Lessons Learned... Where Do We Go From Here?

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Overview

• Recycling
  • What’s happening in the Country
  • What’s happening in less urban areas
  • What can we do in the future

• Landfills
  • Where we were and why are we still here
  • What can we do differently
  • Emerging concerns

• Staffing
  • Where do we go from here

• SWANA
  • State of the Association
Current State of Recycling

• About 40% of Households do NOT have easy access to recycling collection
• Costs have gone from $55/ton to $140/ton
• National Recycling Rate has dropped over the past 3 years
• Dry recyclables (plastic, paper and cardboard, metal and glass) make up about 38% of municipal waste
  • 8% of plastic is recycled
  • 27% of glass is recycled
  • 35% of tin is recycled
  • 66% of paper is recycled
  • Overall rate is about 32%
Current State of Recycling

• EPA has established a recycling goal of 50% by 2030
  • 40% of the households in the US do not have access to recycling collection (where I am this is a reality)

• Where programs exist costs are an issue - commodity values have improved but are still down, end markets need to be addressed

• Contamination - its not just the consumers, mixed material products complicate recovery

• Education/Outreach - Public needs re-education to understand what can be recycled
Recycling MRFs in the US
Recycling Future

• Accounting for the true costs of both recycling and disposal - waste disposal isn’t free so why should recycling be

• Increase investment in Robotics

• Perhaps more focus should be placed on Reduce and Reuse
  • Single use products have a huge impact on our environment from production through disposal
  • Climate change, water depletion, habitat disruption
  • Some push to hold manufacturers accountable for their “total” environmental impact
Future of Recycling

• Recycling Partnership - Circular Economy Accelerator Project
  • Policy Solutions to Catalyze the Circular Economy
• Includes surcharge on manufacturers (packaging and paper) and on disposal (waste generators)
  • National (or State) program
  • Dedicated Funding stream
  • Emphasis on access to recycling equal to that of disposal
  • Private Corporate participation and funding
  • Education and Outreach programs
  • Funds for Infrastructure including MRFs and Education
  • Disposal Surcharge goes back to local governments to support recycling
Future of Recycling

- Successful recycling or circular manufacturing programs support our economy and create jobs
  - If all recyclables were captured, would support 370,000 jobs
  - Austin economic impact study stated recycling created 6,300 jobs and $1.1B in economic activity
  - Glass recycler in North Carolina processes 100,000 tons of glass and employs 2,600 workers
  - C&amp;D recycling company processes 400,000 tons of aggregate, stone, wood and plastics and employs 2,300 workers
  - Closed loop recycler takes recycled plastic to supply office equipment manufacturers and can process 1 billion pounds annually
  - Polypropylene polarization plant in Ohio has diverted 43,000 tons, trained 1,200 workers and spurred the creation of 50 new businesses
Landfills Prior to Subtitle D

- No location restrictions
- No liner requirements
- Limited cover requirements
- No environmental monitoring
Landfill is the US
Current State of Landfills

• There are nearly 3,100 MSW landfills in operation in the US and nearly 10,000 “old” landfills

• In 2018, EPA reported that we disposed of about 150M tons

• In 2019, landfills released 15% of all methane emissions

• According to a 2015 analysis EREF “Seven states are looking at running out of landfill space in the next five years, one state will reach capacity in five to 10 years and three states have 11 to 20 years to go. But 22 states have available landfill space for decades to come.”

• In 2018, we sent 2.8 million tons of electronic waste to landfills. These contain lead, cadmium, beryllium, mercury, and brominated flame retardants.

• “Forever chemicals” (also known as PFAs), are aptly named. These fluorinated, harmful chemicals are used in a wide variety of products like Teflon frying pans, dental floss, and food packaging—and they never break down in the environment, ever. They’re found in high concentrations in leachate.
Landfills and the Regulations

• Subtitle D is nearly 30 years old and there has been no significant update to these regulations
  • Rules were created based on several models that were not intended to be used as they were - do we really generate as much leachate as predicted?
  • Years of practical data that should be considered in any regulatory changes
  • Should we encourage leachate recirculation or bioreactors
  • What are we doing with respect to closure

• Future concerns
  • Leachate - PFAS, etc.

