

**C O R P O R A T E
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State of Solid Waste

&

Long-term Key Factors Influencing Waste Services

November 2023

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1. What did we learn from latest earnings cycle?
 1. Lots of Price
 2. Cost of capital is more expensive
 3. Supply chain remains a challenge
 4. Capital Spending
 5. Sustainable Investing in Focus
 1. MRFs
 2. RNG/LFG plan
 6. What are investors thinking?

2. Where do we go from here?
 1. Tell the Story
 2. Sustainability Fad or Fabulous
 3. Alternative Fuel Vehicles
 4. Recycling – Content Commitments are a Game Changer

- State of Solid Waste – It is doing just fine!!
 - Closed FY22 on better price than forecast in 4Q: 5.9% to 9.0%.
 - FY23 opened very strong.
 - 1H23 up 120bp vs FY23 median price guidance
 - FY23 revised: Group's median price growth up 75bp (Range: 0bp to 150bp).
 - 3Q23 validated the revised upward revision.
- Price/Cost – Inflation Outlook
 - Inflation peaked about mid-year FY22.
 - Inflation is less bad but not narrowing as fast as the Fed hoped – **wages are 4% to 6%**.
 - 3Q23 price/cost spread drove above average margins
 - Price/Cost is set up for above-average margin gains in 2H23 into 1H24.

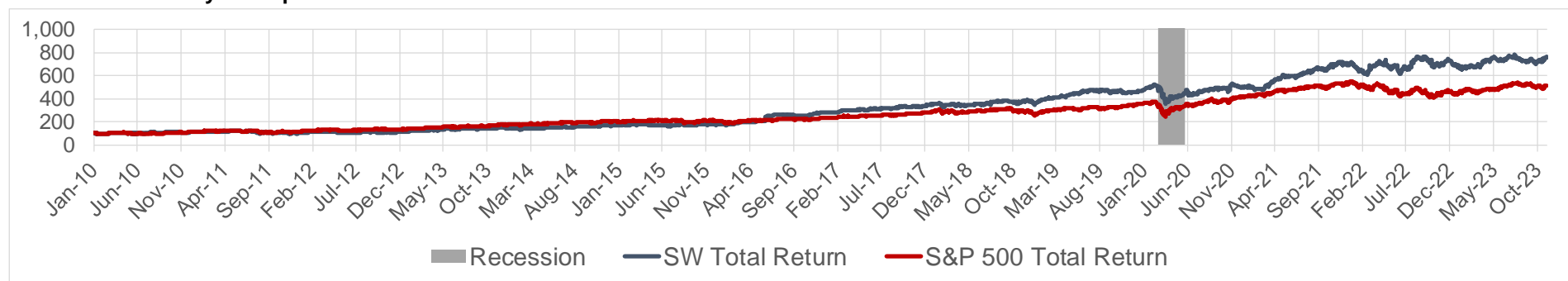
- Volume: Fundamental Trends support a neutral to positive outlook
BUT.....
 - Good volume trends (service interval/small container, landfill MSW) remain positive, just at a lower rate of change.
 - Overall volume, could be negative to slightly positive as quality of revenue is a focus.
 - Shedding of low quality and low return sales: **do not do it for practice.**
- M&A Outlook: Another strong year but the pace begins to normalize.
 - GFL takes a pause, sort of.
 - WM is spending on Sustainability – does not mean no deals but a lot less.
 - WCN/RSG/CWST will be active, as will bigger private companies, LRS, WIN, Rumpke, Recology.
 - PE still active but picky with the higher cost of debt capital a factor.

- Cost of Capital – **it is a lot more expensive.**
 - Jan 1, 2022: 10-Year was 1.5%.
 - Nov 8, 2023: 10-Year is 4.60%, 2-year is 4.96%.
 - LTM Equity Risk Premium (ERP), up 60bp since Jan-2022
- Supply Chain – **better but NOx27 could extend the pain.**
 - Medium and Heavy weight vehicle production remains challenging.
 - 80% of replacement rate
 - About 10% of routed fleet is normal.
- Labor – **younger generation does not want to drive for a living.**
 - Driver supply not helped by Yellow Freight Bankruptcy as much as first expected.
 - Wage inflation at 4% to 6% for the time being.
 - Own the vocational Training becoming table stakes.

