Summary Title: Acceptance of GreenWaste Environmental Report & Approve Mixed Paper Processing

Title: Acceptance of the GreenWaste of Palo Alto Environmental Report; Authorization to Negotiate and Execute an Amendment to GreenWaste Contract Number C09124501 to Increase Compensation by up to $950,000 to Process Mixed Paper Within the United States; and Approval of a Budget Amendment in the Refuse Fund

From: City Manager

Lead Department: Public Works

Recommendation
Staff recommends that Council:

1) Accept the GreenWaste of Palo Alto (GreenWaste) first annual Environmental Report (Attachment A);

2) Authorize the City Manager or his designee to negotiate and execute a future Contract Amendment to the existing GreenWaste Contract No. C09124501 to increase compensation by an amount not-to-exceed $950,000 to send Palo Alto’s mixed paper to domestic (US) paper mills, if the opportunity arises; and

3) Amend (by a 2/3 majority) the Fiscal Year 2020 Budget Appropriation Ordinance for the Refuse Fund by:
   a. Increasing the Refuse Fund appropriation by $250,000; and
   b. Decreasing the Refuse Fund Rate Stabilization Reserve by $250,000.

Executive Summary
China’s adoption of stricter standards for its importation of recyclables has caused many changes in world-wide markets. Palo Alto’s refuse hauler, GreenWaste, has been forced to send materials to other countries without knowing their ultimate disposition. GreenWaste was subsequently required by the City to report annually on the disposition of recyclables (specifically mixed paper and plastics), and the associated environmental and social impacts.

Staff recommends that Council accept the first of these annual reports. As required by the agreement, GreenWaste requested the data from purchasers of mixed paper, but due to the
complexities of the industry, GreenWaste has not been able to determine the ultimate disposition of these materials. GreenWaste has been directed by the City to find US markets as soon as possible and has, at least temporarily, found US markets for most plastics, but not for mixed paper. One opportunity did present itself for mixed paper, but with too limited a timeframe to allow staff to gain the necessary approvals. Therefore, staff recommends that Council authorize the City Manager or his designee to negotiate and execute a future Contract Amendment to the GreenWaste Contract to provide up to $250,000 for Fiscal Year (FY) 2020 and $700,000 for FY 2021 for the processing of mixed paper in a US mill, creating usable products within the US, should the opportunity arise.

**Background**

*Zero Waste Plan – Measures on Market Fluctuation*

In 2018, City Council accepted the updated [Zero Waste Plan (CMR# 9237)](#) with new and revised provisions designed to meet the goals approved by City Council in 2016 as part of its Sustainability/Climate Action Plan (S/CAP) framework (CMR# 7304), which set a goal of 95% diversion of waste from landfills by 2030 and 80% reduction of greenhouse gases by the same year. Palo Alto’s diversion is currently 82% and is one of the highest in the state.

The Zero Waste Plan is a holistic approach to managing the flow of resources, following the traditional hierarchy of waste prevention by reducing, reusing, and recycling. It also includes guiding principles on how resources are to be managed and outlines the following measures to help the City adapt to market fluctuations for recyclable and compostable materials:

1. Increase allocation of resources and focus on initiatives that further waste reduction and reuse so that fewer materials will be generated for recycling and composting.
2. Improve processing so recycle and compost streams are cleaner, to improve marketability.
3. Enhance enforcement of customer sorting and keep non-complying customers’ waste separate for special processing until compliance is achieved.
4. Embrace the concept that recycling/composting is better than landfilling; even as these expenses increase.
5. Utilize conversion (e.g. gasification, pyrolysis, chemical process) for nonmarketable materials; maintaining the ability to change vendors as markets change. Conversion is a less preferred option than recycling the materials.

