



# CIF#1172 | CIF Price Sheet Alternative Analysis

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**Prepared & Submitted by:** Neil Menezes, EcoCompass Inc

## Acknowledgement

*Thanks are extended to the local communities who provided commentary, input, and review of this report.*

## Disclaimer

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## Purpose

This report is intended to address two major questions related to alternative sources of pricing for post-consumer commodities:

1. How closely do individual commodity prices on the CIF Price Sheet track to an alternative source?
2. Can the CIF Composite Index be updated using commodity prices from an alternative source?

## Background

The Continuous Improvement Fund (CIF) is responsible for the development of the [CIF Price Sheet](#), a monthly publication that tracks post-consumer commodities marketed by Ontario municipalities. It is relied upon by a variety of stakeholders across Canada, including Ontario municipalities, to benchmark the value for their commodities. Additionally, the CIF is aware that some municipalities link their processing contracts to the CIF Price Sheet, i.e., they receive payment based on the monthly prices provided.

In 2019, the Ontario Minister of the Environment, Conservation and Parks issued a direction letter to RPRA and Stewardship Ontario to begin the transition of Ontario's Blue Box Program to a full producer responsibility framework, with the first set of municipal programs transitioning on July 1, 2023 and having all municipal programs transition by December 31, 2025. Since the CIF Price Sheet relies on information shared by Ontario municipalities, as the operation of the programs transition from municipal to producer responsibility the municipalities that currently provide their information will decline year over year. Once the number of municipalities contributing to the CIF Price Sheet drops below the minimum required for publication, it will be discontinued.

As there are still a number of municipalities that will be transitioning in 2024 and 2025, the potential end of the CIF Price Sheet can create challenges for some to determine the value of their post-consumer commodities. Especially for communities who elect to continue service for sites not eligible for collection under the new regulation (e.g., municipal buildings, Business Improvement Areas). Given this and to ensure a seamless transition, the CIF has retained EcoCompass to evaluate other sources of post-consumer commodities pricing and compare them against the CIF Price Sheet to determine their suitability to act as a substitute to the CIF Price Sheet once its publication comes to an end.

## Project Objectives

There are several different sources (subscription based) that provide pricing information for various post-consumer commodities.

- Secondary Materials Pricing (<https://recyclingmarkets.net/secondarymaterials/>)
- Fastmarkets RISI (<https://www.fastmarkets.com/forest-products/risi-is-part-of-fastmarkets>)
- London Metal Exchange (<https://www.lme.com/en/>)
- Fastmarkets American Metal Market (<https://www.fastmarkets.com/amm-is-part-of-fastmarkets>)

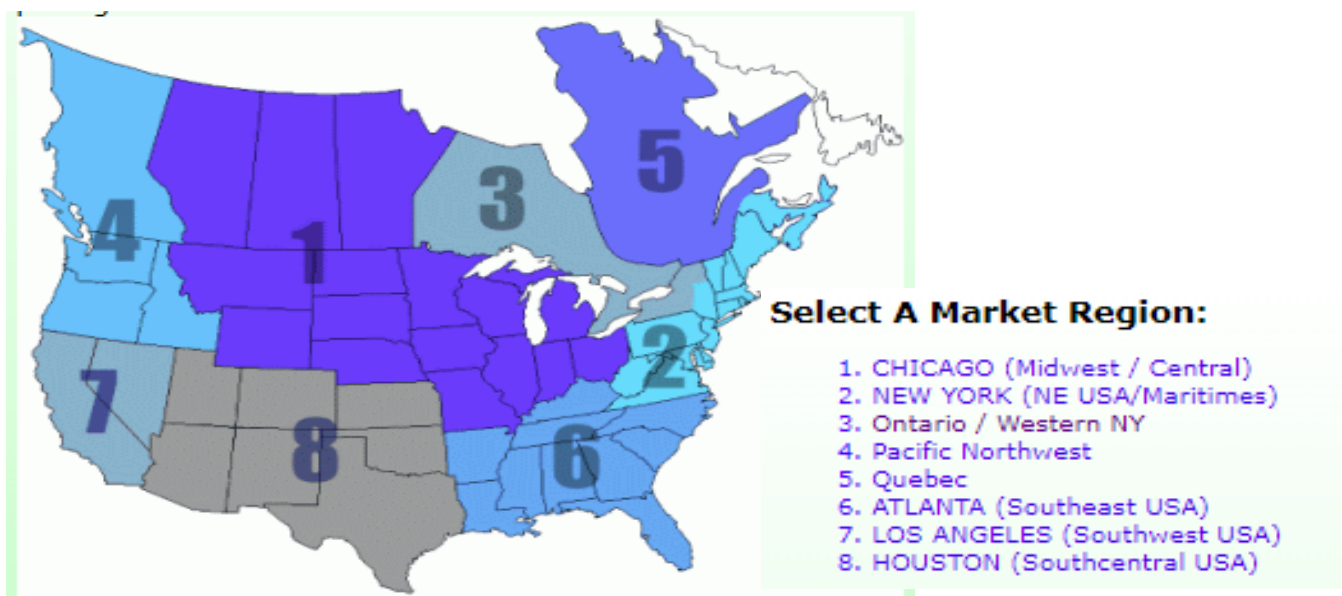
This analysis only compares the commodity prices between the Secondary Materials Pricing (SMP) and the CIF Price Sheet, because SMP is the only source that provides pricing for the full range of post-consumer commodities (excluding Hardpack) that is tracked by the CIF Price Sheet. Using a single source also minimizes the number of subscriptions (costs) and complexity for municipalities looking for alternatives to the CIF Price Sheet, given the limited number of years before transition.

The CIF Price Sheet provides both Ontario-based, individual commodity pricing as well as a Commodity Index. The Commodity Index reflects a blended price per tonne for all materials marketed, or a ‘basket of goods’ pricing indicator. The CIF’s Commodity Index is a unique indicator based on Ontario’s annual compositional data, and it is only available through the CIF Price Sheet. Some municipalities that rely on the CIF Price Sheet link their processing contract revenue to the Commodity Index, rather than the prices of individual commodities. Subsequently, as part of this work, EcoCompass also looked to develop a Composite Index using the pricing within the SMP.

## Methodology

SMP provides pricing information for a range of commodities across eight (8) different geographic areas. Prices for “**Ontario / Western NY**” area (Region 3) were selected for comparison to the CIF Price Sheet.

Additionally, the prices provided by SMP were either in U.S. Dollar per pound (USD/lb.) or U.S. Dollar per short ton (USD/ST) and reported on a weekly or bi-weekly basis.



Since the monthly prices reported on the CIF Price Sheet are tracked in Canadian Dollars per metric tonne (CAD/MT), the following steps were taken to convert the SMP pricing to be on the same basis (CAD/MT).

## Data Considerations

In addition to differences in the currency and unit of measure, there are additional differences between how the CIF Price Sheet is compiled compared to the SMP Pricing. The following table provides a summary of the key differences, which need to be considered when making a direct comparison.



<b>CIF Price Sheet</b>	<b>SMP<sup>1</sup></b>
Prices are those reported by municipalities <b>selling</b> commodities.	Prices are those reported by sources both <b>buying</b> and <b>selling</b> commodities.
Prices are reported by <b>municipalities only</b> .	Historically, prices have been reported by <b>mostly end markets</b> , but more recently, prices reported include <b>waste haulers and recycling centers</b> .
Source is <b>Ontario based</b> only.	Source is <b>Ontario and Western New York</b> based.
<b>Freight is included</b> in the price reported.	<b>Freight is included</b> in the price provided but does not include additional <b>freight allowances</b> provided.
Commodities sold may be sold to other regions around the world. <b>Export markets</b> can have significant price differences.	Commodity prices offered are based on being sourced for <b>Ontario and New York</b> only.
Prices reported represented are a blend of <b>normal</b> sales, <b>spot</b> market prices, and <b>short- and long-term contracts</b> that may have fixed or variable prices.	Prices reported are for <b>normal</b> market prices only.
Prices reported <b>reflect the quantity</b> and/or frequency of loads.	Unclear how the <b>quantity/volume</b> impacts prices reported.
While prices reported are based on <b>Institute of Scrap Recycling Industries (ISRI) specifications</b> , actual prices received are reflective of specification delivered to the end market.	Prices reported do not reflect any <b>downgrades</b> or <b>premiums</b> for materials delivered.

