



Environmental Services
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MEMORANDUM

Date: October 30, 2020
To: Mayor Troxell and City Councilmembers
Thru: Darin Atteberry, City Manager
 Jacqueline Kozak Thiel, Chief Sustainability Officer
 Theresa Connor, Interim Utilities Executive Director
 Liesel Hans, Utilities Deputy Director
 Lucinda Smith, Environmental Services Director
From: Molly Saylor, Environmental Sustainability Senior Specialist
 Richard Thorp, Lead Specialist, Science
CC: Jill Oropeza, Director of Sciences, Water Quality Services

Re: **October 27, 2020 Work Session Summary: Plastics Pollution Update**

Attendees: Jacqueline Kozak Thiel and Molly Saylor presented an update on microplastic and macroplastic pollution work in light of COVID-19 challenges. Mayor Troxell, Mayor Pro Tem Stephens, and Councilmembers Cunniff, Gorgol, Gutowsky, and Pignataro were present.

Key discussion points:

- Recognition of the challenges of engaging the community and most-impacted stakeholders on plastic pollution policy during COVID-19.
- Some interest in following the impact that State legislation would have on potential local action.
- There was interest in exploring a potential plastic pollution ballot measure
 - Perhaps a measure to ban plastic bags and perhaps considering accessory items as well.
 - Incorporating information from related actions in other communities.
- Perspective that COVID-19-related challenges, such as availability of alternative items and temporary suspensions in times of health crises, would need to be addressed
- Other perspectives include:
 - Interest in seeing waste-to-energy considered as part of a systems approach to plastic pollution mitigation, specific interest in follow up on the energy content of plastic items (see table below).
 - That a ballot measure is premature until more engagement can be done, more data collected on options (such as waste-to-energy) and COVID-19 has a lesser impact.
 - Concerns were raised about impacts of a regulation on businesses and consumers, especially while COVID-19 is reducing available options.
 - Interest in more data and health-related implications

Next steps:

- Macroplastics:
 - December 8th work session to continue discussion of a plastic pollution ballot measure.
 - Continue existing online engagement.
- Microplastics:
 - Staff will re-evaluate by the end of Q2 2021 if it will be feasible to complete the microplastics study in 2021.
 - By this time, more will be known about the wildfire response and recovery effort resource needs.
 - A reappropriation of 2020 funds will be required to complete this project.



Table 1 summarizes a range of energy values contained in plastics often used to make single-use items.

Table 1: EEC|CCNY NRP higher and lower heating values compared to values reported in the literature (MJ/kg)

RESIN	EEC CCNY (2015)		EIA (2012)	FRANKLIN		PHYLLIS	
	LHV	HHV	N.R.	LHV	HHV	LHV	HHV
#1-PET	23.8	24.4	23.8	24.7	25.6	21.9	22.8
#2-HDPE	37.1	40.6	22.6	46.5	49.6	43.6	46.7
#3-PVC	22.9	24.4	19.1	18.3	19.3	16.8	17.8
#4-LDPE	40.8	44.1	28.0	46.2	49.3	43.5	46.6
#5-PP	41.0	44.1	44.1	46.4	49.5	44.2	47.3
#6-PS	38.6	40.6	23.8	N.R.	N.R.	44.2	46.0
#7-Other	N/A	40.6	21.0	N.R.	N.R.	N.R.	N.R.
AVERAGE	35.7	38.4	27.9	40.2	42.8	38.4	40.9

Note: Average does not include #7 resin category as it is highly variable and not uniformly characterized

Figure 1. Energy values of plastic types typically used to make single-use plastics. Source: Tsiamis & Castaldi (2016): Determining Accurate Heating Values of Non-Recycled Plastics. <https://plastics.americanchemistry.com/Energy-Values-Non-Recycled-Plastics.pdf>