*Recycling Markets and its Environmental & Social Impacts*

Worldwide changes in the recycling markets and scrap industry have resulted in significant changes to the marketability of recycled materials. Several years ago, China imposed material quality specifications that functioned as a ban and led to China stopping the acceptance of most of the world’s recyclable materials. China raised issues about the quality of recyclable material being imported and established more stringent contamination rates, lowering the amount of contamination, such as food and liquids in the recyclable material, from 15 to 20 percent to 0.5
percent. This resulted in the decline in global commodity pricing as the processing demand decreased significantly to a 20-year low. This action by China led to a worldwide crisis since China was the primary receiver of recyclable materials. As a result, recyclables no longer have the same monetary value as in the past few years, and some recyclables have been rejected by brokers and disposed in landfills. This required some waste companies, including the City’s refuse hauler GreenWaste, to find other markets internationally and domestically, or worse case, to dispose of rejected or contaminated materials in landfills. This also resulted in materials being sent to other underdeveloped countries with less mature processing facilities. New concerns developed regarding the quality of overseas recycling facilities, specifically with environmental pollution concerns, worker safety, the health of the local environment and its communities, and whether discarded materials are being properly disposed.

GreenWaste Agreement
The City contracts with GreenWaste to provide garbage collection, comprehensive recycling and compostable collection and processing, construction and demolition materials collection and processing, and technical assistance and outreach to the community. The GreenWaste contract was amended and extended in January 2019 (CMR# 9752). The amended contract increased GreenWaste’s operations and outreach efforts to clean up commercial recyclable materials, which are routinely contaminated with food or garbage. In FY 2020, GreenWaste expanded outreach and enforcement of sorting requirements for commercial customers, added an additional recyclables collection route to improve the quality of these materials, and began providing additional sorting of marginally contaminated recyclables at their processing facility to ensure the marketability of the recyclable materials. The primary goal of cleaning up the recyclables is so that these materials can continue to be accepted as manufacturing feedstock in markets with stricter contamination standards. In addition, staff added a new reporting requirement for GreenWaste to inform the City of the disposition of the recyclable materials and the environmental and social impacts of processing recyclables.

Due to the worldwide changes in the recycling industry and the recent challenges in marketing recyclable materials, the latest GreenWaste agreement incorporated changes on how GreenWaste will be compensated for processing recyclable materials. The revised fee structure in the amended GreenWaste agreement eliminated the credit to the City that represented the value of recyclable materials, which was a methodology initially created in 2008 when the original agreement was approved. Beginning July 2021, the City will pay GreenWaste a fixed fee of $25 per ton for the recyclables collected and processed and will be eligible for a 50%-50% revenue share for sale of the City’s recyclables.

Discussion
Recyclable Materials and Annual Report
Recyclable materials placed in the blue recycle containers by residents and businesses are collected by GreenWaste and transported to a Materials Recovery Facility (GW MRF) in San Jose that is owned by GreenWaste’s sister company GreenWaste Recovery Incorporated. At the GW MRF, all materials are mechanically and manually sorted into specific commodity types.
including cardboard, mixed paper, various plastic container types, glass, metals, E-waste and residue. Residue includes garbage and materials so contaminated with food or liquids they need to be landfilled. The GW MRF then sells the separate recyclable commodities to brokers and processors. When selling is not possible, GreenWaste sometimes pays to have the material recycled and, if there are no markets, material may be landfilled.

GreenWaste’s first annual Environmental Report (Attachment A) provides information on their marketing of recyclable materials and seeks to list the disposition of materials that occurred during FY 2019. The “Initial Destination” of where materials are sent, shown in Table 1, is based on current conversations with GreenWaste and reflects the markets GreenWaste is using now, as opposed to the information in the FY 2019 Report. Due to the unstable recycling markets, the “Initial Destination” could change at a moment’s notice.

The GW MRF in San Jose accepts recyclable materials from over 20 jurisdictions for a total of approximately 149,291 tons processed in FY 2019. Palo Alto’s estimated portion of all the materials processed at the GW MRF is approximately 12% or about 18,213 tons. Note that, at the GW MRF, Palo Alto’s materials are combined with those from other cities. The percentages in Table 1 come from audits conducted prior to the mixing of materials and are unique to Palo Alto. However, the materials exiting the GW MRF have become mixed with those of multiple other cities. Table 1 contains a breakdown of “Palo Alto’s materials” and their initial destination upon leaving the GW MRF. Mixed paper and cardboard combined represent the largest percentage of the materials at about 64% of the total tonnage collected, processed at the GW MRF, and marketed.