### Methodology: Commodity Prices & Trends

1. Commodity prices were converted to CAD from USD using the Bank of Canada Monthly Rates (<https://www.bankofcanada.ca/rates/exchange/monthly-exchange-rates/>)
2. Weights were converted from pounds (2204.62 lbs = 1 MT) or short tons (1.10 ST = 1 MT) to Metric Tonnes (MT)
3. A straight average was taken of the prices provided weekly or biweekly to determine a monthly price.

**NOTE:** SMP does not provide pricing for a Hardpack grade.

<sup>1</sup> <https://recyclingmarkets.net/index.php/aboutus/q-a-pricing-methodology>

## Methodology: Composite Index Using SMP

The SMP does not provide a Commodity Index (sometimes referred to as a basket of goods price); nor do the other sources considered. A Commodity Index is highly dependent on the materials accepted and marketed by a jurisdiction or community. Therefore, it is challenging for any public source to provide such information. However, the CIF Price Sheet is in a unique situation as the CIF has access to the RPRA Datacall, where all ON municipalities report their collected and/or Marketed Tonnes. The Total Collected and/or Marketed Tonnes reported through the Datacall, which is verified by RPRA, represents the average post-consumer commodities composition across Ontario and is used for the Composite Index. The Composite Index published as part of the CIF Price Sheet consists of two components:

- Composition of the materials marketed (RPRA Datacall)
- Monthly Pricing (reported by the municipalities)

To compare the CIF Price Sheet to the SMP Pricing, the following steps were taken to replicate a Composite Index using the SMP Pricing:

1. Utilized the original CIF composition data for each year with the exception of Hardpack (SMP does not provide pricing for a Hardpack grade).
2. Shifted weighting of Hardpack in the original CIF Composite Index composition to Mixed Paper #54/ONP#6, since Mixed Paper #54/ONP#6 is the closest in composition and historic pricing to Hardpack.
3. Replaced all of the CIF monthly pricing to the SMP commodity prices.

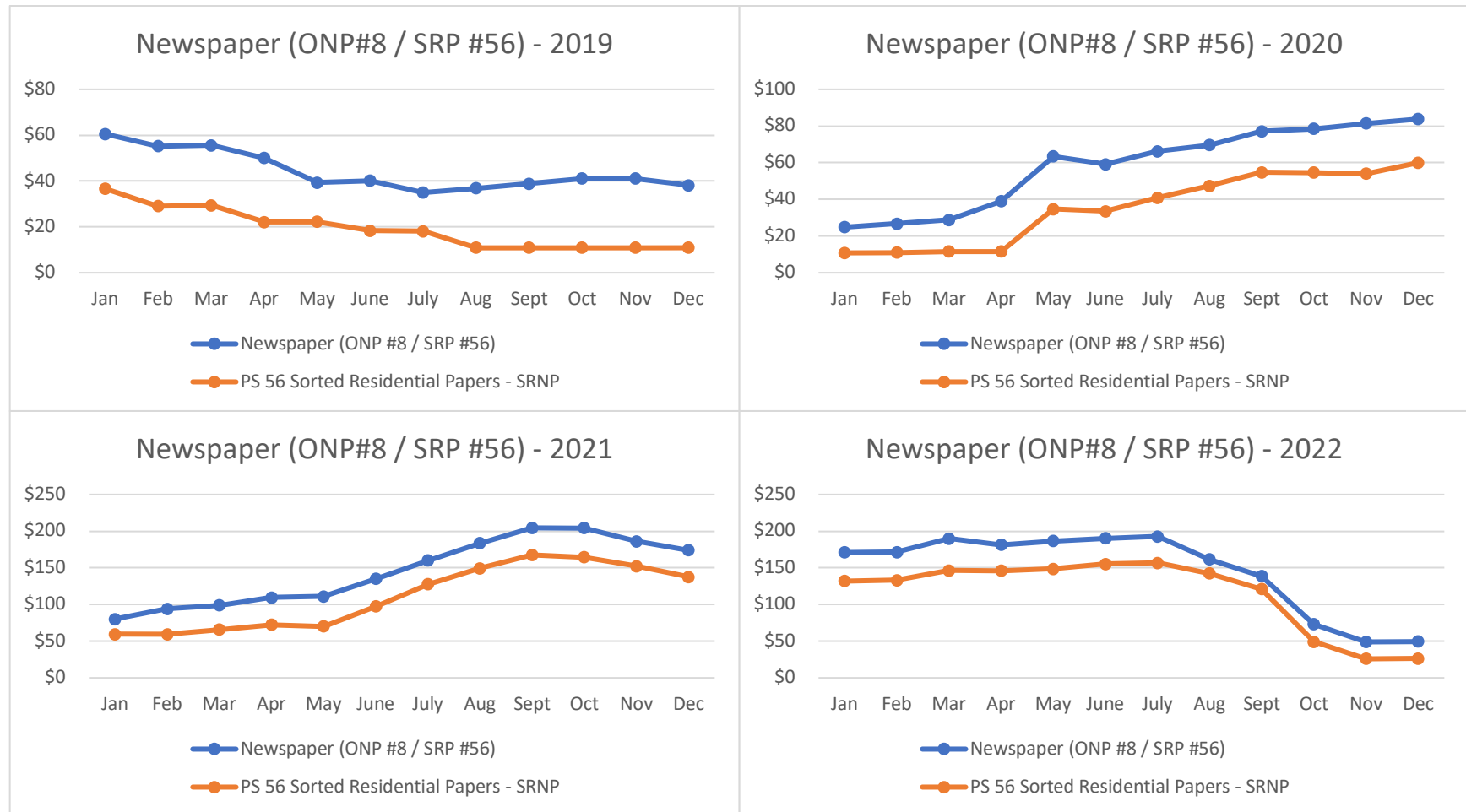
## Commodity Trends Results

The following charts compare the commodity prices reported by SMP for the “Ontario / Western NY” region against the commodity prices on the CIF Price Sheet. In addition to providing the monthly trends (charts) from January 2019 to December 2022, a summary table for the annual average prices, absolute differences and percent differences are provided. Recognizing that 2019 and 2020 were unique years, due to the global COVID-19 pandemic, a two-year average of the annual prices in 2021 and 2022 are also provided.

The general trend (i.e., shape of the lines) for most commodities are relatively consistent between the SMP and the CIF Price Sheet. In the last two years, 2021 and 2022, the percent difference for most commodities has reduced compared to the 2019 and 2020 years. Commodity prices for HDPE (mixed) and Aluminum Cans have trended very closely with average annual percent differences of less than 2% in the last two years. Interestingly, the commodity prices for Newsprint (SRP #56 / ONP #8) on the SMP was 25% **lower** than (2-year average) the CIF Price Sheet; however, Mixed Paper #54 / ONP #6 was 27% **higher** (2-year average) on the SMP compared to the CIF Price Sheet.

For OCC and Steel, the CIF Price Sheet was about 15% **higher** than the SMP pricing, while pricing for PET on the CIF Price Sheet was about 12% **lower** than the SMP. Glass showed a consistent difference across all four (4) years, as glass prices are stable and highly dependent on the local markets. Commodity prices for Mixed Plastics and Polycoat showed the greatest differences between the SMP and the CIF Price Sheet. Due to limited pricing information for Film on the CIF Price Sheet, the absolute and percent differences were excluded.

