

April 15, 2022

Joint Communiqué of the 13th ACFIF (Asian Chemical Fiber Industries Federation) Conference

For over more than a quarter-century since the Asian Chemical Fiber Industries Federation (ACFIF) was founded in 1996, Asia has built relationships of long-term cooperation in the chemical fiber industry. During this time, chemical fiber production by ACFIF members continued to grow and accounted for around 90% of global chemical fiber production in 2021.

Going forward, global demand for fiber is expected to continue growing due to population increases and improved standards of living, especially in emerging countries. Since it is difficult to expand natural fiber production because it competes with food production, chemical fiber is expected to lead the growth in fiber demand.

After the 12th ACFIF Conference in 2019, the world was dealt a heavy blow by the Covid-19 pandemic. During that time, chemical fiber and chemical fiber products gained renewed recognition for their role in preventing the spread of infection and assisting treatment. Society sought a stable supply and once again recognized its importance.

Furthermore, in the post-Covid era, governments of various countries are accelerating movements to build back industrial competitiveness while also tackling climate change, striving to achieve the UN SDGs, and shifting to a resource circulation economic model. As such, awareness of sustainability is also rising among consumers.

Under these circumstances, engaging in initiatives to realize a sustainable society has become a pressing matter for the Asian chemical fiber industry. Therefore, the theme of the 13th ACFIF Conference was “Chemical fiber industry in Asia supporting the realization of a sustainable society.”

In light of the Covid-19 pandemic, the 13th ACFIF Conference was held online and split into two parts: Part I held in 2021 and Part II in 2022.

Part I was successfully held on April 22, 2021, with all nine ACFIF members in attendance (China, India, Indonesia, South Korea, Malaysia, Pakistan, Chinese Taipei, Thailand and Japan).

During the conference, new board appointments were approved. Mr. Akihiro Nikkaku, President of the Japan Chemical Fibers Association (JCFA), succeeded Mr. Ravi Shankar, Chairman of the Indonesian Fiber and Filament Yarn Makers Association (APSyFI) as the new Chairman of ACFIF. Mr. Ikuo Takeuchi, who took over as the President of JCFA in July 2021 has been the Chairman of ACFIF since then. In addition, Mr. Kuk Jin Kim, Chairman of the Korea Chemical Fibers Association (KCFA) was appointed as the Vice-Chairman of ACFIF, and Mr. Kenichi Tomiyoshi (Executive Vice President and Director General of JCFA) was appointed as the Secretary General of ACFIF.

In the conference with the theme “Chemical fiber industry in Asia supporting the realization of a sustainable society,” the members discussed various challenges relating to sustainability in three categories: “realization of resource circulation,” “reduction of environmental burden,” and “expansion of chemical fiber products that contribute to the realization of a sustainable society.” The discussions were then summarized and released in a position paper.

Part II of the 13th ACFIF Conference was held on April 14 and 15, 2022, once again online and with all nine ACFIF members in attendance.

The following is a summary of the highlights of the 13th ACFIF Conference Part II.

1. On the first day of the conference, each member gave a report on the situation in their country or region. They described the effects of the Covid-19 pandemic on their country or region's chemical fiber industry and reported on sustainability initiatives, leading to animated discussions.
2. On the second day, in sessions to report on special themes, in-depth reports and animated discussions took place regarding the challenges summarized in the position paper. The nine special themes from each country and region covered supply/demand outlook and challenges in the chemical fiber industry; PET recycling; circular supply chain of chemical fiber products; non-petrochemical and bio-materials; environmental issues and product safety in the supply chain; standardization; development of high-functioning and high-performance chemical fibers; and marine plastic pollution.
3. The exchange of information on sustainability efforts and challenges in each ACFIF member showed that advances were being made particularly in PET recycling, CO2 reduction and microplastic pollution, along with efforts to promote standardization. Meanwhile, progress in fiber-to-fiber recycling and the use of plant-derived raw materials differed between countries and regions, but common challenges were identified.
4. It was also confirmed that in order to further advance sustainability efforts, we need to not only carry out appropriate follow-up actions by sharing information and cooperating with ACFIF members, but also seek support and cooperation from governments, related industries and consumers. For details, please see the attachment "Efforts and New Challenges in the Asian Chemical Fiber Industry Toward the Realization of a Sustainable Society."
5. Presentations were given by the following guest speakers: *****, Director General Frédéric Van Houte of the European Man-Made Fibres Association (CIRFS), and President Nobuaki Terasaka of the Kaken Test Center.
6. The 14th ACFIF Conference will be hosted by KCFA and is scheduled to take place in May of 2024.