**Table 1: Percentages of Palo Alto’s Recyclable Materials & Initial Destination**

<table>
<thead>
<tr>
<th>Material/Commodity</th>
<th>Approximate % of Recyclable Materials</th>
<th>Initial Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed paper</td>
<td>33%</td>
<td>Several Asian Countries (not China)</td>
</tr>
<tr>
<td>Corrugated cardboard</td>
<td>31%</td>
<td>Northern California Mill</td>
</tr>
<tr>
<td>Glass</td>
<td>21%</td>
<td>Domestic Markets</td>
</tr>
<tr>
<td>Metals</td>
<td>8%</td>
<td>Domestic and International Markets</td>
</tr>
<tr>
<td>Plastics</td>
<td>7%</td>
<td>Domestic Markets</td>
</tr>
<tr>
<td>Clean Plastic film</td>
<td>0.06%</td>
<td>International Markets</td>
</tr>
<tr>
<td>E-Waste</td>
<td>0.12%</td>
<td>Domestic Markets</td>
</tr>
</tbody>
</table>

The “Initial Destination” is all GreenWaste was able to provide in this first Annual Report, despite the requirement to show the flow all the way to the end point. For example, at this time, we have no guarantee that plastics currently sent to a US site do not end up overseas at some point in the recycling process. GreenWaste acknowledges one of the challenges is that the recycling commodity market is unstructured, and brokers may only have limited information about the ports to which commodities are being shipped. Once at the ports overseas, materials are sent to various plants and manufacturers, making the full lifecycle of
materials extremely difficult to track. Additionally, GreenWaste states that their primary purchasers are hesitant to provide details regarding the lifecycle of the materials they buy because this data often includes proprietary information and they wish to protect the markets and customers they have. Consequently, the economics of recycling markets and its distance makes traceability of materials and quantification of environmental and social impacts very challenging. Nonetheless, the City and GreenWaste are firmly committed to getting improved information on materials flow in the coming months. Staff is considering several possibilities including tracking bales and hiring a third-party investigative consultant. However, if GreenWaste can find domestic markets for mixed paper, the task becomes much easier. Therefore, finding and paying for the use of US paper mills is currently staff’s highest priority.

**Mixed Paper Processing**

Given that mixed paper is the largest portion of the City’s recyclable materials sent to international markets, staff recommends continuing to direct GreenWaste to locate domestic markets for mixed paper processing, and in the interim, continue the current practice of sending mixed paper overseas. GreenWaste recently found a domestic paper mill with capacity to process mixed paper. However, a decision was required by the mill within a very short time frame, and the City’s procedures do not allow for such rapid decision making and the capacity for this mill is no longer available. Therefore, staff recommends that Council authorize the City Manager to negotiate and execute an amendment to the GreenWaste contract in the future so that GreenWaste can act quickly, should a new opportunity for domestic processing present itself. This will result in increased processing costs, but it would lead to less greenhouse gas emissions and a continuance of adhering to the Zero Waste Plan and S/CAP goals.

**Resource Impact**

Staff recommends sending mixed paper to be processed domestically in US mills, if and when a mill (or mills) can be found that will take the material. Specifically, authorization is being sought for a GreenWaste contract amendment to fund this activity. Approval of the amendment to the GreenWaste contract would increase compensation by an amount not-to-exceed $950,000, with $250,000 anticipated to be incurred in FY 2020 and the remaining $700,000 in FY 2021. Funding for these services is not currently budgeted in FY 2020, therefore, staff recommends the approval of a $250,000 expense appropriation increase in the Refuse Fund, offset by a reduction in the fund’s Rate Stabilization Reserve, to fund the anticipated costs of the amendment in the current fiscal year. Because this is an appropriation of additional funds for the adopted FY 2020 budget it requires a 2/3 super majority (5 votes) under the City’s Charter and Municipal Code.

The additional budget amount of up to $700,000 for FY 2021 will be recommended to Council through the annual budget process. Staff will evaluate this budget need and recommend any applicable adjustments via the annual budget process to obtain Council approval for ongoing funding needs in FY 2022 and beyond. This additional expense of as much as $700,000 per year is equivalent to approximately $1 per month per household for the average household. Expenses per business are more variable due to the range of business sizes and collection
services provided. Staff is not recommending a rate adjustment at this time as funding will be recommended to be appropriated from the Refuse Fund Rate Stabilization Reserve in FY 2021 through the annual budget process subject to Council approval. It is expected that the Rate Stabilization Reserve will remain above the upper target level in FY 2020 and FY 2021. The Refuse Fund Reserve policy is to maintain the Rate Stabilization Reserve between 10% and 20% of revenues.

