



Winter 2021 Solid Waste Forecast

Executive Summary

January 2021

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Forecast Summary

With vaccinations underway and another round of fiscal stimulus on the horizon, the economic recovery should soon gain speed and waste will continue to grow.

Economics

Economic Outlook: In November 2020, a month after the last forecast was published, effective vaccines were announced to combat the COVID-19 virus. While this sent positive shockwaves through the economy, the euphoria faded a bit with the realization of logistical problems in distributing the vaccine and inoculating millions of Americans. Nevertheless, Metro's economic advisor IHS Markit expects that a significant proportion of the population will be vaccinated by the middle of this year, and that the economy is consequently poised for a boost in growth in the second half. At the same time, a new \$900B stimulus package is set to extend unemployment insurance, pay an extra \$300/week in benefits, add another \$600 check to qualified Americans, and replenish the Payroll Protection Program (PPP) and other programs for the hardest hit industries. So important is this stimulus, that IHS Markit would have expected a GDP contraction of -2% in this first quarter of 2021 without it. With the stimulus, GDP should grow 0.2% in the first quarter. Nevertheless, challenges remain, especially in the very near term. COVID infections have surged causing heightened containment measures, and dampened consumer sentiment. These will all contribute to softer near-term consumer spending and sets up significant risk for much slower GDP growth in the first quarter of this year.

Fed Policy & Interest Rates: Federal Reserve (FED) monetary policy will remain accommodative by keeping the funds rate near zero in order to prop up the US economy. The FED will continue its monthly large-scale purchases of Treasury and mortgage-backed securities. The FED has also shifted its views on inflation to a "flexible average inflation targeting" policy (FAIT) to ensure a stable recovery to GDP and the economy sustains full-employment. This means the FED will promote an overshoot of its 2% inflation target, and tolerate some levels above the target so that the average is met.

Assets: IHS Markit reports US home prices are "appreciating at unprecedented rates". Conditions in the real estate market are ripe for double-digit growth for a few important reasons. First, 30-year fixed mortgage rates having fallen sharply under 3%. Second, there is currently record-low inventory and supply of unsold homes. Third, there is pandemic-induced pent-up demand for real estate. Finally, there is current ample residential demand from Millennials seeking first-time homes. A sharp jump in home prices is predicted in 2021 before supply catches up with demand. Research indicates strong asset valuations may boost spending between 5 to \$10 for every \$100 gain in home value. Another study says that most of this added spending will be home-related purchases or remodeling work.

Employment and Population Growth: The region lost over 150,000 jobs between February and April of 2020. Just over half the number of jobs have returned since. The leisure & hospitality industry remains particularly hard hit. The recovery of nonfarm payroll employment has slowed in the region while initial unemployment claims ticked up as COVID infection rates surged and containment measures tightened. Despite this, the official unemployment rate for the Portland MSA dipped to 6.2% - its lowest reading since the pandemic. (We believe there was a jump in early retirements and discouraged workers permanently departing from the workforce that contributed to the lower unemployment rate). And population, a decent indicator of long-run, baseline garbage levels, was revised down recently. US population grew 0.35% in 2020 - the slowest in at least 120 years. The downstream regional effect will be lower population and less capacity for regional growth in the long-run.

Forecast Summary

Construction: A decline in the construction sector has been significantly less than first feared. The construction industry has been bolstered on the strength of the residential sector. Demand for housing remains strong in the near term. Social distancing restrictions have only reduced, not stopped, home construction. Cities continue to issue building permits. We expect that the demographic and macroeconomic forces underlying the industry's recovery will be enough to sustain the current direction of the rebound.

Solid Waste

Regional Waste Outlook: Regional garbage took a hit this cycle, falling from a pre-pandemic peak of about 1.45 million tons (annualized) in the first quarter of 2020, to about 1.40 million tons in the third quarter. But because of a healthy construction sector and ample dry waste, tonnage looks like it hit bottom there, growing to an annual rate of 1.41 million tons in the fourth quarter of 2020. This sword has two edges though, because while dry waste will carry the weight (pun definitely intended), wet waste still appears to have about another quarter left to fall before it, too, returns to some semblance of growth. Nevertheless, our outlook overall is about the same as the last one, and regional garbage, both wet and dry combined, appears to be on a stable upward trajectory.