Efforts and New Challenges in the Asian Chemical Fiber Industry
Toward the Realization of a Sustainable Society

Shifting to a resource circulation model and working on measures to address climate change are pressing matters for the Asian chemical fiber industry to realize a sustainable society.

The Asian Chemical Fiber Industries Federation (ACFIF) has put together this document to record the progress of such sustainability efforts, recognize the challenges, and identify the areas of understanding and cooperation we seek from governments, related industries and consumers.

Going forward, ACFIF will exchange and share information between member countries and regions, follow up on the progress made on various challenges, and support the initiatives in each country and region.

A, B and C in this document indicate the following:

- A. Background and understanding of current conditions
- B. Challenges
- C. Newly identified challenges

1. Realization of resource circulation

(1) PET recycling

- A. ACFIF members are actively engaged in the production of chemical fibers that use collected PET bottles instead of petrochemical raw materials, and production volumes are rising. We aim to further increase production by expanding the use of recycled PET bottles.
- B. As ever, the challenge is developing technologies to make full use of recycled PET materials, such as removing impurities, developing applications, securing a stable supply of collected PET bottles, and cooperating with national and local governments to build used PET bottles collection systems.
- C. In addition, new challenges were also identified: raise the level of collection and sorting; enhance quality by establishing bottle specifications (labelling and additive regulations to design bottles that are easy to recycle); implement eco-friendly procurement systems to increase demand; build a traceability system; stabilize prices of recycled PET flakes; establish a carbon footprint standard; and improve the reputation of recycled products among consumers.

(2) Fiber-to-fiber recycling

- A. In terms of the recycling of textile products, which is crucial to achieving advanced resource circulation, some Asian chemical fiber companies have already begun the commercialization of fiber-to-fiber recycling of clothing and fishing nets. Going forward, we will expand areas of practical use by overcoming technical issues and various problems related to the collection of used products. We will contribute to resource circulation by building a closed-loop recycling system for final products made of chemical fibers.
- B. For a textile product to be recycled through material or chemical recycling methods (by returning products to their polymer or monomer states), it must be designed for easy

recycling. The first challenge is to recycle used textile products that are close to mono-materials. When applying new chemical recycling technologies such as liquefaction and gasification, we must also analyze their effectiveness in terms of cost and from various environmental perspectives, including CO₂ emissions.

- C. Efforts by the chemical fiber industry alone will not be enough to carry out full-scale fiber-to-fiber recycling. We will need cooperation from downstream industries and consumers to build a collection system for used textile products. Government support is also desirable to develop technologies, especially material sorting technologies and mixed-material fiber recycling technologies, in addition to building a collection system for used textile products. Traceability and cost also present challenges.

(3) Use of plant-derived raw materials (bio-based fibers)

- A. Plant-derived raw materials (bio-based fibers) are excellent in that they do not depend on finite fossil resources, and they do not emit CO₂ during their life cycle, even if they are incinerated at the time of disposal. This contributes to promoting a circular economy and tackling climate change, making further growth desirable. In Asia, the commercial production of chemical fibers using fully or partially plant-derived raw materials is growing.
- B. When increasing the amount of production and fully expanding the range of applicable fibers, it will be necessary to take measures, such as using only leftover parts of edible crops, to avoid competing with food production and prevent the destruction of forests and other parts of the environment. We must compare, in terms of the quality and cost, chemical fibers using plant-derived raw materials with those using petrochemical raw materials, and work on expanding the types of use for bio-based fibers.
- C. To expand the market, we must swiftly establish a method of evaluating bio-based contents and a certification system based thereupon. It would also be desirable to receive various government supports in terms of technology development and to engage in activities to improve the reputation of bio-based fibers among consumers.

2. Reduction of environmental burden

(1) Reduction of CO₂ emissions

- A. Under the Paris Agreement, Asian countries and regions are working to curb climate change. Each government has set future carbon-neutral targets and is engaged in efforts to reduce CO₂ across society as a whole, such as reducing CO₂ emissions resulting from chemical fiber manufacturing and expanding the use of plant-derived and recycled raw materials. The Asian chemical fiber industry will respond to climate change issues from both “defensive” and “offensive” perspectives.
- B. In addition to actively promoting energy-saving and environmentally-friendly technologies and equipment in chemical fiber manufacturing, we must accelerate efforts to address global warming and other climate change issues through products and technology that contribute to protecting the environment. Such efforts include weight reduction of transportation equipment, development of comfortable and functional materials such as thermal and cooling materials, and purification of water and air, etc.
- C. Furthermore, for the chemical fiber industry to more effectively reduce CO₂ emissions, it is necessary to receive government policy support to: establish a method for calculating emissions and set up related standards and labels; ensure stable and low-cost carbon-free energy; effectively operate various measures contributing to the reduction of greenhouse gas emissions; and install environmentally-friendly equipment.