**Policy Implications**
The recommendation is consistent with current City Policies and Plans, as described above.

**Stakeholder Engagement**
Staff has distributed the GreenWaste Report to the small number of residents that appear to be interested in the problems with international markets. Staff have advised them that staff is seeking authorization to pay more to process mixed paper within the US.

**Environmental Review**
The recommendation does not constitute a project under CEQA.

**Attachments:**
- Attachment A - GreenWaste FY2019 Environmental Report
Initial Review of Certificate of End Use & Traceability Data, 2019

Summary of submitted traceability data and online review of company information relative to sustainability and international markets

11/4/2019
Report Summary

GreenWaste of Palo Alto hauls all recyclables collected in the City of Palo Alto to its sister company’s facility, the GreenWaste Materials Recovery Facility (MRF), in San Jose. At the GreenWaste MRF, initial processing is conducted on the single stream recyclables collected throughout the region. In this process, GreenWaste separates all materials by commodity type and removes contamination. GreenWaste then sells the separate commodities to brokers and/or secondary processors.

GreenWaste Recovery, in cooperation with the City of Palo Alto, is seeking supplementary information on the life-cycle of the materials Palo Alto collects for recycling. The ultimate goal is for the City of Palo Alto to have a better understanding of the final disposition of these materials, and therefore guide their materials management program. GreenWaste Recovery and GreenWaste of Palo Alta staff worked in coordination to obtain supplementary marketing, processing, and disposal information from GreenWaste’s primary purchasers. The following table summarizes materials sorted by commodity types, the location of secondary processing (if applicable) as reported by GreenWaste’s primary purchasers, and the percent of material (by weight) each commodity represents.

<table>
<thead>
<tr>
<th>Product Specifications:</th>
<th>Primary Purchasers/Countries (for material types covered in this report)</th>
<th>2018/19 Actual MRF Tonnage</th>
<th>% of Overall Material</th>
<th>Palo Alto % of MRF (est. 12.2%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum Cans</td>
<td>n/a (not covered in this report)</td>
<td>911.09</td>
<td>0.61%</td>
<td>111.15</td>
</tr>
<tr>
<td>Aluminum Foil/Scrap</td>
<td>n/a (not covered in this report)</td>
<td>338.64</td>
<td>0.23%</td>
<td>41.31</td>
</tr>
<tr>
<td>Ferrous/Tin</td>
<td>n/a (not covered in this report)</td>
<td>2,835.87</td>
<td>1.90%</td>
<td>345.98</td>
</tr>
<tr>
<td>Glass, Commingled</td>
<td>n/a (not covered in this report)</td>
<td>31,495.57</td>
<td>21.10%</td>
<td>3,842.46</td>
</tr>
</tbody>
</table>

Note on Plastic

GreenWaste’s goal is to maximize material processed domestically, however, GreenWaste is dependent on demand for materials, and domestic demand is very low. Domestic mills give preferential capacity to post-industrial material rather than post-consumer material.

Plastic, HDPE


Plastic, PETE

| Berg Mill: International CellMark: Indiana, Texas, California, Georgia | 3,549.88 | 2.38% | 433.09 |

Rigid Plastic

| Berg Mill: International | 1,994.77 | 1.34% | 243.36 |

Film Plastics

| Berg Mill: International Super Link Plastic: International | 96.69 | 0.06% | 11.80 |

Note on Mixed Paper

Mixed Paper is directed to Primary Purchasers based on the following qualifiers:
1. Pricing • Quality of Material • Country’s Specifications (hard mix, soft mix, etc.) • Country’s designated allocation (GreenWaste must diversify where materials are sent in order to keep product moving)

| Berg Mill: International CellMark: Vietnam, Korea, Thailand, India, Indonesia, Malaysia, Arizona (Newspaper), Peru, Mexico, Honduras, Uruguay, Ecuador, Columbia Newport CH International: International Fibre Trade: International OGO Fibers: Thailand, Vietnam, Indonesia, Korea, Malaysia, India | 49,153.14 | 32.92% | 5,996.68 |