Waste Recovery: It's pretty common news that pandemic-related restrictions and shutdowns have decimated industries like leisure and hospitality, food service, and the like. However, it's important to note the relative immunity (again, intended) of waste to these impacts. Just like the garbage side of the equation, source-separated commercial food waste finished calendar year 2020 only slightly below where it started. And on the residential side, source-separated food mixed with yard debris soared in volume, hitting almost 144,000 regional tons in 2020, which is a year-over-year increase of over 30%. While much of this is due to more people spending more time at home, the outlook is for an eventual downward shift over the coming years, as the population gets vaccinated and eventually returns to working from, well, not home. On the commercial side, the upswing in recovery will largely come from the Business Food Waste Program, which still lives among our many forecast assumptions. That program is expected to begin capturing additional commercial food waste in 2022, and step up total capture to about 55,000 regional tons by 2025.

Wet Tonnage Allocations: Way back in the fall of 2019, we forecasted that regional wet waste would hit about 734,000 tons in 2020. This forecast set the allocations at private facilities in 2020. But as we all know, a global pandemic and recession happened and we ended the year shy by about 19,000 tons. This drop in regional tonnage in 2020 was exacerbated by the fact that private facilities, unexpectedly, used nearly all of their allocations in 2020. Up through 2019, the tendency was for facilities to leave about 7% of their allocations on the table each year. These unused tons would flow back to Metro transfer stations. We assumed similar behavior would continue to occur. But it didn't. In 2020, private facilities used over 98% of their allocations. The result - of lower than expected regional wet waste, and higher private facility utilizations - is that Metro ended up with just shy of 40% in 2020. The problem for this year in 2021, of course, is that this year's allocations were set based on our last forecast in the fall of 2020, which was some 16,000 tons higher than our current outlook for the year. If this comes to fruition AND private facilities end up leaving next to nothing on the table again, Metro will again see sub-40% wet waste flows in 2021. However, it's still early with plenty of upside risk, and subsequent forecasts (in the spring and summer of this year) will get a better read on what's to come.

Forecast Summary

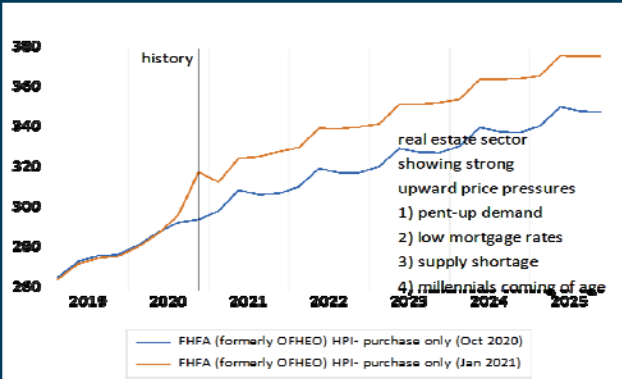
Post-collection Recovery: Recovery rates of mixed dry waste (recovery of mixed dry waste avoids Metro fees and taxes at private facilities) have been declining for some time and are a far cry from their levels back in mid-2000's. While the bleed in recovery rates has been slowing, the forecast here finally sees some stability, if not a modest increase as one private facility in particular is expected to revamp its recovery processes.

