The Price is Right: Changing the Pricing Model for Services

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Looking Back to See Where We are Going

- Old School
  - Would spend unlimited capital to capture $1 of sales
  - Residential privatization a lost leader to enter a new market
  - Recycling – “fuggedaboutit” BUT was then given away to keep the municipal contract
  - Direct haul disposal
  - Use the landfill to drive collection market pricing
  - Pooling of Interest Accounting
  - Love CPI inflation
Solid Waste
Ten Observations Over Ten Years

1. Little brown boxes in the waste stream, more and more and more.

2. U.S. solid waste production remains at ~6 pounds per person (EREF).

3. Landfill accounts for 64% of disposal, WTE 9% and recycling 21% and composting the remainder (EREF).

4. U.S. average landfill tip fees double from current levels.

5. Zero waste movement stalls.

6. Diversion versus recycling more of the former less of the latter.

7. Recycling processing model still predominantly commodity based but changing.

8. Organic diversion/recycling not economical without subsidies.

9. Alternative fueled collection vehicles (CNG) makeup 50% of the fleet.

10. Coal ash and E&P Energy Waste are a factor but for no more than 10% of total sales.
If solid waste is truly local does it really matter what happens in China, Europe and Canada?

– Yes, commodity prices are influenced by China demand
– Yes – influences to the U.S. economy are global not just local
  • Capital, People and Data all move freely around the globe seeking the best after-tax return on investment
Global Economic Indicators

US Trade with European Union

Source: FactSet
Global Economic Indicators

US Trade with Canada

Millions of USD

Source: FactSet
• Figure out the rules of the game and play the game until you are in a position to change the rules

• Two rules
  – US Corporate Taxes
  – US regulation
• Unfavorable corporate taxes and regulation have limited the scale of growth investing in the U.S.
  – Despite the U.S. being a low risk (arguably the lowest risk) market to put capital to work

• Housing has to get to 1 million starts to trigger a broad based recovery in solid waste
  – Four years into a national recovery 2014 marked the first 1 million start year
  – Housing normalized peak is 1.4mm and at the current pace does not occur until 2019
Global Economic Indicators

Annual Rate for Housing Units Started: United States

Source: Bloomberg
Construction Spending – Annual Rate

Source: Census Bureau
Global Economic Indicators

US Real GDP Growth

Source: Bloomberg
Global Economic Indicators

US Headline and Core CPI Historical Growth Rates

Source: Bloomberg
• 2015 was the “Year of Volume – Again; Plus Price”

• 2016 is setting up as “More of the Same”, in our opinion
  – 1Q16 exceeded all expectations on core price and volume

• FY17 Organic growth starts with 2.0%-plus-2.0% (core price and volume)
  – Individual company sales mix shifts around 2.0%-plus-2.0% (urban, secondary, exclusive markets, headline CPI)
Solid Waste Summary

• Core price is strong
  – Retaining more on better volume –
    • The collection market is basically at capacity, in our view

• Volume has not peaked
  – Construction cycle continues to improve in both residential and non-residential
  – Both C&D and Special Waste trends could remain strong, but the comparison narrows in our view
  – Coal ash, is not likely to have an impact until 2018
    • Some remediation volume may come earlier
Solid Waste
Cheap Airspace

- When $20/ton landfill can be reached economically by train

Source: Association of American Railroads
Solid Waste
Cheap Airspace

Source: Association of American Railroads
Solid Waste
Cost Options

• Landfill all-in cash cost per ton = $20

• Waste-to-Energy all-in cash cost per ton = $45

• Recycling all-in cash cost per ton = $65
Solid Waste Collection Pricing

Average Monthly Price per Household for Waste Collection

Source: Penton Waste360 Sentiment Study
Solid Waste Collection Pricing

Average Monthly Residential Collection Price Changes over Past Six Months

- Increased by more than 5%: 9%
- Increased by more by 4.5% to 5.0%: 6%
- Increased by more by 4.0% to 4.49%: 1%
- Increased by more by 3.5% to 3.9%: 0%
- Increased by more by 3.0% to 3.49%: 4%
- Increased by less than 3%: 10%
- Remained the same: 63%
- Decreased by less than 3%: 5%
- Decreased by 3.0% to 3.49%: 0%
- Decreased by 3.5% to 3.9%: 0%
- Decreased by 4.0% to 4.49%: 0%
- Decreased by 4.5% to 5.0%: 1%
- Decreased by more than 5.0%: 1%

Source: Penton Waste360 Sentiment Study
National Average Price for Other Corrugated Cardboard (OCC)

Source: RecyclingMarkets.com and Stifel estimates
National Average Price for PET

Source: RecyclingMarkets.com and Stifel estimates
National Average Price for HDPE

Source: RecyclingMarkets.com and Stifel estimates
Steel HRC Prices (Spot)

Source: FactSet
• Recycling versus Diversion
  – Recycling acknowledges the economic value capture of the recovered waste stream – **weight does not matter**
    • No Glass
    • #1 and #2 Plastics only
    • OCC, Newsprint, SOP and mixed office waste only
    • UBC and metal cans – ferrous and non-ferrous
  – Diversion how much volume is no longer going to landfill – weight influences the behavior
    • **Glass, glass and more glass**
    • High residuals is a problem and a dirty secret – they go back into the landfill
    • Lots of paper and plastics grades that have little or no recoverable value
    • Perpetuates the commodity based processing model
Solid Waste
MRF Operations

Average Percent of Total Inputs Left as a Residual

<table>
<thead>
<tr>
<th>Range</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5%</td>
<td>20%</td>
</tr>
<tr>
<td>5% to 9%</td>
<td>32%</td>
</tr>
<tr>
<td>10% to 14%</td>
<td>18%</td>
</tr>
<tr>
<td>15% to 19%</td>
<td>16%</td>
</tr>
<tr>
<td>20% or more</td>
<td>14%</td>
</tr>
</tbody>
</table>

Source: Penton Waste360 Sentiment Study
**Good**

- PETE bottles
- HDPE bottles
- Cardboard

**Bad**

- Glass bottles

**Glass is just Sand!**

*Source: Good Housekeeping*  
*Source: Richard Wheeler (Zephyris)*  
*Source: pixabay*
Solid Waste Recycling Pricing

Incremental Cost per Customer to Add Recycling to a Service Agreement

<table>
<thead>
<tr>
<th>Cost Range</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not offer garbage collection without recycling service</td>
<td>46%</td>
</tr>
<tr>
<td>Less than $2.00 per month</td>
<td>11%</td>
</tr>
<tr>
<td>$2.00 to $3.99 per month</td>
<td>18%</td>
</tr>
<tr>
<td>$4.00 to $5.99 per month</td>
<td>9%</td>
</tr>
<tr>
<td>$6.00 to $7.99 per month</td>
<td>6%</td>
</tr>
<tr>
<td>$8.00 per month or more</td>
<td>10%</td>
</tr>
</tbody>
</table>

Source: Penton Waste360 Sentiment Study
Does Incremental Recycling Charge Cover the Cost of Collection, including Capital Invested to Offer Service?

Yes, 58%
No, 42%

Source: Penton Waste360 Sentiment Study
• Solid Waste Fundamentals have not peaked, buoyed by construction and the consumer, in our view

• Recycling model stays stubbornly stuck in a commodity format for longer

• At $20/ton all in cash cost landfill remains the dominant form of disposal
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