Old Corrugated

| Berg Mill: International CellMark: India, Vietnam, Thailand, Taiwan, Malaysia, Korea Fibre Trade: International Newport CH International: International OGO Fibers: Thailand, Vietnam, Indonesia, Korea, Malaysia, India | 45,752.71 | 30.65% | 5,581.83 |

Scrap Metal

| n/a (not covered in this report) | 8,143.16 | 5.45% | 993.47 |

E-Waste

| n/a (not covered in this report) | 174.86 | 0.12% | 21.33 |
As shown in the above table, paper and cardboard make up the greatest tonnage processed and marketed by GreenWaste Recovery. Meanwhile, Berg Mill is the primary recipient/purchaser of GreenWaste’s processed recyclables, however, the actual quantity directed to Berg Mill changes every month as all movement is dependent on pricing and bookings available. Overall, GreenWaste’s primary purchasers are hesitant to provide details regarding the life-cycle of the materials they buy because this data set often includes proprietary information. Markets must exist in order for recycling to occur, and GreenWaste and its purchasers need to protect the markets they have. The economics of recycling makes traceability, and this research, challenging.

In order to ensure that all materials leaving the MRF are in proper condition to be recycled, GreenWaste focuses on ensuring clean, contamination-free commodities. GreenWaste completed an upgrade to its single stream recyclables line (the line on which Palo Alto’s materials are processed) in May of 2019. The upgrade included the installation of six new optical sorters designed to reduce contamination and produce cleaner, higher quality recovered recyclables. More specifically, these optical sorters improve the quality of mixed paper and newsprint by repelling plastic away from paper using infrared lasers. These lasers identify the various types of plastics that inadvertently end up mixed in the paper stream and recover them based on their unique resin type. Both the paper and plastics are separated, sorted, and then baled. By ensuring a clean product, GreenWaste gains a strong position in the market, and reduces the risk of downstream issues.

The role of the GreenWaste MRF is to separate material by commodity type, however, GreenWaste is always seeking innovative technology that more broadly advances the recycling field. GreenWaste Recovery has been in a public-private partnership with BioCellection and the City of San Jose to develop chemical processing methodologies for film plastic. This process upcycles the plastic by breaking it down to its basic elements, which are the building blocks for new, more durable plastics. By participating in new technology in this fashion, GreenWaste is investing in the development of domestic processing opportunities.

In order to expand the scope and success of the traceability work detailed in the report, GreenWaste of Palo Alto and the City of Palo Alto are researching potential next steps, which may involve working with a third party to use technological advancements to understand where material is actually ending up. This work is still in the brainstorming phase, and GreenWaste of Palo Alto is looking forward to working with the City on next steps.
CellMark Inc. (Novato, CA)

CellMark submitted partial traceability data for a number of materials it purchases from GreenWaste, including cardboard, mixed paper, newspaper, office paper and PET plastic.

CellMark is a brokerage and its purchasers are secondary processors. The secondary processing includes pulpifying (for paper products), and chipping, washing, and pelletizing (for plastic products). Per CellMark, all of its purchasers follow its countries environmental laws and policies. Following is a diagram showing to which countries the various materials are sent.

<table>
<thead>
<tr>
<th>Material</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardboard</td>
<td>India, Vietnam, Thailand, Taiwan, Malaysia, Korea</td>
</tr>
<tr>
<td>Mixed Paper</td>
<td>Vietnam, Korea, Thailand, India, Indonesia, Malaysia</td>
</tr>
<tr>
<td>Newspaper</td>
<td>Korea, India, Arizona</td>
</tr>
<tr>
<td>Office Paper</td>
<td>Peru, Mexico, Honduras, Uruguay, Korea, Ecuador, Columbia</td>
</tr>
<tr>
<td>PET</td>
<td>USA: Indiana, Texas, California, Georgia</td>
</tr>
</tbody>
</table>

Per the CellMark website, CellMark participates in initiatives to ensure global sustainability. CellMark comments on its sustainability via its CSR webpages (https://www.cellmark.com/ideas-values/sustainability-csr/):

“CellMark recognizes that a healthy environment is fundamental to our business. As such, we respect and comply with local legislation and environmental regulations in our global operations.”

“CellMark is a member of the National Association of Chemical Distributors (NACD) and as such, is committed to product stewardship and responsible distribution in every phase of chemical storage, handling, transportation and disposal.”