Forecast Flash

	Calendar Quarter					Calendar Year			
	2020:4	2021:1	2021:2	2021:3	2021:4	2020	2021	2022	2023
Key Economic Drivers (seas-adj)									
Total non-farm Employment (<i>thous</i>)	1,137	1,142	1,149	1,156	1,176	1,145	1,156	1,196	1,232
<i>yoy change (%)</i>	(6.9)	(6.8)	5.4	2.4	3.5	(6.2)	0.9	3.5	3.0
<i>change from last fc (%)</i>	(1.3)	(2.3)	(2.7)	(2.6)	(1.1)	(0.3)	(2.2)	(1.1)	(0.6)
FHFA Home Price Index	318	304	311	315	314	296	311	315	316
<i>yoy change (%)</i>	15.2	8.2	8.0	6.2	(1.2)	8.7	5.1	1.4	0.4
<i>change from last fc (%)</i>	8.0	1.7	7.8	17.5	17.1	2.2	10.7	16.0	16.4
Construction:Total Emp Ratio (%)	6.63	6.66	6.66	6.64	6.56	6.58	6.63	6.51	6.42
<i>yoy change (ratio)</i>	0.4	0.3	(0.1)	(0.0)	(0.1)	0.4	0.1	(0.1)	(0.1)
<i>change from last fc (ratio)</i>	0.3	0.4	0.4	0.4	0.3	0.2	0.3	0.2	0.1
30-Yr Fixed Mortgage Rates	2.77	2.74	2.91	2.95	3.02	3.12	2.90	3.14	3.27
<i>yoy change (rate)</i>	(0.9)	(0.8)	(0.3)	0.0	0.2	(0.8)	(0.2)	0.2	0.1
<i>change from last fc (rate)</i>	(0.2)	(0.4)	(0.2)	(0.1)	(0.1)	(0.1)	(0.2)	(0.0)	0.0
Housing Permits (<i>thous</i>)	2.96	3.90	4.00	3.66	3.58	12.9	15.1	13.2	13.6
<i>yoy change (%)</i>	(33.5)	(0.6)	30.8	23.4	20.9	(23.5)	17.3	(12.5)	2.5
<i>change from last fc (%)</i>	(11.1)	15.2	13.1	10.4	7.6	(4.7)	11.6	0.4	(5.2)
Tri-County Core Tons (<i>thous</i>)									
	359	339	370	380	348	1,410	1,437	1,472	1,504
<i>yoy change (%)</i>	3.0	(0.4)	7.1	4.2	(3.1)	(2.0)	1.9	2.4	2.1
<i>change from last fc (%)</i>	---	(0.5)	(0.3)	(0.2)	(0.6)	---	(0.4)	0.5	0.3
Wet Tons Avail. For Alloc. (<i>thous</i>)									
	185	173	179	180	181	715	712	720	743
<i>yoy change (%)</i>	(0.0)	(2.5)	4.3	(0.6)	(2.4)	(3.1)	(0.4)	1.1	3.2
<i>change from last fc (%)</i>	---	(2.2)	(2.1)	(2.1)	(2.3)	---	(2.2)	(1.7)	(0.8)
	Calendar Quarter					Fiscal Year (ending)			
	2020:4	2021:1	2021:2	2021:3	2021:4	2021	2022	2023	2024
Metro Enterprise Tons									
MSW (<i>thous</i>)	131	121	131	134	126	515	523	539	548
<i>yoy change (%)</i>	10.6	2.2	8.9	2.2	(4.3)	4.0	1.5	3.1	1.7
<i>change from last fc (%)</i>	---	(5.3)	(4.7)	(4.6)	(5.4)	(6.8)	(3.7)	(2.4)	(2.5)
Res. Organics (<i>thous</i>)	14.4	9.7	18.0	12.7	14.4	55.0	53.8	52.0	50.2
<i>yoy change (%)</i>	36.1	24.5	(11.5)	(2.5)	0.1	9.6	(2.2)	(3.3)	(3.4)
<i>change from last fc (%)</i>	---	12.1	12.1	12.0	12.0	20.9	11.0	8.9	6.7
Com. Organics (<i>thous</i>)	2.7	3.7	3.8	4.2	4.1	12.9	19.8	24.4	27.6
<i>yoy change (%)</i>	(38.7)	(4.4)	82.1	53.6	52.7	(13.2)	52.7	23.7	12.8
<i>change from last fc (%)</i>	---	1.5	1.5	1.5	1.5	(16.5)	1.4	1.4	1.4
Wood (<i>hunds</i>)	7.7	6.6	7.7	8.9	6.9	28.5	30.0	30.0	30.0
Yard debris (<i>thous</i>)	4.8	3.1	6.0	4.2	4.3	18.2	17.6	17.6	17.6
Staffed	86.5	73.3	96.4	100.3	73.0	354	349	357	361
Automated	27.8	26.5	28.9	29.2	28.1	111	115	118	120
Regional Fee/Tax Revenue Tons									
Regional System Fee (<i>thous</i>)	351	338	363	369	348	1,403	1,431	1,457	1,479
<i>yoy change (%)</i>	5.8	6.6	10.3	5.0	(1.0)	3.4	2.0	1.8	1.5
<i>change from last fc (%)</i>	---	0.5	0.7	0.8	0.4	(1.5)	0.9	0.9	0.7
Excise Tax (<i>thous</i>)	356	343	367	374	352	1,422	1,450	1,477	1,500
Environmental Cleanup (<i>thous</i>)	38.9	66.2	69.5	76.4	70.1	225	284	287	290
Community Enhancement (<i>thous</i>)	280	254	288	281	273	1,095	1,107	1,130	1,149

