



## Detailed Written Response from Parallel Products

**To:** California Air Resources Board, Industrial Strategies Division

**From:** Cap-Op Energy on behalf of Parallel Products

**Date:** June 27, 2017

**RE:** Detailed written response to White Energy letter of June 20, 2017

The California Air Resources Board (“ARB”) has notified Parallel Products of a letter from White Energy that references Parallel Products’ proposed Tier 2 pathway for recycled beverages to ethanol. While the White Energy letter is primarily focused on that company’s goal of obtaining certification for its own pathway, the letter attempts to justify this request by questioning the ARB’s treatment of Parallel Product’s feedstock. While detailed, independent evaluation of White Energy’s pathway is appropriately left to ARB (and is not possible with publicly available data), by this letter Parallel Products is providing further clarification and justification of the treatment of the *Recycled Beverage* feedstock in order to aid ARB in evaluating and responding to the White Energy comment.

### Parallel Resource Recovery Operations

Parallel Products has pioneered innovative technologies for the recycling of recycled beverage materials and residuals for the past 35 years, keeping unwanted and otherwise unusable beverage products out of wastewater treatment plants and harnessing the energy value of these waste streams as fuel ethanol. A best-in-class facility, the Rancho Cucamonga plant reclaims in excess of 95% of the waste stream it receives as recyclables, animal feed and ethanol. Alternative providers of recycled beverage disposal services typically provide a minimum level of recycling, with little or no recovery of value-added products, creating a substantial burden on local or on-site water treatment infrastructure.

After arriving at the facility, recycled beverage materials are extracted from packaging using crushers and other equipment. Liquids are comingled for further processing while recyclable packaging materials are recovered. At this point, the resulting liquid mix is highly variable and the water content is far above acceptable limits for any productive use, so a series of processing steps extract and separate alcohol for fuel and protein for feed. Once these co-products have been processed to meet usability thresholds the products are shipped for end-use. All process steps are accounted for in the proposed quantification, with no additional crediting mechanisms claimed.

### System Boundary

The Parallel Products Recycled Beverage to Ethanol Pathway was developed in consultation with ARB staff with particular focus on defining the quantification system boundary. A range of boundaries were discussed and considered at length. The established system boundary begins at the point where recycled beverages are recovered, incorporating alternative disposal logistics, because any emissions upstream of this point are correctly allocated to the first user of the intended product. The upstream emissions associated with, for example, farming and transporting barley, grapes, and other raw materials as well as the beverage production process itself are correctly allocated to the process of producing beverages for human consumption. Beverage production generates unusable materials which are subsequently sent for disposal.

## Alternative Disposal

The most prevalent disposal practices for unusable beverage material are direct disposal to sewer for wastewater treatment, and on-site pre-treatment followed by sewer disposal. The most directly comparable disposal option is a direct-to-sewer (“crush-and-flush”) beverage disposal facility about 15 miles from Parallel Product’s facility operated by Masters Recycling. The Masters facility provides a very clear alternative fate for the recycled beverages that Parallel Products receives.<sup>1</sup>

Parallel has identified 11 beverage disposal facilities across the country which dispose direct-to-sewer with a combined capacity only 70% higher than Parallel’s single Rancho Cucamonga facility. These facilities, and others like them, operate at capacities much smaller (one or more orders of magnitude) relative to Parallel’s facility. This is a direct result of stringent effluent loading limits. In order to directly dispose of the volumes delivered to Parallel to sewer, approximately \$150,000,000 in equivalent dwelling units would be required to be purchased from the local wastewater treatment utility. Numerous, smaller facilities challenge the economics of resource recovery. In addition, the cumulative impacts of direct-to-sewer disposal would significantly increase downstream emissions and energy use if not for the Parallel facility.

The remaining volume of recycled beverage material disposed in the USA is not publicly reported by the beverage industry, but is estimated to be equal or greater than the above facilities. The majority of this volume would be disposed of via on-site pre-treatment prior to sewer disposal in order to comply with effluent limits.

## Conclusion

Producing beverages for human consumption is the first use of the raw materials that Parallel Products utilizes as feedstock. These beverages are rejected for first use due to spoilage; contamination by other liquids, glass shards or plastic content; and other factors precluding sale into the first use market. If the recycled beverage materials were not diverted to Parallel’s facility, the liquids would instead be sent to the Masters Recycling facility or require expensive on-site pre-treatment and disposal to sewer. Within this context, diverting unusable materials to Parallel’s ethanol production facility is a secondary use. This secondary use, or resource recovery activity, has correctly not been allocated any upstream emissions associated with the first use or activity.

The proposed carbon intensity (“CI”) score ARB has posted for Parallel Products is conservative since it applies only allocation and does not provide any credits for displacing animal feed production, diverting high-BOD materials from energy-intensive wastewater treatment processes, nor are any emission reductions associated with the recover of recyclables claimed. While Parallel Products has proposed these additional CI reductions to CARB, the agency has followed a conservative approach and developed a CI score that provides limited recognition of the environmental services that Parallel Products’ facility provides from a GHG perspective. Parallel Products has made the decision to proceed with the current pathway application, following this conservative approach.

The resulting quantification is a simple co-product allocation based upon guidance by CARB and real data from the operation of the plant, and the feedstock. The various pathway components resulting

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<sup>1</sup> The only other directly comparable resource recovery facility of similar scale to Rancho Cucamonga in the U.S. is also operated by Parallel Products. The second plant is located in Louisville Kentucky, and produces an industrial binder product. These types of operations are extremely uncommon in North America.

CI score cannot be directly compared to the feedstock described by White Energy's proposed ethanol pathway that utilizes a completely different type of feedstock.

Throughout the development of the quantification approach for Parallel Products, various conservative decisions were made including exclusion of the above credits, and process energy allocation calculations, resulting in a CI score that is significantly higher than originally proposed – and comparable to the Temporary Fuel Pathway Code that White Energy has been permitted to use. From the information publicly available, it may be inferred that White Energy is seeking highly favourable CI analysis of its feedstock and process resulting in an aggressively low carbon intensity score, whereas Parallel has proposed a conservative approach.

Based on our review, we have determined that no revisions are necessary. Parallel Products remains available to provide any further response or input that would be constructive to ARB's deliberative process.