“We do not ship any restricted material, for example dual-use goods, without proper permit... Each employee is encouraged to share the Code of Conduct with our business partners. We expect them to acknowledge and respect it in the context of their own particular culture.”

An internet search resulted in a pertinent article posted on July 2, 2019:

**Park Falls paper mill likely to reopen soon after month-long closure**

An agreement between the company and its major customer, CellMark, was approved Monday in Price County Court. It lays out terms of payment by CellMark and allows the mill to pursue an additional loan for operation.

The mill has been idle for about a month after abruptly shutting down in early June. DeMarb said the shutdown happened after CellMark didn’t make a payment to the mill.

(https://www.wjfw.com/storydetails/20190702130051/park_falls_paper_mill_likely_to_reopen_soon_after_monthlong_closure)
Berg Mill Supply/Classic Fibres (Los Angeles, CA)

Berg Mill did not submit any traceability data, but did provide basic information about the company. Berg Mill purchases a number of materials from GreenWaste, including HDPE, Cardboard, Film Plastic, Mixed Paper, Mixed Plastic, Mixed Rigid Plastic, Newspaper, Office Paper, PET Clamshells, and PET.

Berg Mill Supply is a brokerage. Berg Mill elected to not complete the traceability form as to not provide proprietary data. Berg Mill provides general data on its website about the destination of its exports. Per the Berg Mill Supply website: (https://bergmill.com/about/where-berg-mill-ships/)

“Berg Mill Supply Co., Inc. redirects waste from material recovery facilities (MRF) in the United States to end users in international locations, where the material is processed and a new material is produced.”

A blog posted by Berg Mill on August 12, 2019, stated the following:

“With no global regulations against these exports, it is poor and developing nations that will end up paying the price for cleaning up after the U.S.... For recycling to flourish to its full potential, we must process our recyclables in domestic, modern factories that are designed to properly shelter toxins from workers and the environment.”
https://bergmill.com/2019/08/12/your-recycling-may-not-be-going-where-you-think/

A blog posted by Berg Mill on June 10, 2019, stated the following:

“While recent news in recycling has been discouraging due to China’s National Sword and other foreign imported scrap bans, Berg Mill is ever committed to keeping your recyclables moving... Ultimately, domestic recycling has the potential to become superior to importing scrap both economically and environmentally.”
(https://bergmill.com/2019/06/10/recycling-challenges-bring-opportunities-for-growth/)

An internet search resulted in a pertinent article posted on June 3, 2018:

According to leading US recycling firm Berg Mill Supply, “all grades of plastic have seen a major shift to secondary markets” from 2016 to 2017, when China’s import restrictions came to light. In that period, Malaysia took in five times more polyvinyl chloride (PVC), while Vietnam more than doubled imports of polyethylene terephthalate (PET).
Fibre Trade Inc. (Burlingame, CA)

Fibre Trade did not submit traceability data, but did provide basic information about the company.
Fibre Trade purchases a number of materials from GreenWaste, including mixed paper, newspaper, office paper, and cardboard.

Fibre Trade both pulpifies paper and is a brokerage. Per its website, Fibre Trade is a direct exporter of recovered paper, pulp and mineral products from the USA, Europe, Australia, New Zealand and Japan to affiliated paper mills all over the world. (https://www.fibretrade.net/)

An article in Recycling Today published on October 24th, 2016 illustrates Fibre Trade’s engagement in the paper industry, stating that a staff member served as the specifications committee chair for Paper Stock Industries. (https://www.recyclingtoday.com/article/pprc-2016-psi-paper-specifications-rates/)
Newport CH International (Orange, CA)

Newport CH International did not submit traceability data, but did provide basic information about the company. Newport purchases cardboard and mixed paper from GreenWaste.

Newport both manufactures products and is a brokerage. Per its website, Newport focuses on the purchase and direct export sale of recyclable paper, plastics, as well as agricultural products. The following statement is made on the Newport CH International website.

