

A SINGLE STREAM RECYCLING FUTURE FOR YOUR RURAL AREA?



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Discussion Goal:

*Understanding
the Business
Case for Single
Stream MRF in
Rural Areas*





Single Stream Benefits

- Can Single Stream Save \$ and Perform?
 - Collection Benefits
 - Processing Challenges
 - Market Risk
- Is Single Stream Right for You?
 - Challenges in Moving to Single Stream
 - Approaches
 - Making the Business Case



Collection Advantages Part 1

- Lower Collection Costs (30 to 40%)
 - Shorter time per stop
 - More homes per route
 - Vehicle payload capacity optimized w/no compartments = less trips to facility
 - Lower cost collection vehicles (both capital/operating)
- Easier to Serve Multi-Family and Business
 - Adds to collection route efficiencies



Collection Advantages Part 2

- Higher Collection Volumes
 - More convenient for resident
 - Elimination of sorting requirements
 - More Residents Participate
 - Space Requirement are Reduced
 - Easier for Program to Add Materials
 - Higher diversion on lbs/hh basis
 - Linked to provision of carts/larger bins
 - Actual diversion depends on residue rate



Collection Advantages Part 3

- Greater Fleet Flexibility
 - Single Compartment Packers can be used
 - Lower Capital and Operating Costs
 - Same Vehicle Type Can Collect Trash/Recycle/Yard Waste
 - May Reduce Reserve Vehicles Requirements
 - Works with Automated Collection Vehicles
 - Automated Side Load One Person Trucks
 - Now Applied to Single Stream Recycling
 - Can standardize on One Automated Truck
 - Simplifies Vehicle Maintenance



Processing Advantages

- One Tipping Floor
- One Residue Stream
- More Efficient Space Utilization
- Increased Capacity
- Increased Throughput
- Economies of Scale Benefits at High Volumes



Processing Disadvantages

- Key Challenges
 - Higher Residue Rates
 - Higher Processing Costs
- Best Design Practices are Emerging
 - Pre-Sorting for Effective Disc Screen Operation
 - OCC and Large Contaminant Removal
 - Glass Removal Up Front
- Higher Capital Costs
- Has Increased Minimum Tonnage Needs



Benefits of a Local SS MRF

- Access to Recycling Markets and Revenue
- Higher Market Revenue (than Transfer)
- Short/Local Haul Distance
(compared to Direct Haul to Regional MRF)
- Foundation for Strong Programs
- Flexibility to Add Materials
- Cornerstone of “Recycling Campus”
- Local Jobs/Economic Development



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Benefits of Transfer to Regional SS MRF

- Captures Single Stream Benefits
- Lowers Capital Requirements
- Provides Access to Recycling Markets
- Much Lower Risk
- Easy Contracted Solution
- Avoids Management Challenges
- Still Captures GHG Benefits Above Transport



Key Factors in a Strong SS MRF Business Case

- **Recyclables** “tonnage”
Capturing Economies of Scale
- **Competing MRFs** “location”
Be the Regional Solution
- **MRF Design** “processing”
Mastering Technology/Operations
- **End Markets** “market network”
Expertise/Relationships

Transfer – Building Tonnage



- At-Grade Solutions
- Grapple or Bucket
- Compaction Varies
- Speed is Important



Transfer – Building Tonnage



- Over-the-Top Solutions
- Requires Grade Difference
- Direct Feed or Compactor
- Higher Capital Cost