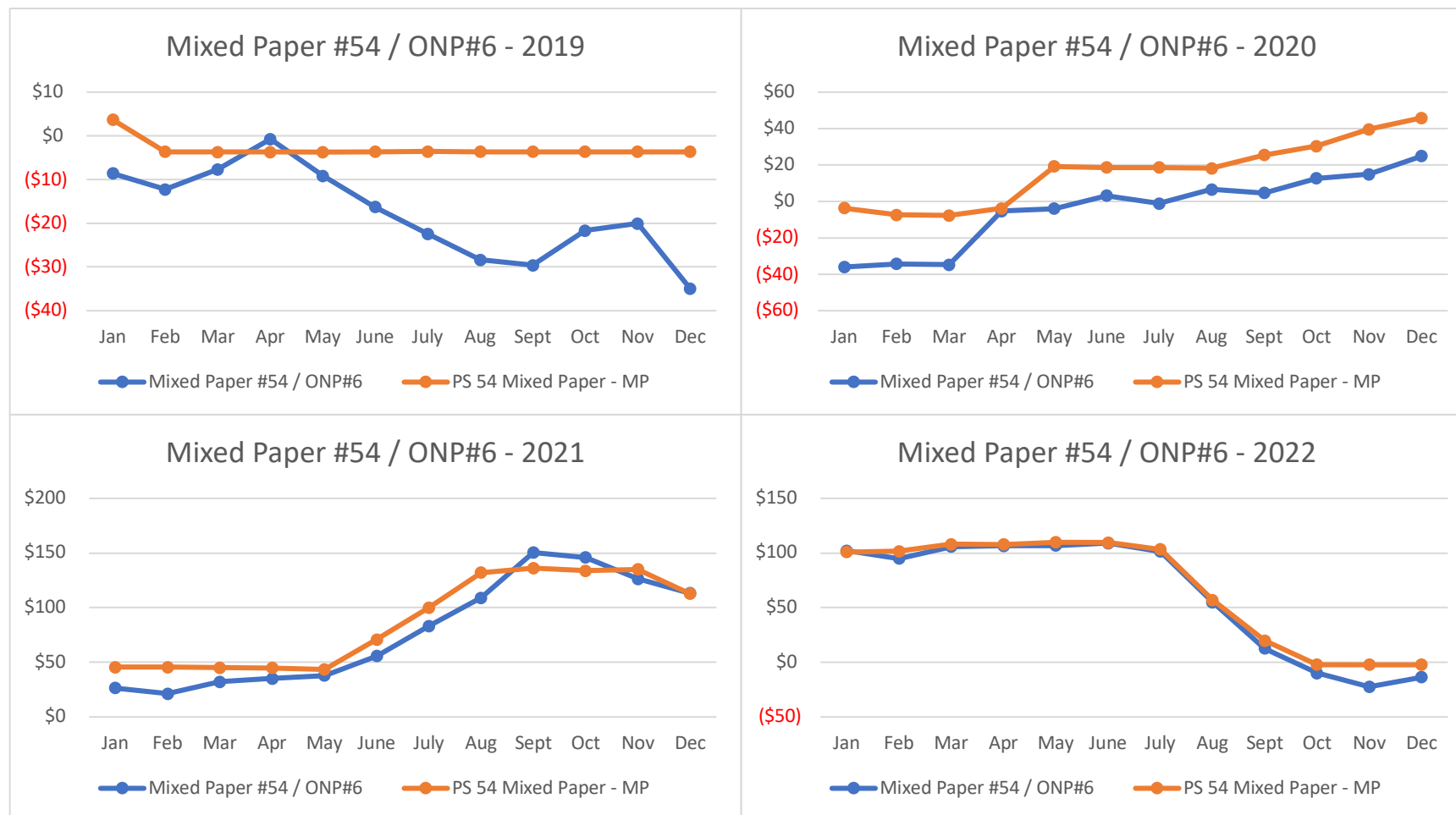
## Newspaper (ONP #8 / SRP #56)



		2019	2020	2021	2022	2-Year Average
<b>CIF</b>	Newspaper (ONP #8 / SRP #56)	\$44	\$58	\$145	\$146	\$146
<b>SMP</b>	PS 56 Sorted Residential Papers - SRNP	\$19	\$35	\$110	\$115	\$113
	Absolute Difference	(\$25)	(\$23)	(\$35)	(\$31)	(\$33)
	Percent Difference	-58%	-44%	-26%	-25%	-25%