“For the past 10 years, the Journal of Commerce has consistently ranked Newport CH as one of the United States’ top ten exporters.” (http://newportch.com/)

The Newport CH International website also lists two ISO certifications that the company has received, 1) ISO 9001: The international standard that specifies requirements for a quality management system (QMS), and 2) ISO 14001: the international standard that specifies requirements for an effective environmental management system (EMS). (http://newportch.com/about-us/credentials-affiliations/)

An internet search resulted in a pertinent article posted on April 3, 2019:

**China's recyclers look at Latin America, Caribbean**

Hamilton Wen, director of the plastics division at trading firm Newport CH International LLC in Orange, Calif., said in a panel at the conference that recyclers face complex questions as they analyze where it makes business sense to recycle and also react to governments worldwide limiting imports of scrap.

"It's definitely cheaper in these other countries, but how long are they going to let you do it," he said. "I think eventually, end game, it probably will come back here [to the United States]. Whatever we're creating probably we should recycle it here”... added that the business case can make it too expensive to do some types of recycling in higher-cost countries.


An internet search resulted in a pertinent article posted on February 28, 2018:

**Exporters talk Chinese ban's operational and financial impacts**

Newport CH International, like many exporters, has made dramatic operational changes since the ban impact started to spread. The company acts as a broker, so it tries to find markets offering the best price and stable demand. For the past 20 years, that has consistently been China, Wen said. The only variation was where inside China the company would send the material.

“Now, that’s completely off the table as far as scrap, so we’ve had to completely reshift, and look for new markets basically anywhere in the world,” Wen said. “Places we’ve never looked for previously, but now we’re having to travel to look for processors, look for end users. It’s pretty much a complete upheaval of our entire plastic brokerage business.”

Wen said there are not enough end users to handle all the material on the market, so they are able to demand higher quality, whereas it used to be a seller’s market. Wen predicts markets will develop for low-grade plastics, although they will take time to develop. He said there is already a little more demand coming back for the materials as a result of market development that’s taken place since the ban, and that further development is currently underway.
OGO Fibers (Ontario, Canada)

OGO Fibers submitted partial traceability data for the mixed paper and cardboard it purchases from GreenWaste. OGO Fibers elected to not provide additional traceability information as to not share proprietary data and place them at risk at losing customers.

OGO Fiber is a brokerage and its purchasers are secondary processors. The secondary processing includes pulpifying. OGO Fibers has confirmed that the material is never double brokered and all the material goes directly to an overseas mill with a direct order. Following is a diagram showing to which countries the materials are sent.

<table>
<thead>
<tr>
<th>Cardboard</th>
<th>Thailand, Vietnam, Indonesia, Korea, Malaysia, India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed Paper</td>
<td>Thailand, Vietnam, Indonesia, Korea, Malaysia, India</td>
</tr>
</tbody>
</table>

Per its website, OGO Fibers has received ISO 9001 certification (for quality management system) and holds both AQSIQ and CCIC licenses. ([http://www.ogofibers.com/ps](http://www.ogofibers.com/ps))

Envision Plastics (Chino, CA)

Envision Plastics is a leading recycler of HDPE plastics and supplier of Post Consumer Resin (PCR). Envision purchases HDPE from GreenWaste and washes and pelletizes the material. Envision lists six different products that it creates from recovered plastic: Ecoprime®, Natural Color, Mixed Color, Oceanbound Plastic, Prisma®, and Deodorized.

Envision Plastics is headquartered in Reidsville, North Carolina and has a West Coast plant in Chino, California. Envision’s parent company, Consolidated Container Company, includes “Act with Integrity and in Compliance” as one of its core values. (https://cccllc.com/why-ccc/our-guiding-principles/)

A recent article (June 18, 2019) showed that Envision Plastics has partnered with Microdyne Plastics of Colton to catch plastic before it enters the ocean at “At Risk Zones.” The captured plastic is shipped to the US to be recycled into new resin. The material is fully traceable from collection through processing. (https://inlandempire.us/two-inland-empire-companies-team-up-to-capture-plastic-from-oceans/)
Super Link Plastic (Oakland, CA)

Super Link Plastic did not submit traceability data, but did provide basic information about the company. Super Link purchases film plastic from GreenWaste.

Super Link is a brokerage. Per its website, Super Link sources scrap plastic, cardboard, mixed paper, e-waste, and other recyclables from post-industrial, post-commercial and post-consumer waste streams, and exports the material to Hong Kong and China for processing. (https://www.superlinkusa.com/faq.php)

No further pertinent information was found on this company and/or its exports via a simple internet search.