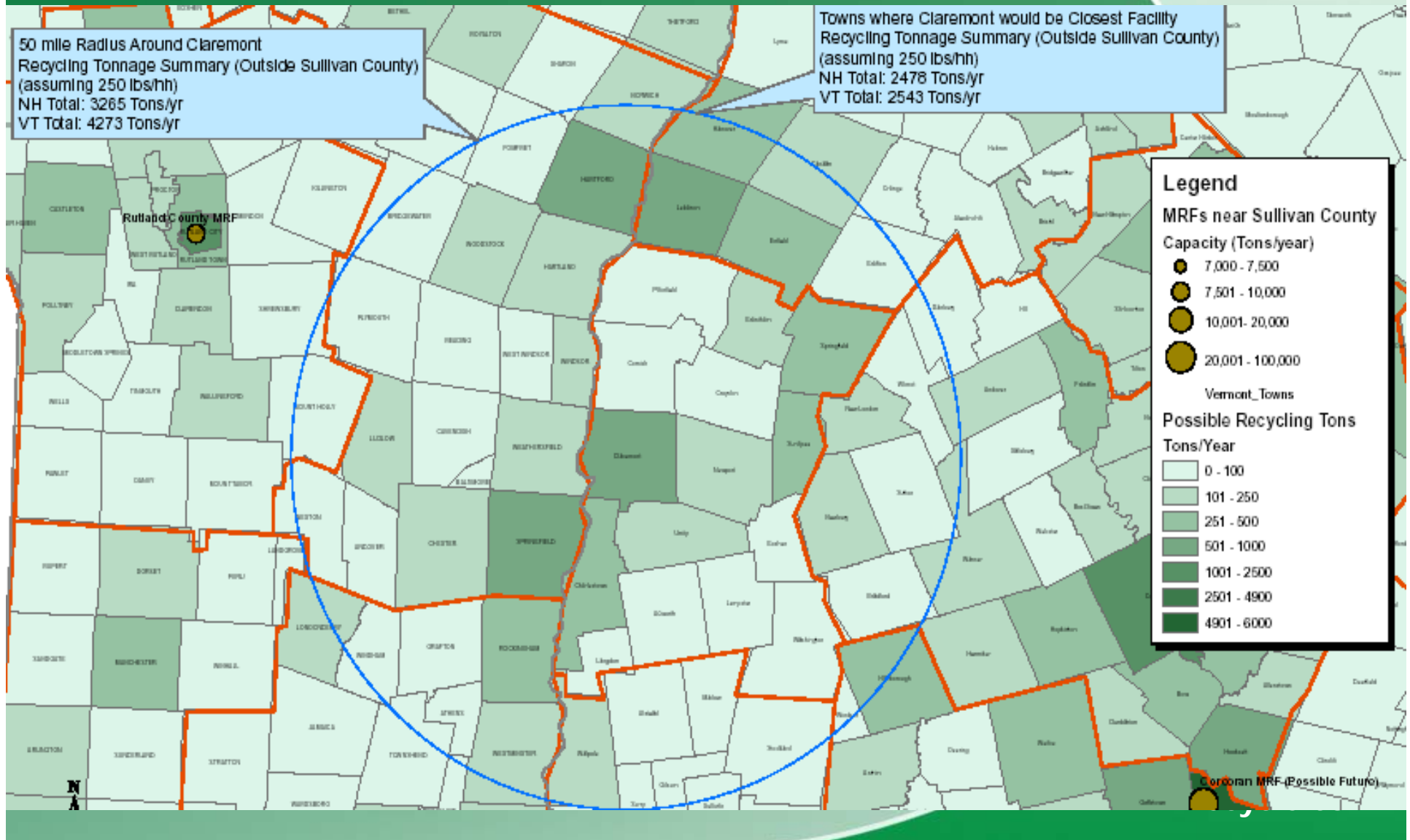


Securing Regional Rural Tons Available MRF Tons/Year



50 mile Radius Around Claremont
 Recycling Tonnage Summary (Outside Sullivan County)
 (assuming 250 lbs/hh)
 NH Total: 3265 Tons/yr
 VT Total: 4273 Tons/yr

Towns where Claremont would be Closest Facility
 Recycling Tonnage Summary (Outside Sullivan County)
 (assuming 250 lbs/hh)
 NH Total: 2478 Tons/yr
 VT Total: 2543 Tons/yr



Corcoran MRF (Possible Future)



Securing Regional Tons

Challenges of Competing Interests

- **Competing MRFs Offer Good Deals**
 - Single Stream w/Revenue Share
- **Current and Potential Recovery Levels**
 - Can Vary from 250 to 1,000 lbs/hh/year
- **Larger Towns Get Revenue for Materials**
 - e.g. Some have Small Balers
 - May get as Much as \$25/ton
- **May Need to Offer \$ to Secure Tonnage**
 - Location Works in Regional Project's Favor
- **Still May not Work!**