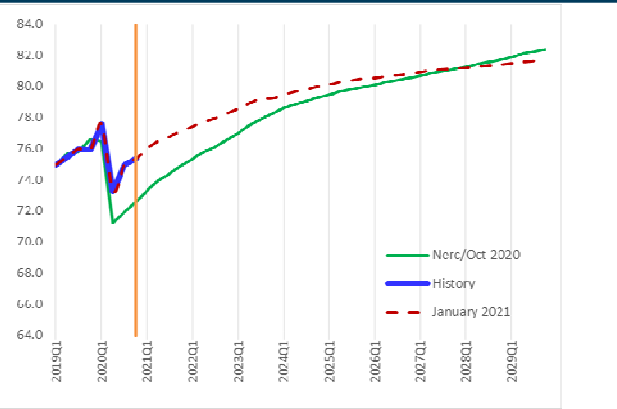
Forecast Flash

Better than expected home price growth outlook from constrained supply



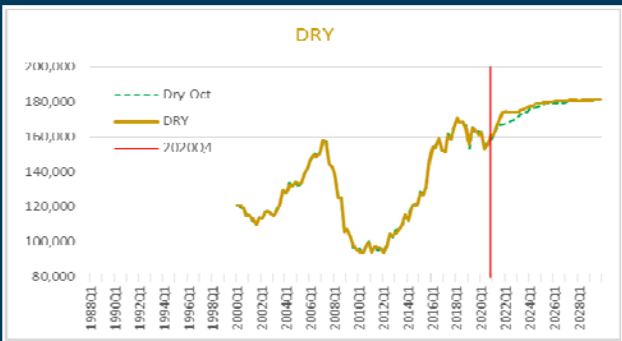
Source: FHFA, Metro

Coupled with stronger construction employment growth in the region



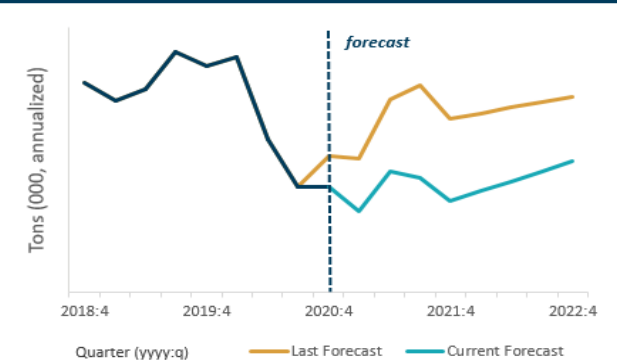
Source: BLS, NeRC, Metro

...creates a better regional dry waste forecast, especially in the near-term



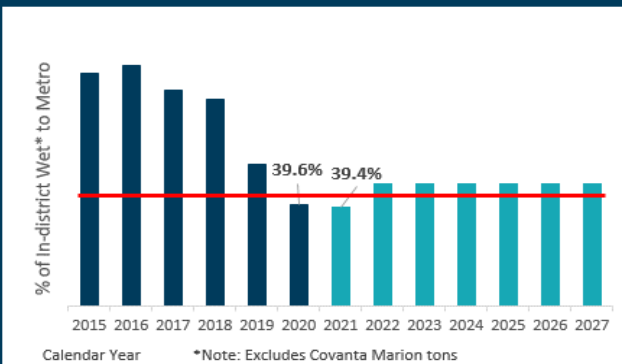
Source: Metro

Wet (allocatable) waste ends lower than expected in CY 2020



Source: Metro

Lower regional wet waste, coupled with higher utilizations, puts pressure on 40%



Source: Metro

Fee/taxable tons a little lower this FY, a little higher next FY, than last forecast