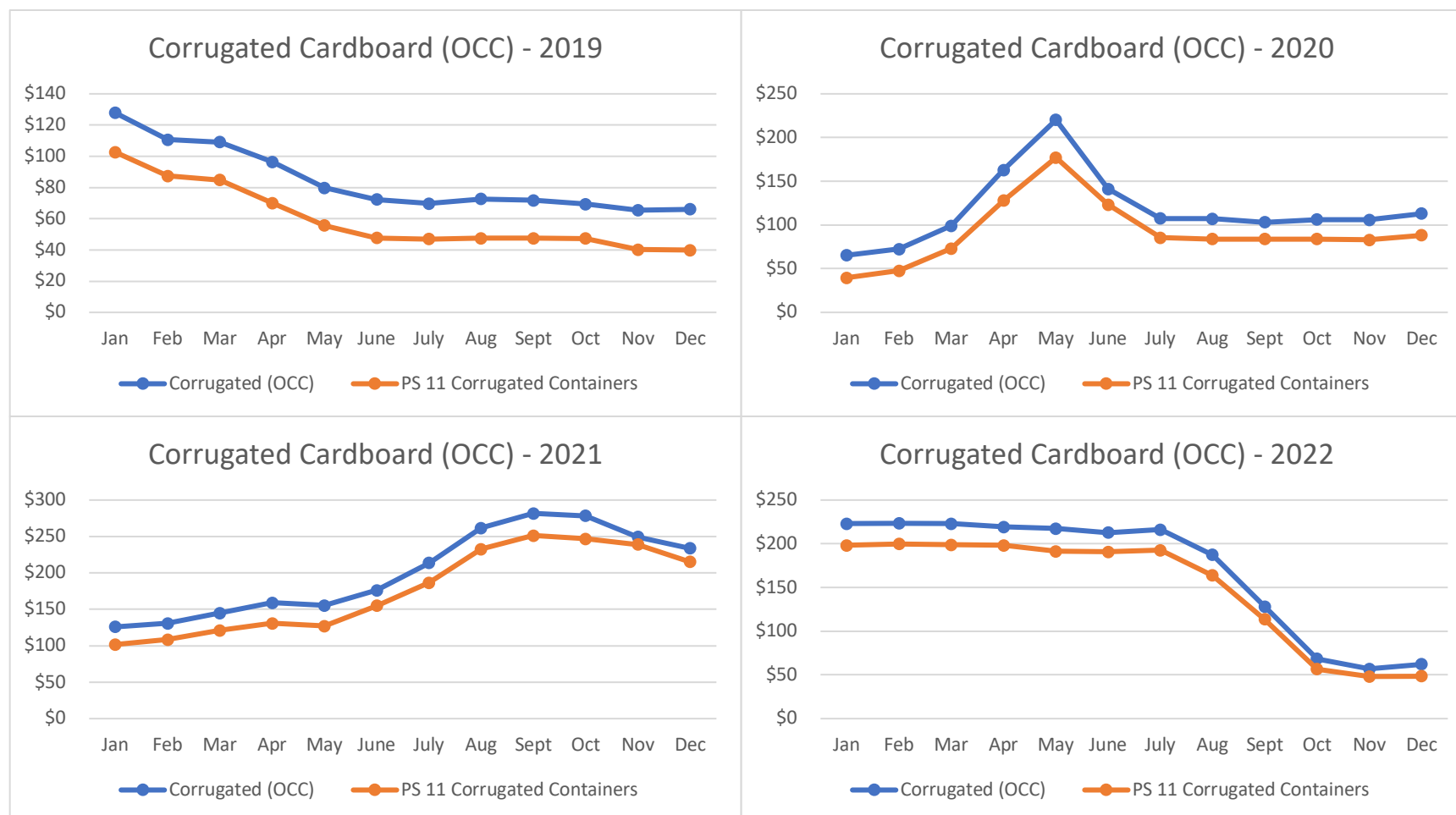


## Mixed Paper #54 / ONP #6



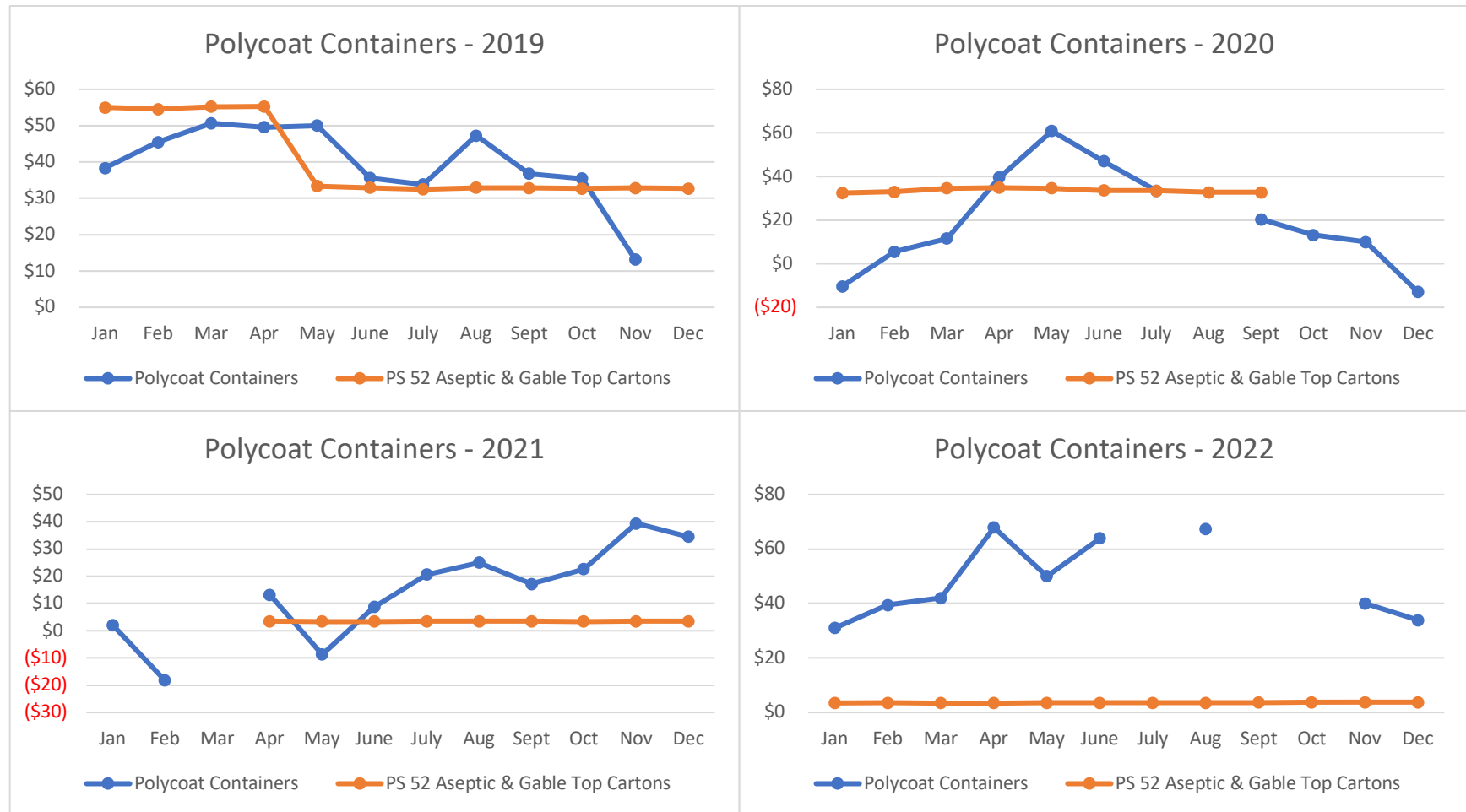
		2019	2020	2021	2022	2-Year Average
<b>CIF</b>	Mixed Paper #54 / ONP#6	(\$18)	(\$4)	\$78	\$62	\$70
<b>SMP</b>	PS 54 Mixed Paper - MP	(\$3)	\$16	\$87	\$68	\$77
	Absolute Difference	\$15	\$20	\$9	\$5	\$7
	Percent Difference	43%	340%	27%	27%	27%

## Corrugated Cardboard (OCC)



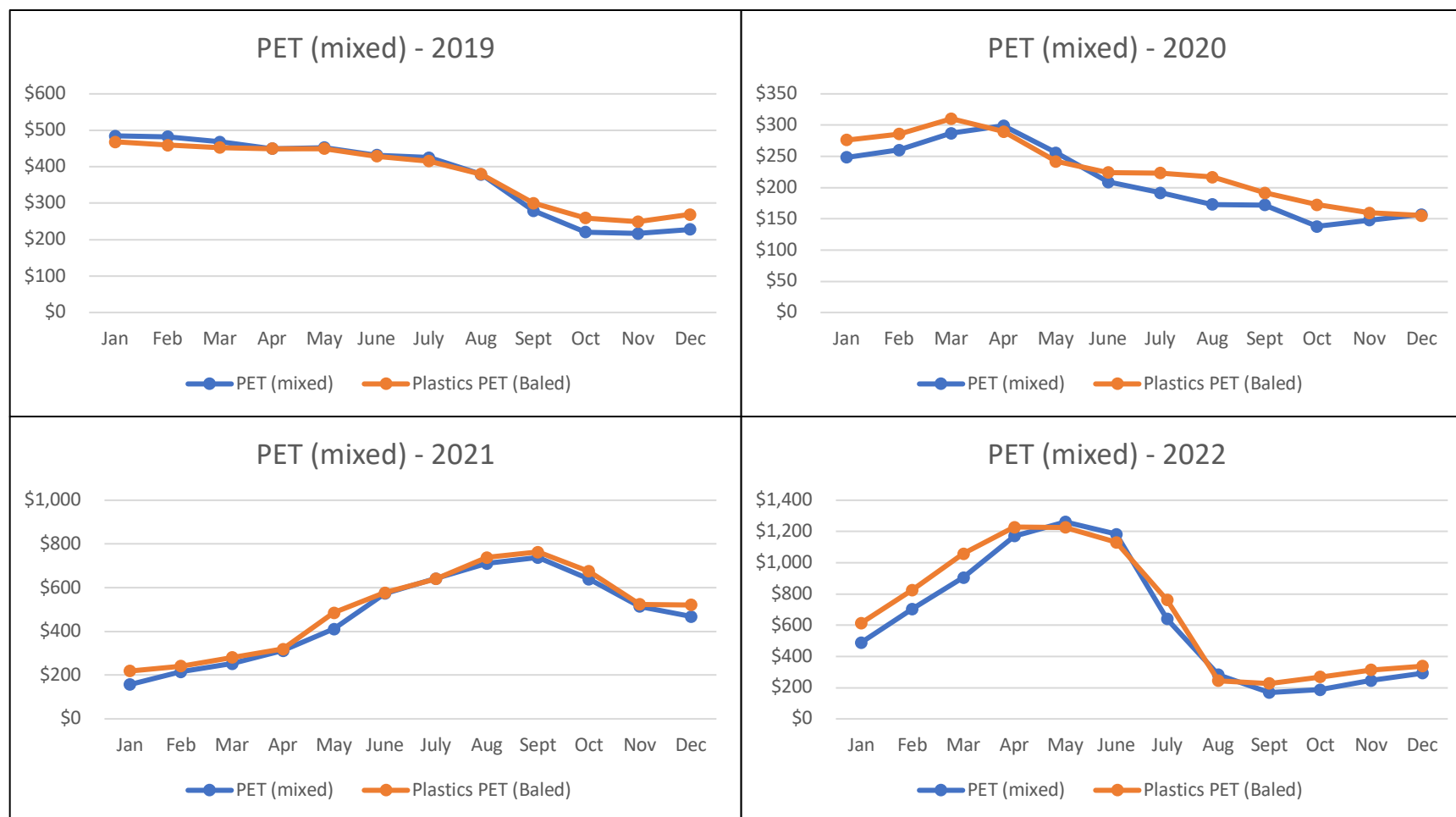
		2019	2020	2021	2022	2-Year Average
<b>CIF</b>	Corrugated (OCC)	\$84	\$117	\$201	\$170	\$185
<b>SMP</b>	PS 11 Corrugated Containers	\$60	\$91	\$176	\$150	\$163
	Absolute Difference	(\$24)	(\$26)	(\$25)	(\$20)	(\$22)
	Percent Difference	-31%	-23%	-13%	-13%	-13%