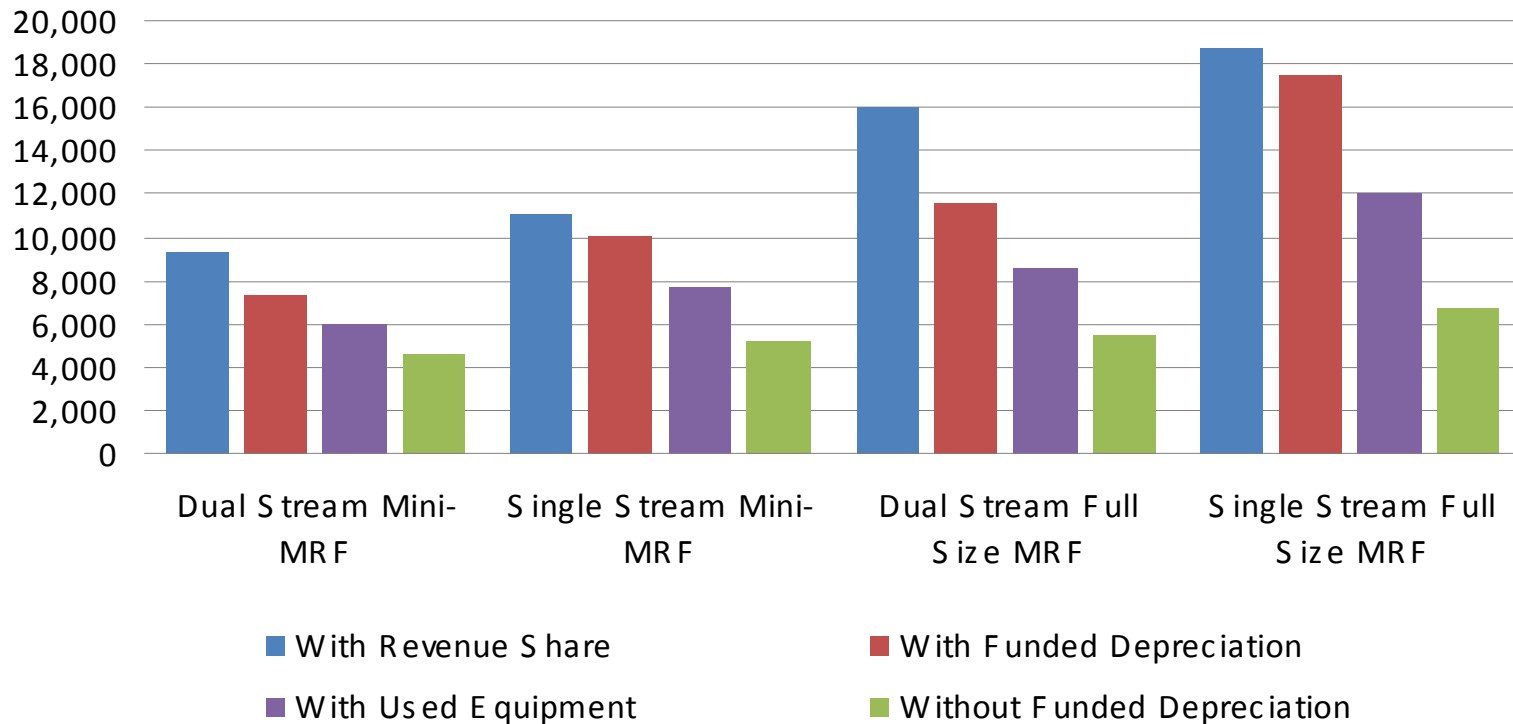
ITS ALL ABOUT THROUGHPUT!

Break Even Tonnage Requirements



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Tonnage for Facility to Breakeven