Source: NBER, Metro

Key Assumptions

	Baseline Assumption	Change from Last Forecast
Bioscience/Vaccine	The economic recovery continues to depend on the course of the virus. Infection rates create caution among consumers, and slow reopenings. IHS Markit assumes wide-spread availability of vaccines by mid-2021.	No change
US Macro	Q3 2020 grew at 33.4%; Q4 2020 growth slowed to 3.0% as fiscal support and the impetus from pent-up demand waned. GDP negatively impacted this winter amidst a 2nd wave of rising infection rates and the reinstatement of containment measures. The winter forecast calls for growth in 2021 to be backloaded as a result of the fiscal stimulus arriving in Q1 and for herd immunity kicking in later in the year.	If trade disputes with China continue, there may be further supply-chain disruptions for US businesses, leading to slower growth moving forward. If retail closures continue to accelerate, low income jobs may not return which risks a more pronounced "K" shaped recovery.
Fiscal Stimulus	IHS Markit incorporates additional fiscal stimulus / stabilization in Q1 2021, consisting of \$300 emergency unemployment supplements, and a second round of stimulus checks of \$600 / qualified recipient.	The White House has signaled support for a larger stimulus, which could suggest more upside risk to the US outlook.
Monetary Policy	The FED has injected significant liquidity into businesses in the form of loans and grants since the onset of the pandemic and this will continue. The FED has repeatedly announced it will hold interest rates near the effective lower bound and to allow inflation to rise above 2% - permitting an overshoot of its previous inflation target.	Monetary policy by FED was to maintain a target inflation rate under 2%.
Home Prices	Home prices leaped 15.2% y/y in Q4. Double-digit price gains are expected thru 2021. This trend is being supported (and will continue to be supported) by strong demand, especially among millenials in their prime home-buying years, and low interest rates.	US outlook on residential home prices were revised higher due to the Q4 jump in prices. Prices expected to appreciate higher in the winter forecast as compared to the autumn forecast.
Construction	Construction activity continues to be strong, as permits/activity can still proceed even with social distancing measures in place. Demand for new homes or for remodeling will continue to be supported by low mortgage and/or home equity loan rates, demand for more work-from-home office space, and migration from urban to suburban/ex-urban areas	A surprise jump in construction employment due to the immense resiliency in the residential sector - especially in SF production.

Key Assumptions

	Baseline Assumption	Change from Last Forecast
Commercial Food Waste	Commercial food waste bottoms this year at about 25K tons and begins to recover some of the losses that occurred with the pandemic. The pre-recession peak is reached in 2023. The Business Food Waste Program starts in 2022 and when fully implemented by 2025, will capture about 55K tons of material.	No change
Residential Food Waste	The surge in capture holds steady through this year, 2021, and begins to slowly taper down to pre-pandemic levels. Those levels are never fully reached due to some permanent work-from-home assumptions.	Regional capture peaked in 2020 higher than expected last forecast, so more volume expected overall.
Wet Waste Allocations & Utilizations	CY 2021 allocations (based off Fall 2020 Solid Waste Forecast) remain in effect, and get scaled based on regional tonnage in subsequent calendar years. Utilization of allocations based on most 2020 actual utilizations, which average 98-99% for the region.	Utilizations are significantly higher than last forecast, to the tune of about 99% (vs. 94%)
Pre-consumer wastes and Environmental Cleanup	Pre-consumer (special) wastes that incur Metro's full fee and tax at disposal sites, and environmental cleanup materials, which incur reduced Metro fees and taxes, are expected to grow slowly at their dampened long-run trends	No change
Post-collection Recovery	Recovery rate declines finally stabilize this year in 2021, and grow slightly in 2022 and 2023 as one private facility implements investments to its recovery process.	Average annual private rates a little lower than last forecast, through the forecast horizon.