## Polycoat Containers



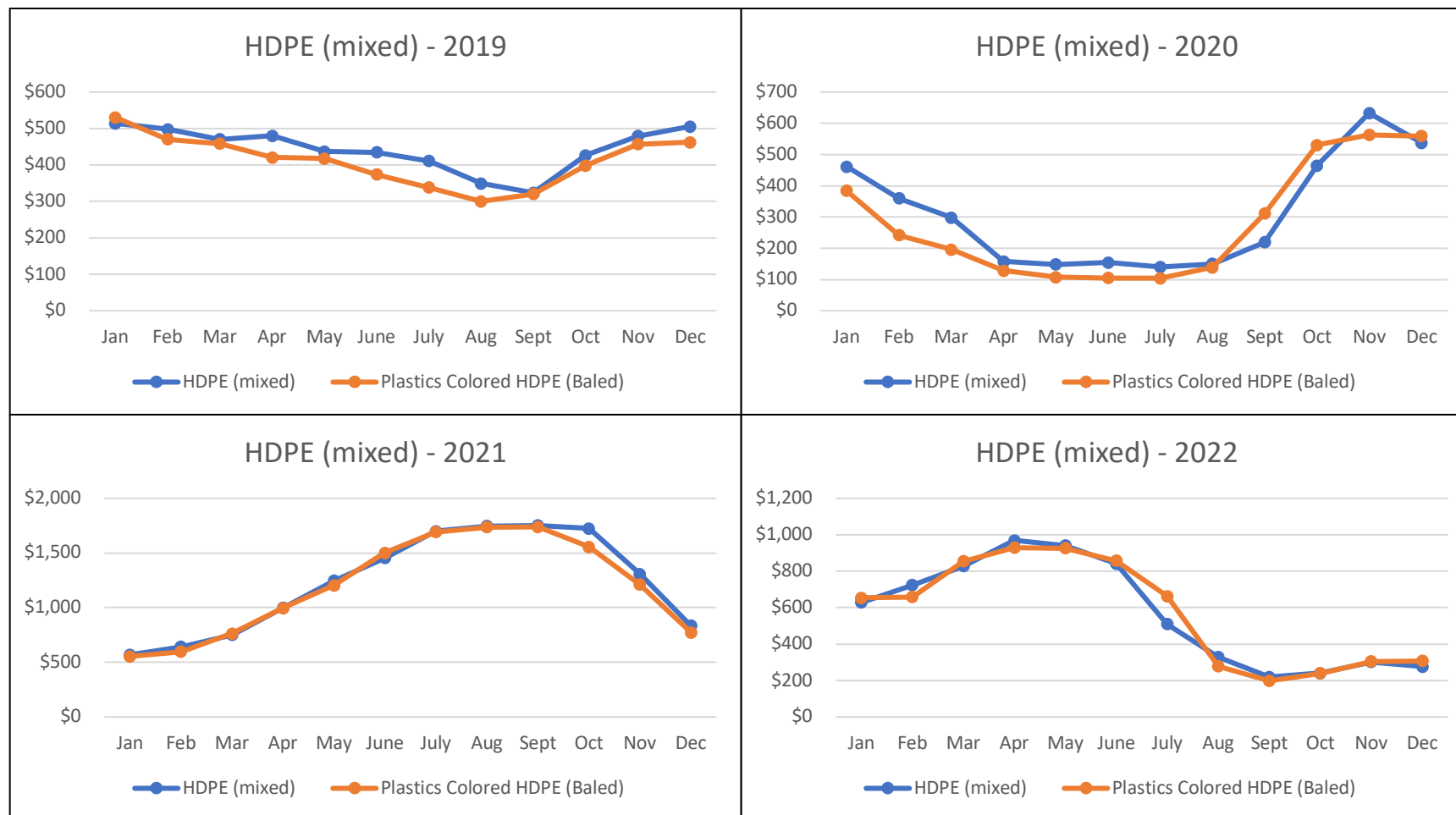
		2019	2020	2021	2022	2- Year Average
<b>CIF</b>	Polycoat Containers	\$40	\$20	\$14	\$48	\$31
<b>SMP</b>	PS 52 Aseptic & Gable Top Cartons	\$40	\$34	\$3	\$4	\$4
	Absolute Difference	\$1	\$10	(\$16)	(\$45)	(\$30)
	Percent Difference	13%	32%	-88%	-92%	-90%

## PET (mixed)



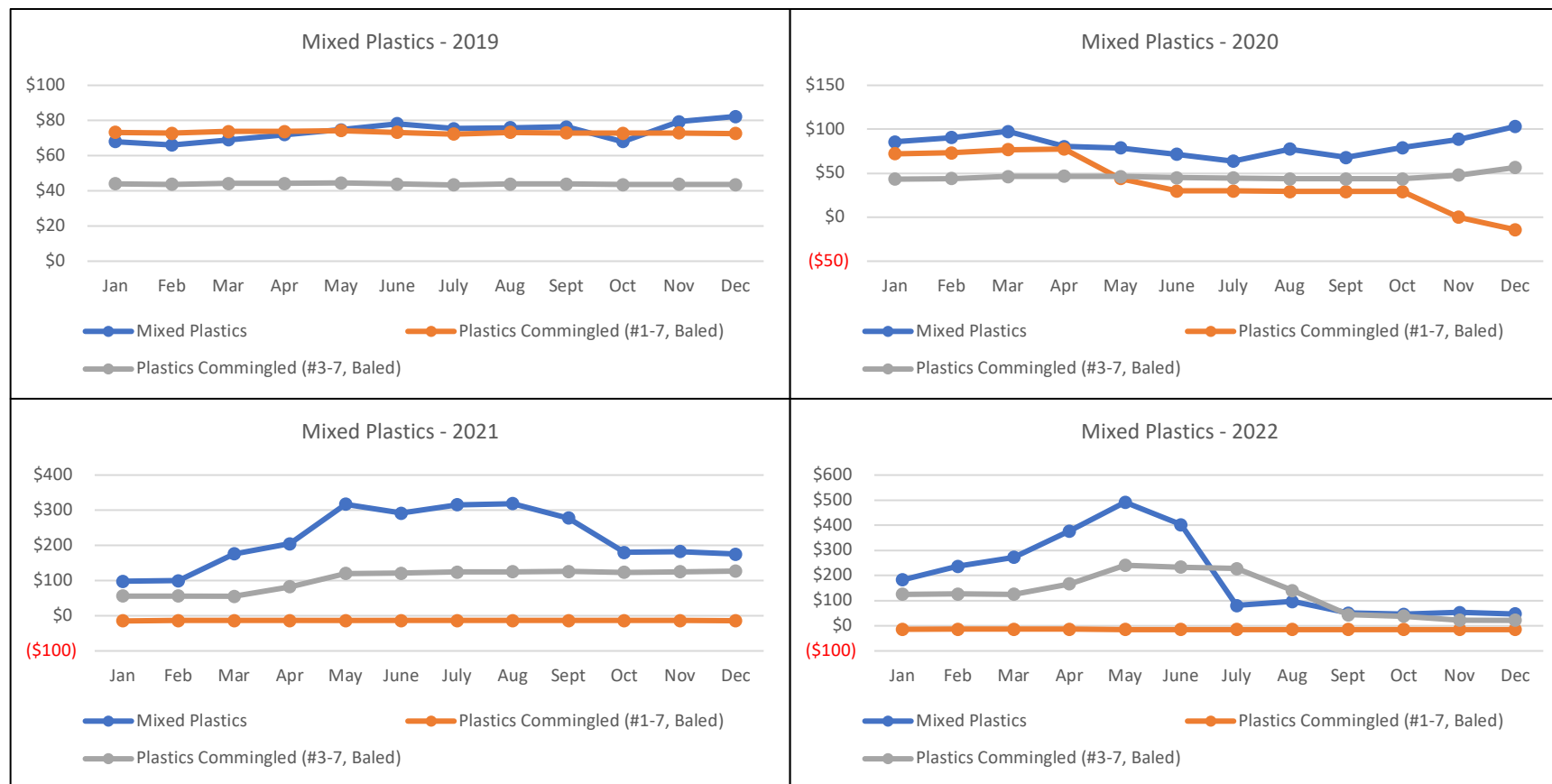
		2019	2020	2021	2022	2- Year Average
<b>CIF</b>	PET (mixed)	\$377	\$212	\$470	\$628	\$549
<b>SMP</b>	Plastics PET (Baled)	\$382	\$229	\$499	\$686	\$593
	Absolute Difference	\$5	\$17	\$29	\$59	\$44
	Percent Difference	4%	9%	9%	15%	12%

## HDPE (mixed)



		2019	2020	2021	2022	2- Year Average
<b>CIF</b>	HDPE (mixed)	\$444	\$310	\$1,227	\$567	\$897
<b>SMP</b>	Plastics Colored HDPE (Baled)	\$412	\$281	\$1,194	\$572	\$883
	Absolute Difference	(\$32)	(\$30)	(\$34)	\$5	(\$14)
	Percent Difference	-7%	-12%	-3%	1%	-1%