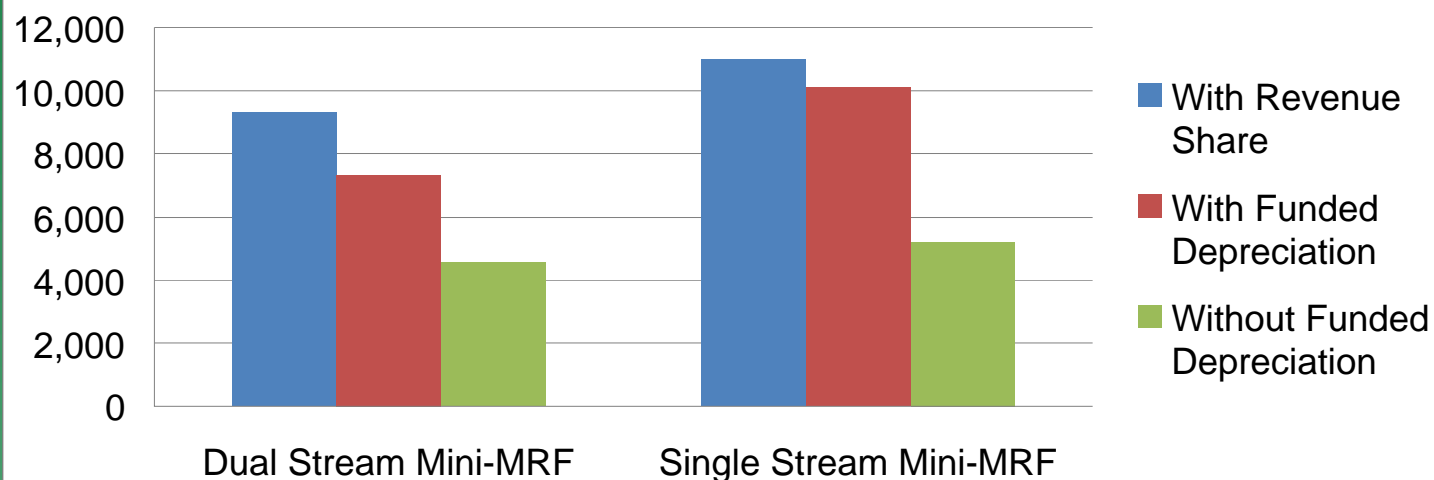




What Makes Sense?

Securing Additional Tons above Breakeven

Tonnage for Mini-MRFs to Breakeven

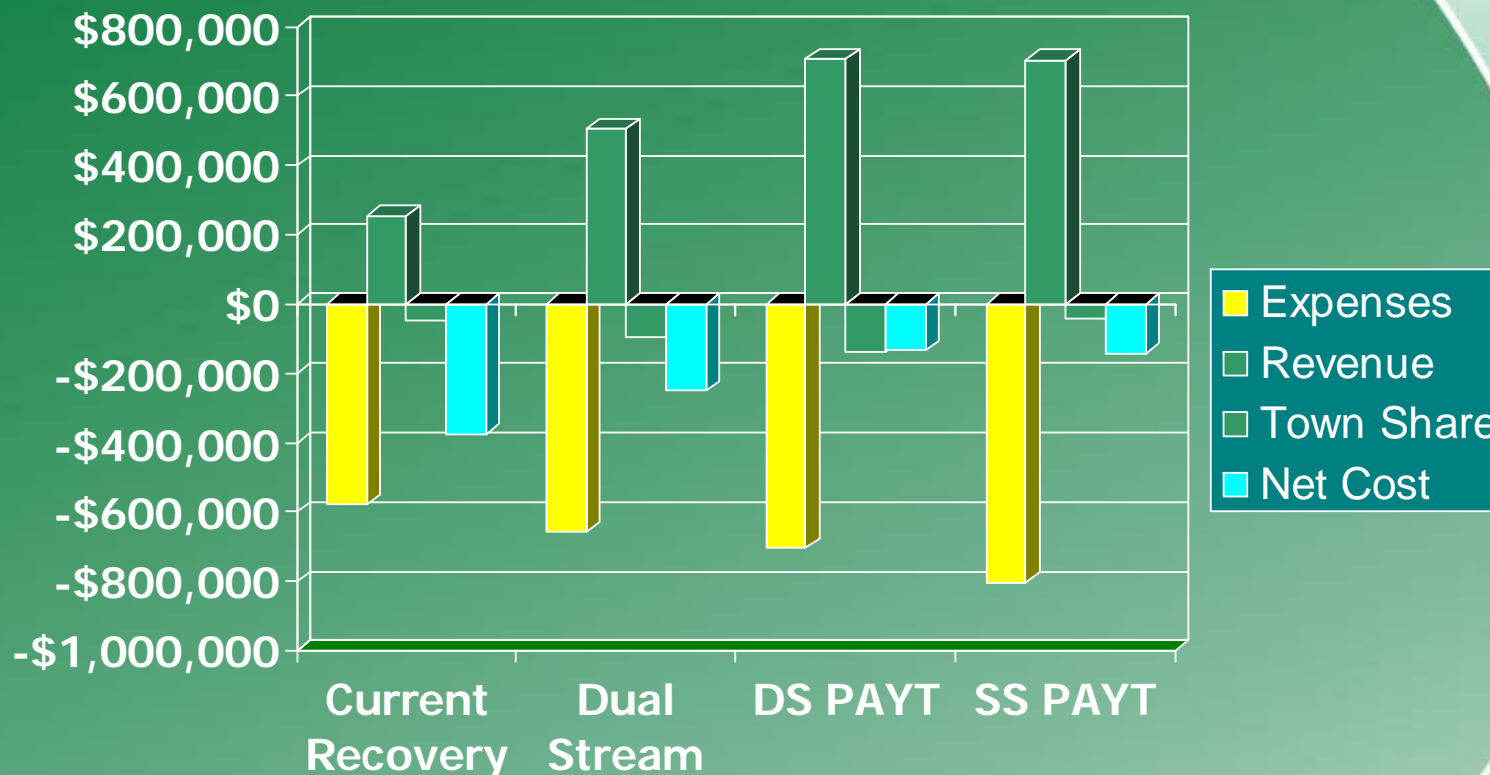


- Depends on definition of breakeven
- 9,000 to 11,000 tons per year with town revenue sharing
- Less than 6,000 tons per year before depreciation
- Tons can come from in-county or out-of-county