- Inflation – **down but at a higher low.**
 - Settles at 3-4% for a while do not repeat 1-3% of 2008 to 2020.
 - Wages are lower but repair & maintenance and risk not coming down yet.
- Recession probability – **Not in 2023, early 2024 and short lived.**
 - What will the Fed do?
 - Paused for now but inflation is being stubborn.
 - May finally kill the housing market – certainly has killed multi-family.
 - Move-up market already closed.
 - Drives credit card rates to over 20% cost of carry.

- Perspective
 - Average age of buy-side analyst is 25 to 35.
 - Average age of a PM is 30 to 45.
- What were they doing in 2008?
- Never seen inflation or rising interest rates!
- 2010 to 2019 Hard not to Look Brilliant – 13.4% CAGR in stocks!
- 2020 to 2023 All of these Happened Virtually At Once
 - Pandemic (Spanish Flu - 1918)
 - Russia/Ukraine (WWII early 1940's)
 - Energy Crisis (1970s)
 - Hyperinflation (1980s)

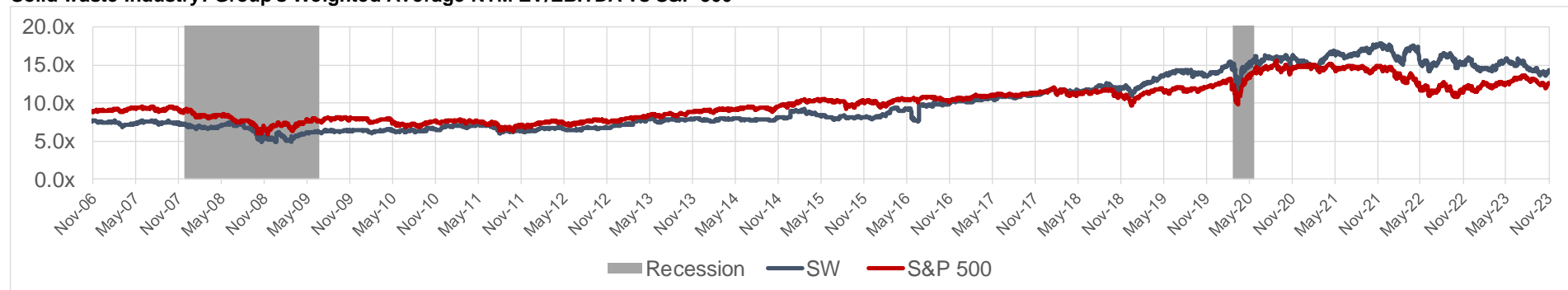
Solid waste Industry: Group's Indexed Total Returns vs S&P500



Source: Factset and Stifel Research

- Themes dominate the mindset
 - Risk on or Risk off
 - Risk-on investing happens during economic growth and is characterized by high-risk investments.
 - Risk-off investing happens during economic decline and is characterized by low-risk investments.
 - Defensive vs. Cyclical: Is a Recession Coming?
 - The Cyclical super sectors: Basic Materials, Consumer Cyclical, Financial Services, and Real Estate.
 - The Defensive super sectors: Consumer Defensive, Healthcare, and Utilities.
 - Tweeners super sectors: Communication Services, Energy, and Industrials.
 - The sky is blue the sky is gray – Just Kidding.

Solid waste Industry: Group's Weighted Average NTM EV/EBITDA vs S&P 500



Source: Factset and Stifel Research

- Tell the Story – It is a Good One to Tell
 - **Own the Narrative before Someone Else Will.**
 - Can you succinctly and quickly frame how the solid waste industry is a leader in Sustainability (widely defined)?
 - Do the people who know you the best know what happens to their trash every week?
 - Did you know solid waste has for 20 years produced more renewable energy (millions MWH) than all other forms until just five years ago?
 - And it is base load power into the grid, not peaking power!
 - Solid waste is #2 vocational fleet converted to alternative fuels (behind municipal buses) in North America?
 - 30% plus of routed vehicles use CNG.
 - Solid waste is a leader in the use of AI and advanced technologies to improve economic reuse of waste?