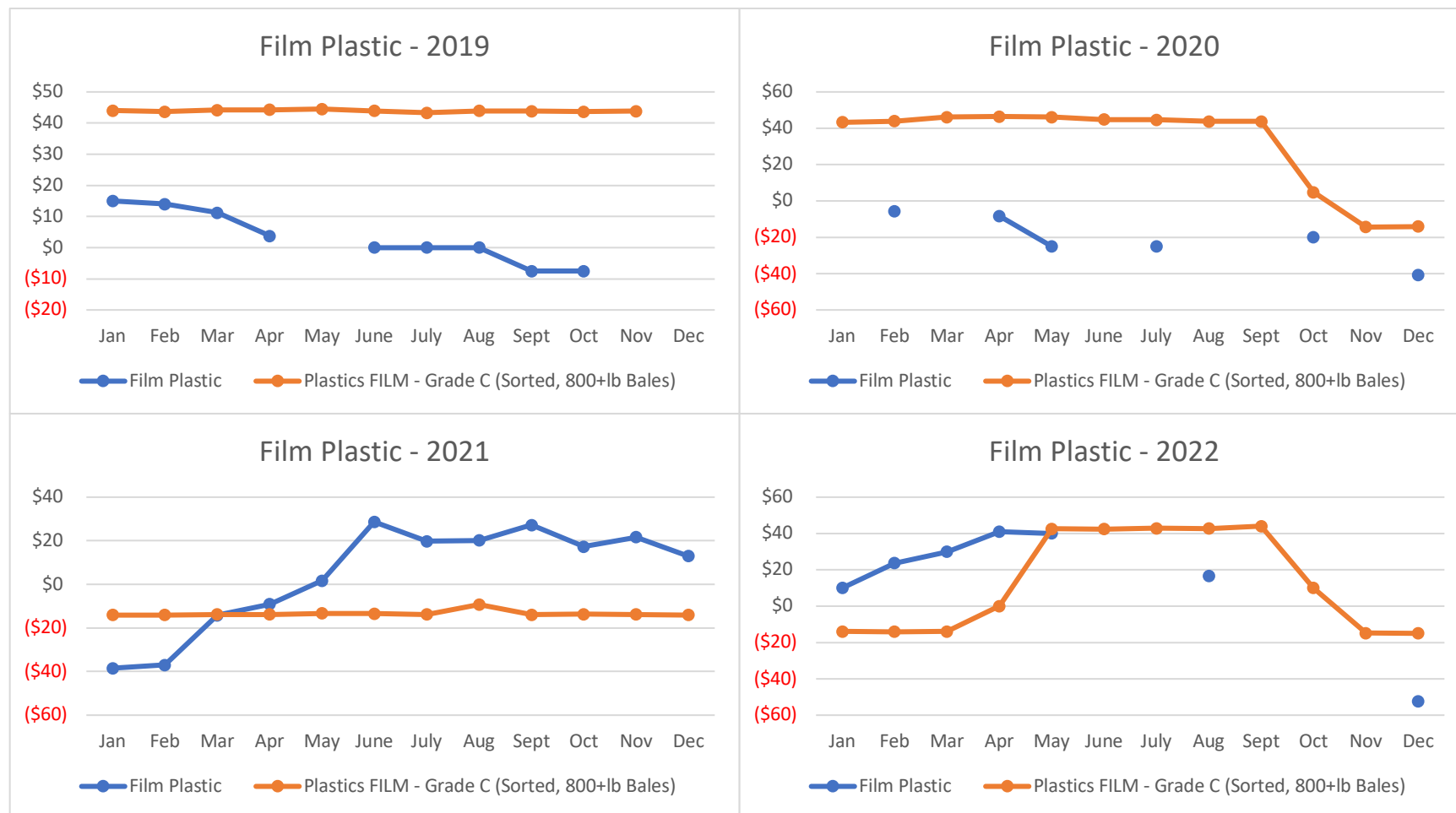
## Mixed Plastics



		2019	2020	2021	2022	2- Year Average
<b>CIF</b>	Mixed Plastics	\$74	\$82	\$220	\$195	\$207
<b>SMP</b>	Plastics Commingled (#1-7, Baled)	\$73	\$40	(\$14)	(\$14)	(\$14)
<b>SMP</b>	Plastics Commingled (#3-7, Baled)	\$44	\$46	\$103	\$126	\$115
	Absolute Difference vs. #1-7, Baled	(\$1)	(\$42)	(\$234)	(\$209)	(\$221)
	Absolute Difference vs. #3-7, Baled	(\$30)	(\$36)	(\$116)	(\$69)	(\$93)
	Percent Difference vs. #1-7, Baled	0%	-51%	-107%	-115%	-111%
	Percent Difference vs. #3-7, Baled	-40%	-43%	-50%	-16%	-33%

