

# Key Display Materials Recycling Solution Realizes Circular Economy



**CHIMEI**  
a step up

#### KEY CLIENT / INDUSTRY / APPLICATION INFO

The world's leading panel manufacturer

#### OPPORTUNITY

Facing the global trend of environmental sustainability, each industry is actively exploring various ways to realize environmental objectives and resource recycling

#### CHALLENGES

- It is difficult for overseas suppliers to comply with cost-effective recycling models
- In order to comply with regulations, the company's waste disposal plan must be changed. The application process is complicated, and it must be mutually agreed with the client

#### SOLUTION

Develop alignment film purification and regeneration technology, introduce the alignment film reclaiming fluids into other products for different applications, verify it early at the time of project initiation, and expand it to use in the manufacturing process

#### OUTCOMES

- Helped client to reduce raw material waste and increase chemical recycling and utilization. Compared with using fresh material, the client can save nearly 50% of costs
- Effectively reducing carbon emissions. Based on the current production capacity and recycling rate of the client, we can save 4,422kg of carbon emissions from waste per year. In addition, as a local supplier, CHIMEI can reduce the carbon mileage of transportation by nearly 92%, compared with foreign suppliers

## From Waste to Worth, Expanding the Sustainable Value of Alignment Films

The alignment film is a key material required for the production of LCD panels. It is expensive, but once it is used up, it can only be disposed of as waste in the past, which not only results in a loss of resource value, but also poses a potential threat to the environment. In recent years, there has been a growing global outcry for environmental protection and resource recycling, and CHIMEI, cooperated with the world's leading panel maker, has embarked on an innovative project aimed at reclaiming and recovering alignment films to achieve a circular economy, making a significant contribution to the sustainable development of the environment.

### Local Supply to Meet Client's Needs, Technological Advantage as Core Competitiveness

Currently, Taiwan's panel makers still rely on imported alignment films from overseas material suppliers. When they face new demands from clients, it takes a longer time to communicate with foreign suppliers than with local suppliers, and with the recycling process carried out in this project, it is not enough to cover the transportation cost of alignment films back and forth from Taiwan to overseas alone. CHIMEI has long been dedicated in the specialty chemicals used in the panel industry for many years. In the development of new technology related to alignment films, CHIMEI possesses the professional advantages of researching, developing, and manufacturing alignment films, and can further expand the advantages to the collection, recycling, treatment, and purification of discarded alignment films, etc.

CHIMEI is committed to provide Taiwan's panel makers with a stable supply of materials, and it can instantly respond to the client's needs and achieve the best benefits of a circular economy, in terms of waste reduction, transportation mileage reduction, and cost reduction.

### **Establishment of a Compliant Recycling Model for Effective Reuse of Resources**

The implementation of the circular economy must take into account issues such as waste treatment and pollution prevention, so in addition to technological innovation, there must also be a relevant legal basis to promote the effective conversion of waste into valuable resources, achieving the goal of recycling. With the increasing awareness of circular economy in the industrial sector, Taiwan's environmental protection laws and regulations have gradually added a resource recycling model, which is clearly defined by law to ensure the technical feasibility and legality of the industry. CHIMEI has had many discussions with client and authorities such as the Ministry of Environment and the Environmental Protection Bureau, as well as a lengthy review process, including changes to the waste disposal plan, which ultimately allows CHIMEI to recycle and reuse clients' waste alignment films into reclaimed fluids that can be reapplied to clients' processes, creating a legal and compliant recycling model of its own, and realizing the maximum utilization of resources.

### **CHIMEI's Carbon Handprint : From Manufacturer to Co-Innovator**

CHIMEI's innovative initiative to convert waste alignment films into reclaimed fluids with its client demonstrated the two companies' shared commitment to environmental sustainability. The significance of this project lies not only in turning waste into a valuable resource, but also in promoting the development of a circular economy. By recycling resources, not only can we reduce the consumption of natural resources and minimize the impact on the environment, but we can also bring substantial economic benefits to enterprises and enhance their competitiveness. At the same time, it is also a commitment to end-consumers to provide them with more environmentally friendly and sustainable products and services. It is believed that with the further advancement of this project, a new chapter will be opened for the development of the global circular economy, driving sustained momentum for sustainable development in the future. As a leading global supplier of high-performance materials, CHIMEI looks forward to seeing more companies joining the project and working together to create a better future!

**“ CHIMEI provided customized services to meet our needs , not only product services, but also for sustainable development needs. They cooperated with us in the development of our "Green Manufacturing = Circular x Zero Waste x Low Carbon", strived to promote a circular economy and green products, and worked together with us to achieve the goal of maximizing resource utilization. ”**

**Manager, Environmental Safety Health Department**

The world's leading panel maker



### **Alignment films**

The main function is to align the liquid crystal molecules in the same direction. In addition to low ionic impurities and high voltage holding ratio (VHR), CHIMEI's alignment films offer stable pre-tilt angle, good adhesion and printability, without uneven brightness (mura). The material also exhibits excellent reliability in terms of thermal resistance and chemical resistance, without image residue.

### **Reclaimed Fluids of Alignment Films**

Providing reclaimed fluids of comparable quality to fresh alignment films allows clients to use them in their in-house processes and use them in products as a key material for display imaging.

**CHIMEI**