• We need to be our own advocates!
Future of Landfills

• Energy sources - carbon capture projects; waste to hydrogen

• Bioreactor technology

• Sustainable Landfills
Landfills

Past

A
Open Dumps

B
Old Landfills*

* Non-engineered, unlined

Present

C
Sanitary Landfill

Future

D
Sustainable Resource Management

Biocell / Perpetual Landfill / Anaerobic Digester / Waste to Energy
Sustainable Materials And Resource Treatment (SMART) Facility
Sustainable Landfills
Current Staffing Issues

• Currently, we rank 5th most dangerous jobs by BLS
• Over 225,000 people work in waste collections; 9th in the US (nearly 2% growth)
• Waste disposal businesses account for $21.6B in revenue in the US (6% growth in 2021)
• Nearly 1,100 recycling businesses in the US (about 1% growth)
• Nationally, 100,000 CDL drivers are needed across all industries
Staffing for the Future

- Current workplace trends
  - Flexible work schedules
  - Work-life balance
    - Long-term job security
  - Investing in Employee Well-being
    - Onsite fitness, child care, medical care
    - 70% of employees believe natural light improves work performance
  - Gender Equality
    - Bridging the gender gap can increase the GDP by 35%
  - Social Purpose
    - 78% of millennials cite this as a reason to join an organization
  - Training and Upskilling
  - Robot + Humans
    - Automation & AI take on the mundane tasks freeing precious times for employees
SWANA - State of the Association
Key Performance Indicator (KPI) Reminders

- Operating accounts
- Investment fund status
  - Performance
  - Draws on reserves or line of credit
- Membership growth & retention
- Training & education
- Event performance
- Visibility and relevance
- Other
  - Grants
  - Staffing
FY2022 YTD At a Glance

- Budgeted for a loss
- At 8 months into budget, we are nearly $1M better than budget
- Both PPP loans have been forgiven
- $1,000,000 line of credit with Merrill Lynch/Bank of America unused since creation in June 2020
Membership KPIs

- 10,791 Total Members
- 9,866 dues-paying
- 850 students
- 75 life and honorary

Change in Paying Members
March 2020 through February 2022

- March 2020 to Feb. 2021
- March 2021 to Feb. 2022
- Linear (March 2020 to Feb. 2021)
- Linear (March 2021 to Feb. 2022)
## Young Professional Memberships

**Total YP Memberships - 3-year discounted phase**
March 2020 to February 2022

<table>
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<tr>
<th>Member type</th>
<th>YP 1</th>
<th>YP 2</th>
<th>YP 3</th>
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<td>52</td>
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<tr>
<td>Private</td>
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<tr>
<td><strong>Total</strong></td>
<td>315</td>
<td>251</td>
<td>113</td>
<td>679</td>
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</table>

![Graph of YPs by Member Type March 2020 to February 2022](image-url)
Course updates

- Manager of Landfill Operations (MOLO) - US regulations: complete and now in use
- Canadian MOLO - in process
  - Amending new MOLO and exam for Canadian specifics
  - Canadian contractor and Canadian stakeholders
  - First class expected mid-2022
- Update/rewrite of Managing Recycling Systems planned for FY2023
We are the center of the recycling policy discussions occurring in Washington D.C.

**EPA National Recycling Strategy**

- SWANA volunteered to take lead on expanding Recycling Infrastructure

**Congress – November 2021 Infrastructure Bill**

- SWANA urging EPA to move quickly to develop application process
PFAS

We are also at the center of EPA's Strategic Plan re PFAS

- EPA is likely to propose that 2 PFAS compounds are "hazardous substances" under Superfund later this year
- This could have significant consequences for landfills - leachate contains PFAS
- SWANA met with EPA and then with the White House Office of Management and Budget (OMB) to express concerns
Grants and compensated projects

- Inter-American Development Bank: $60,000 report and presentation project - paid
- Department of Energy: $135,000 over 3 years - being contracted; working as sub to Cascadia
- Indian Health Services:
  - Response addressed 21 projects; unknown which, if any, are activated
  - Approved for 12-months with four 12-month options
- EREF/Safety grant: $20,000 over 2 years - pending
- Safety training: Baltimore and District of Columbia DPW
SWANA Projects

• Completed the Strategic Planning with a focus on the Future
  • Summer signals and sense-making
  • 5 year implementation plan
    • Goal 1 - Get off the Top 10 List
    • Become Climate Champions
    • Reframe Perception of Industry as Employer of Choice
    • Continue to strengthen SWANA’s Infrastructure and Financial Viability

• Initiated a DEI Project - multi-year project

• Hired a new General Counsel
Upcoming Events

• SWANA New Member Orientation, Webinar, Friday 13 May 2022

• SWANA International Road-E-O, 14 - 15 October 2022, El Paso, TX

• Wastecon, 5 - 8 December 2022 in San Diego, CA
THANK YOU!
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