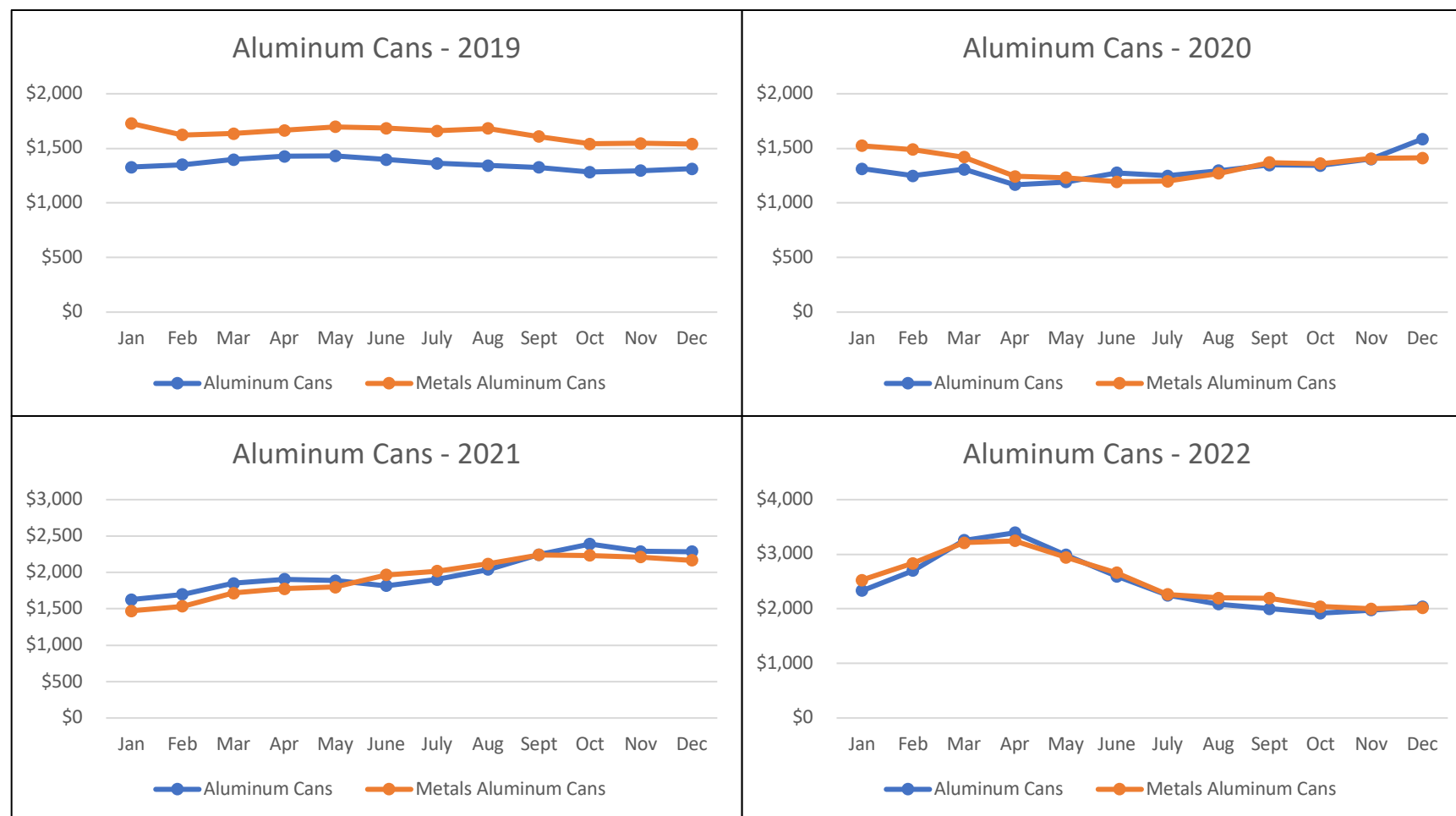


## Film Plastic



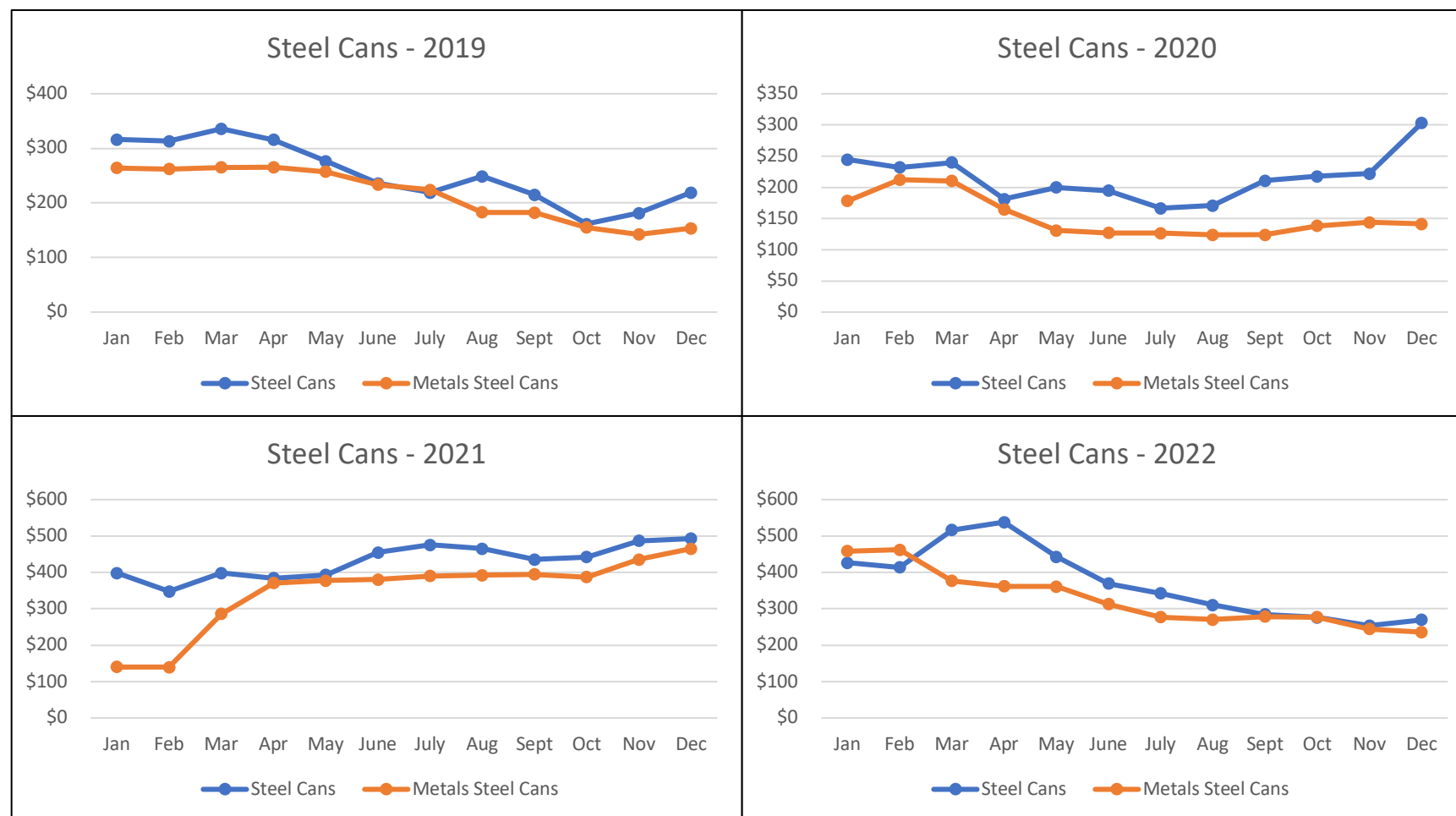
		2019	2020	2021	2022	2- Year Average
<b>CIF</b>	Film Plastic	na	na	\$4	na	na
<b>SMP</b>	Plastics FILM – Grade C (Sorted, 800+lb Bales)	\$44	\$32	(\$13)	\$13	\$0

## Aluminum Cans



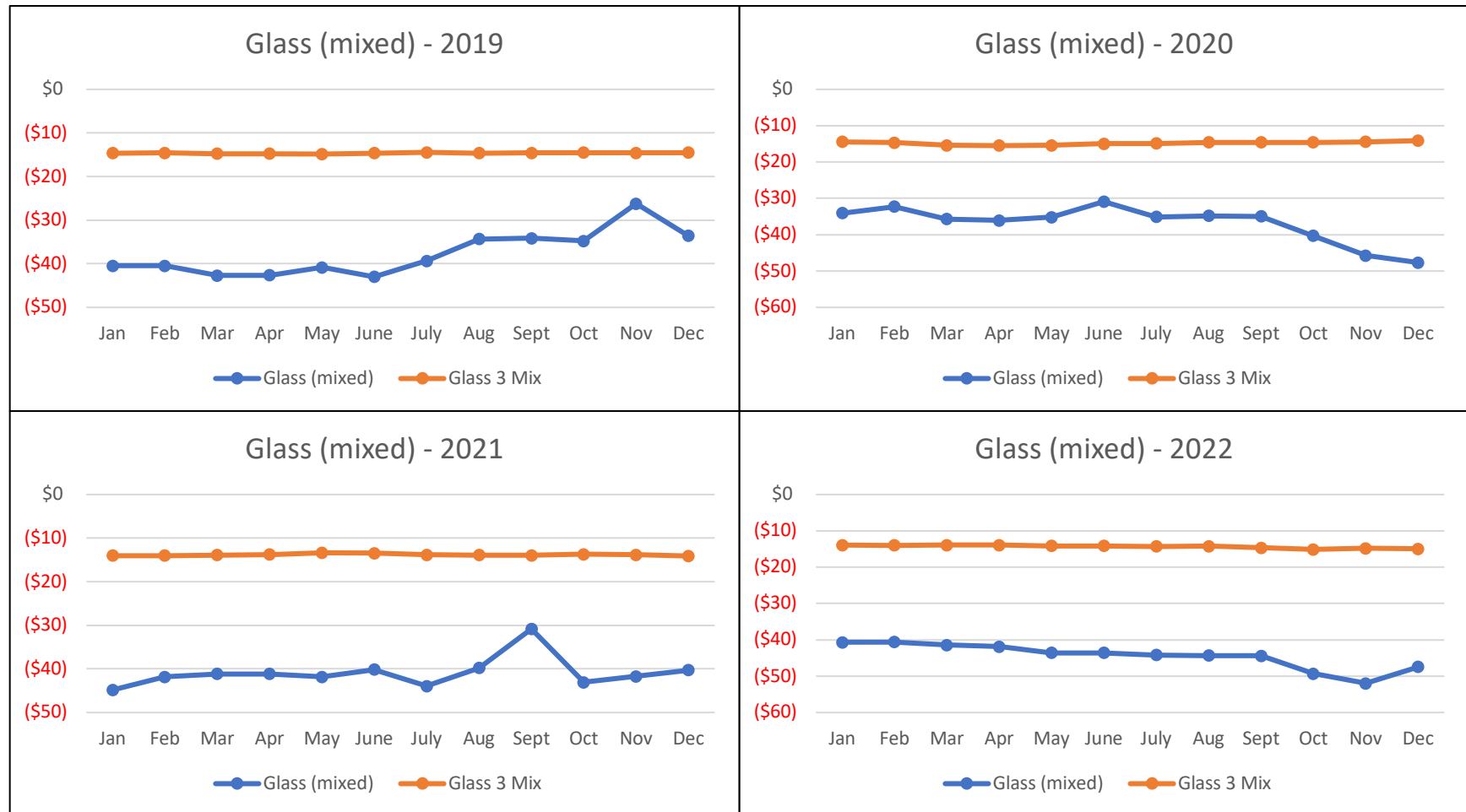
		2019	2020	2021	2022	2- Year Average
<b>CIF</b>	Aluminum Cans	\$1,354	\$1,311	\$1,995	\$2,462	\$2,228
<b>SMP</b>	Metals Aluminum Cans	\$1,634	\$1,344	\$1,938	\$2,512	\$2,225
	Absolute Difference	\$280	\$33	(\$57)	\$50	(\$3)
	Percent Difference	21%	3%	-3%	3%	0%

