resources, optimal efficiency of materials use and product reuse. Next Generation Solutions are a path to resolution of the climate and biodiversity crises. For business they also present a way to ensure security of supply of materials.
"下一代解决方案"是有助于实现"自然需要一半"目标的设计、体系和技术。这些解决方案可使原材料的使用锐减，优化材料使用效率，以及促进产品再利用。下一代解决方案也有利于应对气候变化和生态多样性危机。对于商业而言，材料的供应亦可得到保障。

Because over 25 million tonnes of cotton and viscose textile waste[ii] is generated around the world every year and technologies now exist to generate nearly one tonne of man-made cellulosic fibre, (includes viscose, rayon, lyocell and other trademarked brands, hereafter referred to as viscose), from one tonne of recycled cotton, the opportunity to shift to circular production[iii] has arrived. All 6.5 million tonnes of viscose being produced this year could be made using only 25% of the world's wasted and discarded cotton and viscose fabrics, thereby saving forests, reducing municipal and industrial waste to landfills, and reducing carbon emissions, energy and water use. This is without accounting for other streams of textile wastes with reusable cellulose such as linen.

由于全球每年生产超过 2500 万公吨废弃棉和废弃粘胶纺织品，现有技术已经可以将一公吨回收棉转化为近一公吨人造纤维素纤维（包括粘胶、人造丝、莱赛尔和其他注册商标品牌，下文皆称为粘胶），因此循环生产的转折点已经到来。如果动用全球仅 25%的废弃棉和粘胶，即可完成今年 650 万公吨的粘胶产量，与此同时亦保护森林，降低城市和工业废弃填埋，减少碳排放，降低能耗和用水。以上还不包括其它可回收利用纤维素的废弃纺织品，比如回收亚麻布。

Given the commitment to eliminate all Ancient and Endangered Forests from viscose and the benefits, the opportunity and the urgent need for conservation:
为了兑现零原始濒危森林原材料的粘胶生产承诺，同时基于以上益处，我们亟需抓住机遇：

- All new viscose production capacity and/or mill expansions should be located in proximity to, and tailored for the processing of Next Generation feedstocks[iv], such as recycled textiles, agricultural residues[v] or microbial cellulose.
- 所有新的粘胶扩产和/或新建工厂应毗邻且便于处理下一代原材料，如回收纺织品、农业剩余物或微生物纤维素。

- By the end of 2021, the collective goal is to see 20%[vi] of all viscose using Next Generation feedstock content.
- 我们的共同目标是至 2021 年，20%的粘胶产能使用的是下一代原材料。
- By the end of 2025, there will be enough innovative Next Generation fibre produced to replace at least 90% of viscose production volumes currently coming from Ancient and Endangered forests;
- 至 2025 年，创新下一代新产品的产能足以替代目前至少 90%原始濒危森林粘胶产量。
- In 2030, our vision is to see 50% of all viscose using Next Generation feedstocks.
- 2030 年的愿景是，50%粘胶产量使用的是下一代原材料。

Next Generation fibres are not considered sustainable or acceptable if mixed with Ancient and Endangered Forest or controversial fibres.
参杂了原始濒危森林或争议性地区原材料的下一代新产品将视为不可持续或不可接受。

We recognize that the longevity of fibres, fabrics, apparel and textiles is a critical factor for designing products that last. The service and second-hand economies will play an increasingly important role moving forward.
我们认识到纤维、面料、服装和纺织品的寿命对于设计耐用持续性的产品至关重要。未来，二手经济和服务将愈加重要。

This is our vision for Next Generation Solutions on viscose.
这是我们对未来粘胶 -下一代解决方案的展望。

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[i] E. Dinerstein, C. Vynne, E. Sala, A. R. Joshi, S. Fernando, T. E. Lovejoy, J. Mayorga, D. Olson, G. P. Asner, J. E. M. Baillie, N. D. Burgess, K. Burkart, R. F. Noss, Y. P. Zhang, A. Baccini, T. Birch, N. Hahn, L. N. Joppa, E. Wikramanayake, A Global Deal For Nature: Guiding principles, milestones, and targets. Sci. Adv. 5, eaaw2869 (2019). “全球自然保护协议：指导原则，里程碑和目标”《科学》