(2) Response to the problem of marine plastic pollution

- A. The Osaka Blue Ocean Vision agreement in 2019 at the G20 Osaka Summit sets a goal of reducing additional pollution by marine plastic litter to zero by 2050. The Asian chemical fiber industry will work toward the effective use of resources by promoting recycling and will seriously address the problem of fiber fragments that come from textile products. To implement appropriate and effective measures, we are urgently working to obtain scientific knowledge of their amount/distribution in the ocean, the originating sources, runoff routes, and impact on the ecosystem, while also trying to standardize a necessary test method.
- B. Based on this scientific knowledge, we must address the problem of marine plastic pollution not only through textile products, but also through cooperation with related industries such as washing machine, detergent, and apparel or textile manufacturing industries. When addressing this problem with the use of biodegradable fibers, it will be necessary to carefully make sure that they will be completely decomposed in the ocean and soil under various conditions.
- C. Additionally, related information, such as appropriate disposal methods for used textile products, sewage system infrastructure, and current leading cases being considered in Europe, must be shared within ACFIF in a timely manner for it to respond to the problem. Other challenges include considering how to reduce the shedding of fiber fragments when doing laundry (for example, recommending the use of laundry nets) and communicating correct information to consumers. On a corporate level, we must move quickly to further the development of materials that generate less fiber fragments and materials made of recycled marine plastic waste.

(3) Chemical substance management

- A. Chemical substance management regulations are intensifying globally, especially in Europe, and restrictions are also emerging in the Asian chemical fiber industry over the use of chemical substances, processing agents, dyes, etc. We will obtain the latest safety information and scientific knowledge of chemical substances, and continue our efforts toward reducing environmental pollution in the chemical fiber industry and the textile industry chain as a whole, such as by replacing high-risk substances with alternatives.
- B. It is necessary to appropriately shift to production with low environmental impact and materials that use environmentally-friendly chemical substance, while paying close attention to changes in environmental regulations and risk assessments in countries around the world.
- C. In addition, government policy support to develop alternative substances of equal quality and cost to existing products is also desirable. Furthermore, it would be beneficial to align disparate global regulations.

(4) Challenges to be addressed by the textile industry chain as a whole

[Challenges that must be addressed by the chemical fiber industry]

In recent years, greater attention has been focused on labor and human rights issues across the textile industry chain as a whole. This has led to the formulation of due diligence guidelines, implementation of certification systems, and promotion of ESG management. It is important that the chemical fiber industry in Asia respond to these movements.

[Challenges that must be addressed by cooperating with related industries]

It is necessary to cooperate with related industries to resolve the following challenges that need to be improved in the textile supply chain as a whole.

(a) Overproduction and disposal of apparel products.

There is increased movement toward customized production utilizing digital technologies and building recycling systems.

(b) Mass consumption of water during the stages of textile dyeing and processing.

Technologies such as supercritical CO₂ dyeing that does not use water are being developed for practical applications.

3. Expansion of chemical fiber products that contribute to the realization of a sustainable society

(1) Contributions of the chemical fiber industry in the post-Covid era

- A. With the spread of Covid-19, the importance of personal protective equipment (PPE) for medical and hygienic purposes, such as masks, medical gowns, protective clothing, and sanitary wipes, is increasing. Chemical fibers have contributed significantly to efforts to control infections around the world through the supply of PPE mentioned above.
- B. It is necessary to build a system for providing a stable supply of PPE in emergencies, and to further improve the performance and functionality of such products.
- C. Further challenges include establishing a method to evaluate the functionality and safety of PPE and developing technologies to process and recycle used PPE. At the same time, we must discuss measures against the oversupply of PPE and the competition presented by cheap imports.

(2) Promotion of standardization activities

- A. In Asia, as consumers become more sophisticated, and as we promote a circular economy and respond to climate change as explained above, there is an increasing need to visualize the added value of chemical fibers as a way to ensure security, safety, and reliability more than ever.
- B. It is necessary to properly understand the situation of the increasingly sophisticated Asian chemical fiber market and to continue promoting activities for standardization in the Asian chemical fiber industry, such as cooperation in activities associated with ISO standards. To this end, the ACFIF Working Committee of Standardization will become an important platform.
- C. In recent years, the importance of standardization activities that lead to promoting sustainability, such as CO₂ reduction and advancing a circular economy, is being re-recognized. It is important to carry out standardization activities with this in mind. At the same time, we have noticed a lack of specialized knowledge among some people, making it necessary to increase support in raising awareness and educating personnel on standardization activities.