- Sustainability Done Right it is a Competitive Advantage?
 - The Climate Genie is out of the Bottle
 - Solid waste has an opportunity it needs to seize! – Tell the Story and Act!!
 - LFGTE – renewable electricity 25 year record of base load power
 - 50:50 Flaring vs beneficial reuse goes to 1/3:1/3:1/3 in five years.
 - Renewable Fuel
 - LFG mix shift to more pipeline quality – D3-RIN
 - Introduces added risk
 - No financial hedges so far
 - Will a three-year RVO bring RIN stability?
 - Alternative fueled fleet
 - High carbon to zero emissions : CNG to Electrification
 - Circular Economy
 - \$7B MRF modernization/recapitalization under way?
 - Curbside recycling
 - The ultimate aggregator

If we are not telling the story, then how do you get the customer to pay?!!!

- Alternative Fuel Vehicles: Pathway from high carbon intensity to zero emissions .
- North America – We have to think out of the Box!!
 - CARB: ACT and ACF impact – it is bigger than California.
- Issues:
 - Payload and hours of service and infrastructure.
 - LiO4 battery is not the long-term source of power – short to intermediate, yes.
 - CNG still has a role to play- Cummins 15L and 12L are game changers.
 - *EV first movers will invest in the infrastructure, do not wait for Utilities/Gov't.*
 - *DOE Clean Cities Program plus state grants can help fund infrastructure.*
 - Medium and heavyweight fleets have to figure out how to get to zero emissions.
 - Fuel cell.
 - Solid state.
 - Something not yet discovered.

- IFAT: *World's leading trade fair for water, sewage, waste and raw materials management.*
 - May 13-17, 2024 in Munich, Germany.
 - Truck/body vendors bring the whole catalog and there is live test driving all day long for five days.

- Recycling – Circular Economy needs content Commitments.
 - *Like for Like reuse*
 - *What is the best alternative use vs landfill?*
- SB54 – California EPR Legislation signed into law Aug 2022.
 - Plastic Pollution Producer Responsibility Act.
 - Plastic bag ban by Jan 1, 2025.
 - 25% reduction of qualified plastic packaging by 2032.
 - 65% of all single-use plastic packaging be recycled by 2032.
 - Plastic beverage containers *made of 50% recycled content* by 2030.
 - Water bottles, not just cups (which are moving to paper).
- \$7 billion recapitalization of MRF capacity needed.
 - Middle-innings on this effort supported by the private sector

- EPR just shifts the “who pays” and it does not alter the rate of existing recycling. (CA, OR, CO, ME)
 - The consumer/tax payer pays more through consumer purchases.
 - Colorado Pro: wants to disintermediate solid waste infrastructure.
- For CPG companies to comply, more and more qualified plastic packaging will have recycled content - not just beverage containers.
 - Recovery rates matter and we do not measure that now.
 - 140,000 gas stations and virtually no recycling, huge leakage of plastic bottles.
- Solid Waste is in a control position – it is the aggregator of the post consumer recycled content.
 - Should it also move into improving the value add of the aggregated materials?

- Landfill Air Emissions
 - EPA has just declared MSW landfills are in gross violation of emissions monitoring (Aug 17 EPA Memorandum).
 - Need clarity on Method 21 (probes) vs OTM 51 (sniffer).
- PFAS
 - CERCLA rule must have intervention legislation to protect **passive receivers** from spurious lawsuits (MSW landfills, composting, POTW!)
- Extended Producer Responsibility
 - Risk the Pro seeks to disintermediate the Solid Waste Company.
 - It cost more and just shifts the burden of pay to the producer.
 - It does not increase recycling rates/it could improve recovery if designed correctly
- Transition from high carbon intensity to Zero Carbon Fleet.
 - Infrastructure is not there and cannot keep pace with the regulatory deadlines.
 - Payload and hours of service are limited to about 15% of current routes.
 - CNG likely remains a transition option to phase down carbon intensity.
- RNG Introduces Volatility to the P/L
 - EPA sets demand and has a history of moving the goal post and with it RIN volatility.
 - Will the 3-year RVO bring stability?
 - Will the voluntary market demand less of a forward discount to spot market price?

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