[ii] Global Fashion Agenda and The Boston Consulting Group, Inc. (2017), Pulse of the Fashion Industry calculates there is 92 million tons textile waste globally each year. This is equal to 83.5 million when converted to tonnes. From data sources ICAC, CIFRS, The Fiber Year and The Fiber Organon, Lenzing estimates that global production of cellulosic fibers consist of 25% of cotton and 6% of wood-based cellulose fibres. We assume that cotton and wood-based cellulose fibre waste reflects relative percentages of production and therefore there is 25.8 million tonnes of cotton (20.8 million tonnes) and wood-based cellulose textile waste (5.0 million tonnes) annually. Production of dissolving pulp was 6.5 million tonnes in 2018. New technology is able to convert 1 tonne of waste cellulosic textile to 1 tonne of dissolving pulp. Therefore, utilizing one quarter of each of these materials (i.e. 5.2 million tonnes of waste cotton and 1.25 million tonnes of wood-based cellulose waste) as a recycled dissolving pulp feedstock, could produce 6.45 million tons of recycled dissolving pulp.
全球时尚议程和波士顿咨询集团有限公司(2017)，《时尚界脉搏》估计全球每年废弃 9200 万吨纺织品，转换为公吨，即 8350 万公吨。兰精集团根据 ICAC, CIFRS, The Fiber Year 和 The Fiber Organon 的数据，估计全球纤维素纤维产量含有 25%棉和 6%木基纤维素纤维。假定棉和木基纤维素纤维废弃物与对应的产量成比例，每年废弃的 2580 万公吨中棉占 2080 万公吨，木基纤维素纺织品占 500 万公吨。2018 年溶解浆的产量是 650 万公吨。新技术可将 1 公吨废弃纤维素纺织品转化为 1 公吨溶解浆。因此，利用四分之一的废弃材料（即 520 万公吨废弃棉和 125 万公吨木基纤维素纺织品）作为回收溶解浆原材料，则可生产 645 万吨回收溶解浆。

[iii] Full circularity for these fabrics and fibres would cover the following aspects 1) Incorporate existing waste content into materials as a foundational step to eliminating virgin inputs. 2) Technology is available and accessible to regenerate fibre back into feedstock for industry at end of use-life and fibre can be identified in commercial systems. 3) Hazardous chemicals out of textile products and processes and promote safer alternatives. 4) Zero discharge from facilities. 5) Using energy that has zero greenhouse gas emissions. October, 2019 Presentation at Textile Exchange by Annie Gullingsrud, of Fashion+.

这些纤维和面料的完全循环需实现以下方面：1）回收利用废弃材料是替代天然原材料的第一步。2）有技术将结束使用寿命的纤维材料转化为原材料，该材料可在商业体系中受到认可。3）淘汰纺织品生产流程中的有害化学品，使用更安全的替代品。4）工厂零排放。5）使用零温室气体排放的能源。来自 Fashion+的 Annie Gullingsrud 在 2019 年 10 月 Textile Exchange 会议中的发言。

[iv] Next Generation Feedstocks are lower impact innovative fibres that reduce pressure on our world's forests without creating other significant environmental or social issues. The following LCA is a useful guide to considerations of man-made cellulosic feedstocks: https://www.scsglobalservices.com/resource/lca-comparing-ten-sources-of-manmade-cellulose-fiber
下一代原材料指减小全球森林压力且不造成其他显著环境或社会问题的低影响创新材料。

[v] Agricultural Residues are residues left over from food production or other processes and using them maximizes the lifecycle of the fibre. Depending on how they are harvested, fibres for fabrics may include flax, soy, bagasse, and hemp. (Agricultural residues are not from on-purpose crops that replace forest stands or food crops.)
农业废弃物指食品生产或其他流程中剩余的材料，再利用可最大化材料的生命周期。根据收割方式，这些材料可包含亚麻、大豆、甘蔗渣和大麻。（农业废弃物不包含用来替代林分或粮食作物的专用作物。）

[vi] 20% = 1.38 million tons (just a little bit less than SAPPI's current dissolving pulp production of 1.4 million tons by 3 mills – reference: https://www.sappi.com/our-dissolving-wood-pulp-mills)