



The Department of Resources Recycling and Recovery (CalRecycle)

Email to Recycling Coordinators

January 16, 2018

To: Recycling Coordinators

Last year, China announced a new policy called National Sword that bans the import of 24 recyclable commodities in 2018, increases enforcement, and limits contamination levels for imported bales of plastic and mixed paper. Since California exports an estimated 60 to 80 percent of recyclables generated in California, this has significant implications for California's waste management system.

This letter provides information on the China's import restrictions and impacts to California's local governments. In addition, the letter outlines examples of CalRecycle's efforts to develop California's recycling markets as well as responses to the ban from cities and counties throughout the state.

China's Import Restrictions

The export of baled recyclable materials has been a key component of California's recycling infrastructure. Currently, CalRecycle estimates that California exports a third of all recyclable material generated in the state annually to foreign markets; of that, 62 percent goes to China. This movement of materials has been critical in assisting the state and local jurisdictions in reaching their recycling and diversion goals. However, recent changes to China's policies on imported recyclable materials, which set strict new limits and contamination standards, are impacting cities and counties in California.

In 2013, China implemented Operation Green Fence, which aimed to reduce pollution by limiting the import of contaminated recyclable commodities and increasing inspections of recyclable commodity imports. While this initiative resulted in slightly cleaner, less contaminated imported material, it did not meet China's goals for restricting waste imports. In California, the Green Fence policy resulted in backups at shipping ports and a reduction of exports to China.

In July 2017, China announced a revision to the Green Fence initiative and called the new policy National Sword. China notified the World Trade Organization (WTO) of the 24 recyclable commodities banned from entering the country starting January 2018 (see Table 1 at end). The notice also increased enforcement and limited contamination rates to 0.3 percent for plastic and mixed paper. In November 2017, China revised standards to a 0.5 percent contamination rate and changed the effective date to March 1, 2018. The National Sword policy also included restrictions in waste import licenses and more stringent inspections of imported materials. China developed this policy to protect human health, protect the environment, and improve domestic solid waste reuse and recovery.

Categories under the restrictions include cardboard, newspaper, mixed paper, and low-grade plastics. In 2016, California exported approximately 9 million tons of paper and 500 thousand tons of plastic to China. The restricted materials are listed at the end of this memo.

Impacts on Jurisdictions

The pending National Sword policy has adversely affected numerous cities and counties in the United States. Given our dependence on China as a primary consumer of our recyclable materials, their import policies are of critical importance. Recycling facilities throughout the United States are doing what they can to reduce contamination by slowing down their processing lines, hiring more employees to sort materials, and investing in new equipment and machinery to ensure higher quality materials. Recycling and solid waste facilities are experiencing challenges with moving materials to markets, thus resulting in



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the storage of processed materials on site. In some cases, facilities are landfilling recyclable materials instead of processing them for recycling.

What can be done?

Waste Prevention

Efforts to eliminate the generation of waste before it enters the waste stream are a key component of a waste management approach. In addition to reducing costs and conserving resources, waste prevention has the potential to reduce reliance on foreign markets, as there is no need to export what California has not generated. Waste prevention activities can range from reusing transport packaging (such as cardboard boxes and plastic film) to avoiding single-use carryout containers.

Examples of what some cities and counties are doing to foster waste prevention include:

- Banning single-use plastic bags.
- Banning polystyrene and other non-recyclable plastic food packaging.
- Installing water systems to encourage reusable beverage containers.
- Promoting reuse or repurposing of materials through incentives or other programs.
- Procuring products that use less packaging.