## Steel Cans



		2019	2020	2021	2022	2- Year Average
<b>CIF</b>	Steel Cans	\$253	\$215	\$431	\$371	\$401
<b>SMP</b>	Metals Steel Cans	\$216	\$152	\$347	\$327	\$337
	Absolute Difference	(\$38)	(\$63)	(\$84)	(\$44)	(\$64)
	Percent Difference	-14%	-29%	-21%	-10%	-16%

## Glass (mixed)



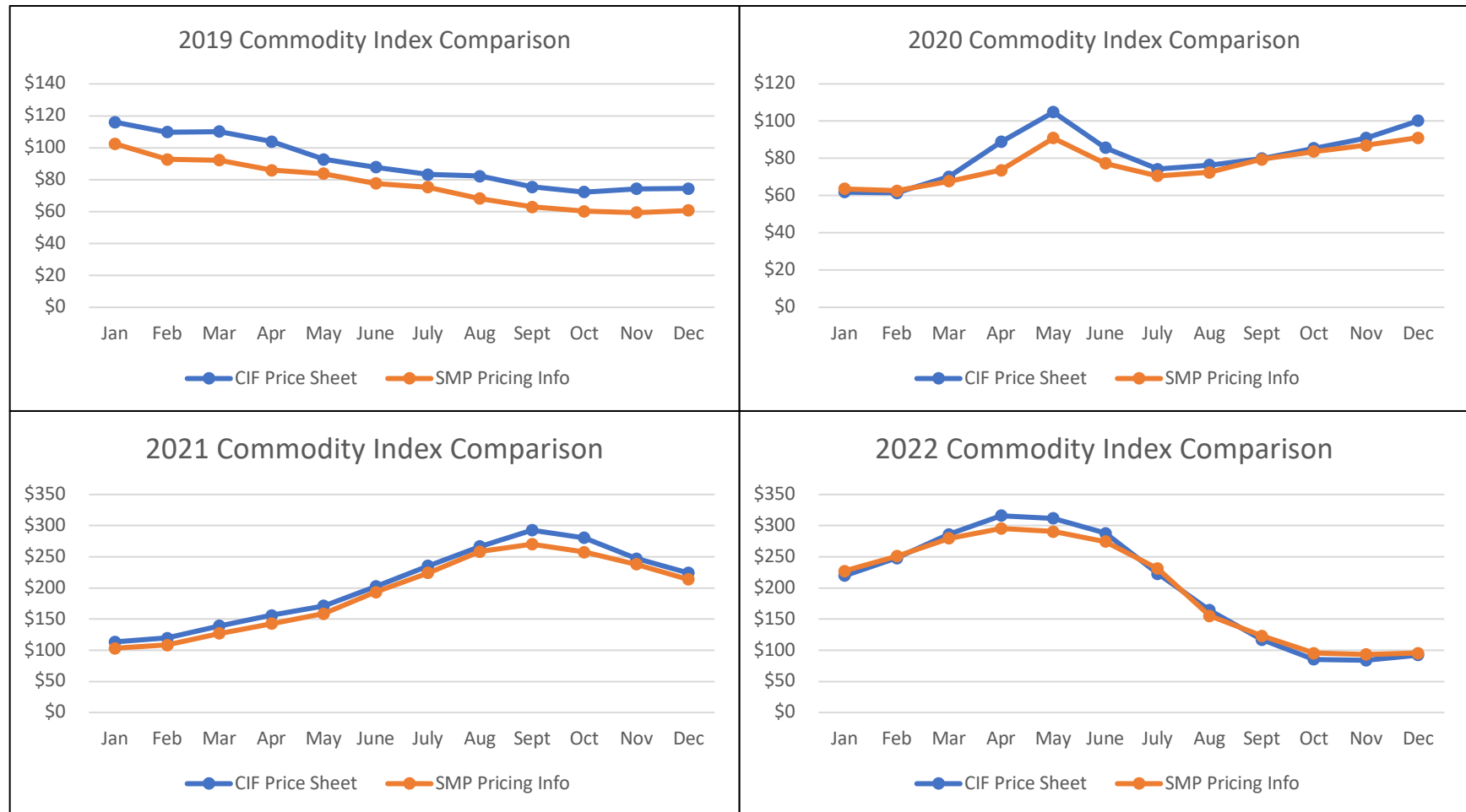
		2019	2020	2021	2022	2- Year Average
<b>CIF</b>	Glass (mixed)	(\$38)	(\$37)	(\$41)	(\$44)	(\$43)
<b>SMP</b>	Glass 3 Mix	(\$15)	(\$15)	(\$14)	(\$14)	(\$14)
	Absolute Difference	\$23	\$22	\$27	\$30	\$29
	Percent Difference	60%	59%	66%	68%	67%

## Composite Index Analysis

As indicated in the “Methodology: Composite Index Using SMP” Section, the SMP does not provide a Composite Index (i.e., a basket of good price for a metric tonne of recyclables marketed). To create a Composite Index, the monthly prices from the SMP were used instead of the monthly CIF prices, while still using the same composition to calculate the monthly Composite Index for the CIF Price Sheet.

Similar to the individual commodity price trends, the trend for the Composite Index using the SMP price is relatively consistently with the CIF Price Sheet Composite Index. Additionally, the shift of the Hardpack composition to the Mixed Paper #54 / ONP #6 for the SMP Composite Index narrows the gap between the two Composite Indices, largely because the pricing of Mixed Paper #54 / ONP #6 on the SMP was on average 27% higher than the CIF Price Sheet. In the last three years, the average percent difference is around 5%.

## Composite Index Comparison



		2019	2020	2021	2022	2- Year Average
<b>CIF</b>	CIF Price Sheet	\$90	\$82	\$204	\$203	\$204
<b>SMP</b>	SMP Pricing Info	\$77	\$77	\$191	\$201	\$196
	Absolute Difference	(\$13)	(\$5)	(\$13)	(\$2)	(\$7)
	Percent Difference	-15%	-5%	-7%	1%	-3%



## Conclusion

There are strengths and weaknesses to every source for post-consumer commodity pricing. One of the strengths of the CIF Price Sheet is that it relied specifically on actual prices received by Ontario municipalities. The SMP commodity prices covers a broader geographic range which introduces some additional considerations for Ontario municipalities looking to use the SMP after the CIF Price Sheet comes to an end. Municipalities that rely on the individual commodity prices in the CIF Price Sheet will need to account for the differences for each commodity. As an example, if a municipality linked its price to PET on the CIF Price Sheet, it would need to adjust down the SMP PET price by 15% in 2022 as the 2022 CIF PET Price was \$628/MT vs. 2022 SMP PET Price was \$686/MT.

It is also important to note that while this analysis looked at a two-year average under the assumption that 2019 and 2020 were unique years, there is no guarantee that the trends experienced in 2021 and 2022 will continue going forward. Since transition will be occurring over the next two and a half years, relying on the two-year average values may be a suitable short-term approach. Longer-term dependency will require additional assessments to determine how the SMP or another source has historically tracked against the prices received.

Also, if needed, municipalities could recreate a Composite Index Price if RPRA still shares the annual Collected and/or Marketed Tonnes until the end of 2025. Instead of relying on the monthly prices provided by municipalities, in theory, the CIF Price Sheet could be recreated using the SMP pricing. As shown in the last two years, it would yield a fairly reasonable proxy. The biggest limitation to this approach is that the RPRA Datacall would not capture the Collected and/or Marketed Tonnes from municipal programs that have transitioned. In that case, there may be potential changes to the composition as a result of fewer municipalities reporting, rather than an actual change in composition. Municipalities should assess these impacts for their specific programs and begin discussions with their service providers.