Collection and Contamination

China's ongoing efforts to limit the amount of contamination in material imports—dating back to the 2013 "Green Fence"—highlight the need for recyclers to produce high-quality material. This means making a concerted effort to reduce contamination in the recycling stream. It is critical to educate businesses and residents regarding the need to generate high-quality recyclable material. Cities and counties are addressing contamination in the following ways:

- Providing new educational material in 2018. To reduce contamination, new flyers will be more specific as to what materials residents and businesses can place in recycling containers, instead of telling them, "When in doubt, recycle."
- Revisiting what materials are recyclable and acceptable through collection programs, resulting in modifying and updating educational materials to reflect clearly what is acceptable as recyclable materials accordingly.
- Educating collection drivers to recognize contamination and investing in on-board cameras to assist with identification.
- Implementing or increasing "tagging" or notification for customers regarding unwanted materials in recycling receptacles.
- Establishing a penalty process on generators for contamination to encourage proper material management.
- Establishing single-commodity collection programs when and where appropriate; e.g., white paper for office buildings, separate food waste collection to reduce paper contamination, and color-sorted glass at a restaurant.
- Applying a variable container rate system that matches recycling containers to amounts generated so residents and businesses do not place excess garbage in a recycling cart.

Processing

Implementing new practices or modifying existing procedures to improve the processing of materials after they are collected will also create higher quality recyclable materials. Examples of what some cities and counties are doing to produce cleaner bales of recyclables include:



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- Increasing the processing of recyclables to remove contaminants. This can be in the form of slowing down the sorting lines at the material recovery facility, hiring more sorters, running recyclables across the sorting lines more than one time, and so on.
- Breaking apart and examining finished bales to determine which materials were inappropriately included in the bales to prompt calibration of sorting equipment and education for line sorters.
- Reducing what material types are recycled through collection programs.
- Working with local enforcement officials to allow safe stockpiling of materials until facility operators can find new markets, which can reduce landfilling of recyclable materials.
- Sorting higher value materials multiple times.

State Assistance

A more robust recycling processing infrastructure in California could help reduce transportation costs and uncertainty related to availability in foreign markets. Although the state has limited resources and authority to address the adverse impacts of the National Sword policy, the state offers programs to support recycling manufacturing. CalRecycle provides funding through its greenhouse gas (GHG) grant and loan programs and Recycling Market Development Zone loan program. The intent of these funding programs is to help California recycling manufacturers increase their processing capabilities and create additional markets for recycled-content products.

These funding programs have supported the expansion of California recycling manufacturing. Funded projects include mattress repair and refurbishing, edible food recovery projects combined with anaerobic digestion and/or composting, recycling plastic into new products, and so on. See CalRecycle's [Greenhouse Gas Reduction Grant and Loan Programs webpage](#) for more information. However, to date this funding has been relatively small and unpredictable. CalRecycle estimates that California needs at least \$2-3 billion in infrastructure development. While most of this will have to come from the private sector, many are looking to the state to make substantial investments to stimulate further private sector investment.

CalRecycle also works closely with the [Governor's Office of Business and Economic Development](#) (GO-Biz) to assist manufacturers that want to site or expand their operations in the state. In addition to CalRecycle's funding programs there are a [lot of other programs](#), such as the California Competes tax credit. GO-Biz also provides no cost site selection services.

To close the recycling loop completely, California would need significant growth in the purchasing of recycled content products. One mandate that CalRecycle has promoted to help drive in-state markets is the State Agency Buy Recycled Campaign (SABRC), which requires state agencies to purchase recycled-content products. SABRC and related programs will be key to assisting CalRecycle in achieving its 75 percent statewide recycling goal and developing California's recycled-content manufacturing infrastructure.

Next Steps:

CalRecycle continues to monitor the evolving impacts of China's proposed policy on California and serve as a clearinghouse for this information. This includes coordinating with local enforcement agencies on permit conditions and with jurisdictions to share examples of local actions. In addition, CalRecycle will continue its ongoing efforts to develop a statewide policy for [packaging materials management](#) and to complete regulations surrounding the management of organic waste under [SB 1383](#).

CalRecycle will be presenting on these impacts at the January 23 monthly public meeting.



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Table 1: Catalogue of Solid Wastes Forbidden to Import Into China:	
Type	Description of Solid Waste
Plastic	Waste and scrap of ethylene polymer
	Aluminum – plastic composite film
	Styrene scrap
	Waste and scrap of vinyl chloride polymer
	PET waste scrap and scrap, not including PET beverage bottle (brick)
	Waste PET drink bottle (brick)
	Other plastic waste scrap and scrap, not including scrap disk broken material
	Scrap disk broken material
Paper	Other recovered paper or paperboard (including unsorted waste and scrap)