Developing MRF Capacity

Mini SS MRF Net Cost per Year

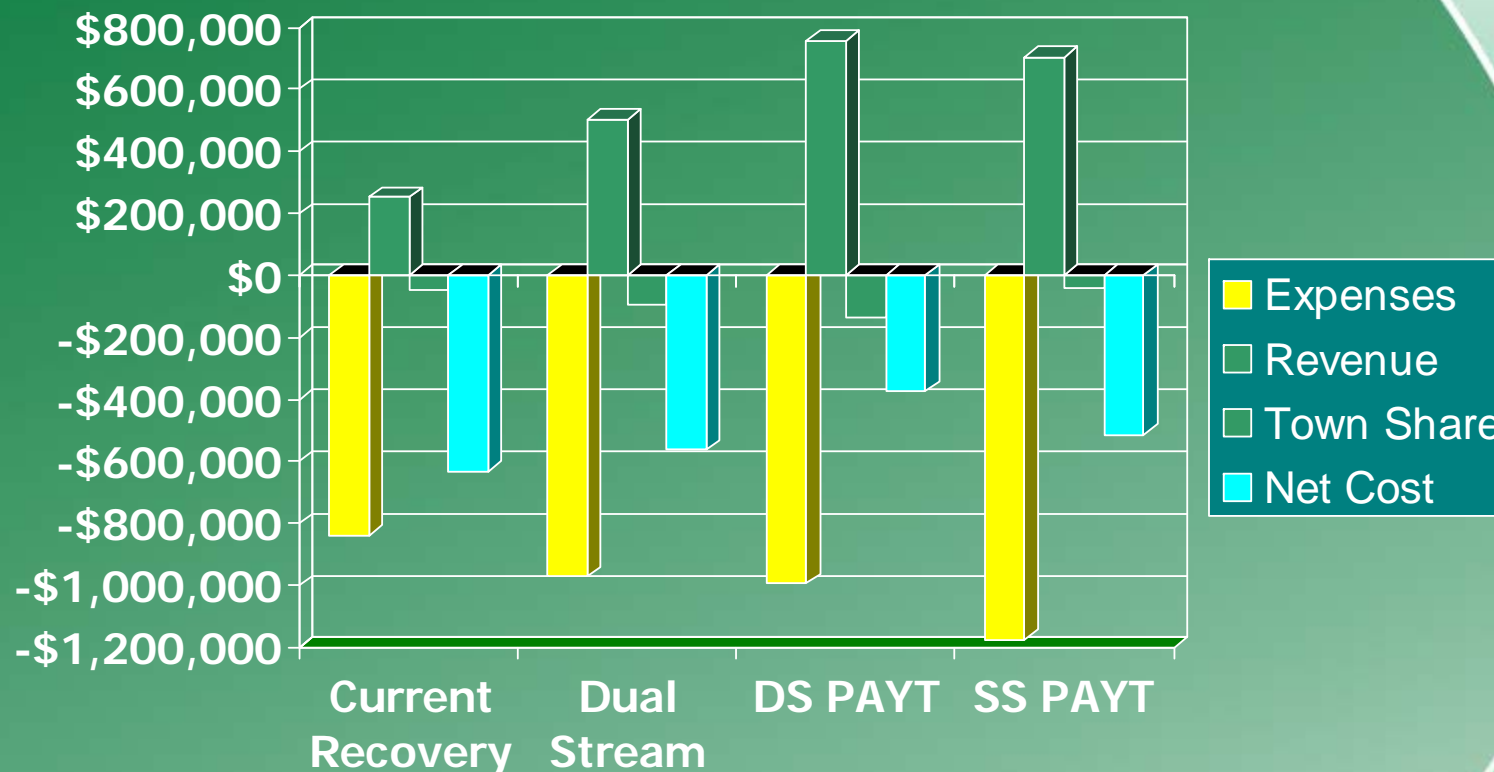


- Towns transfer stations share \$25/ton DS and \$5/ton SS
- Net operating costs range from \$16.16 to \$141.36 per ton
- Would require \$6.72 to \$18.27 per household per year



Developing MRF Capacity

Full Scale SS MRF Net Cost per Year

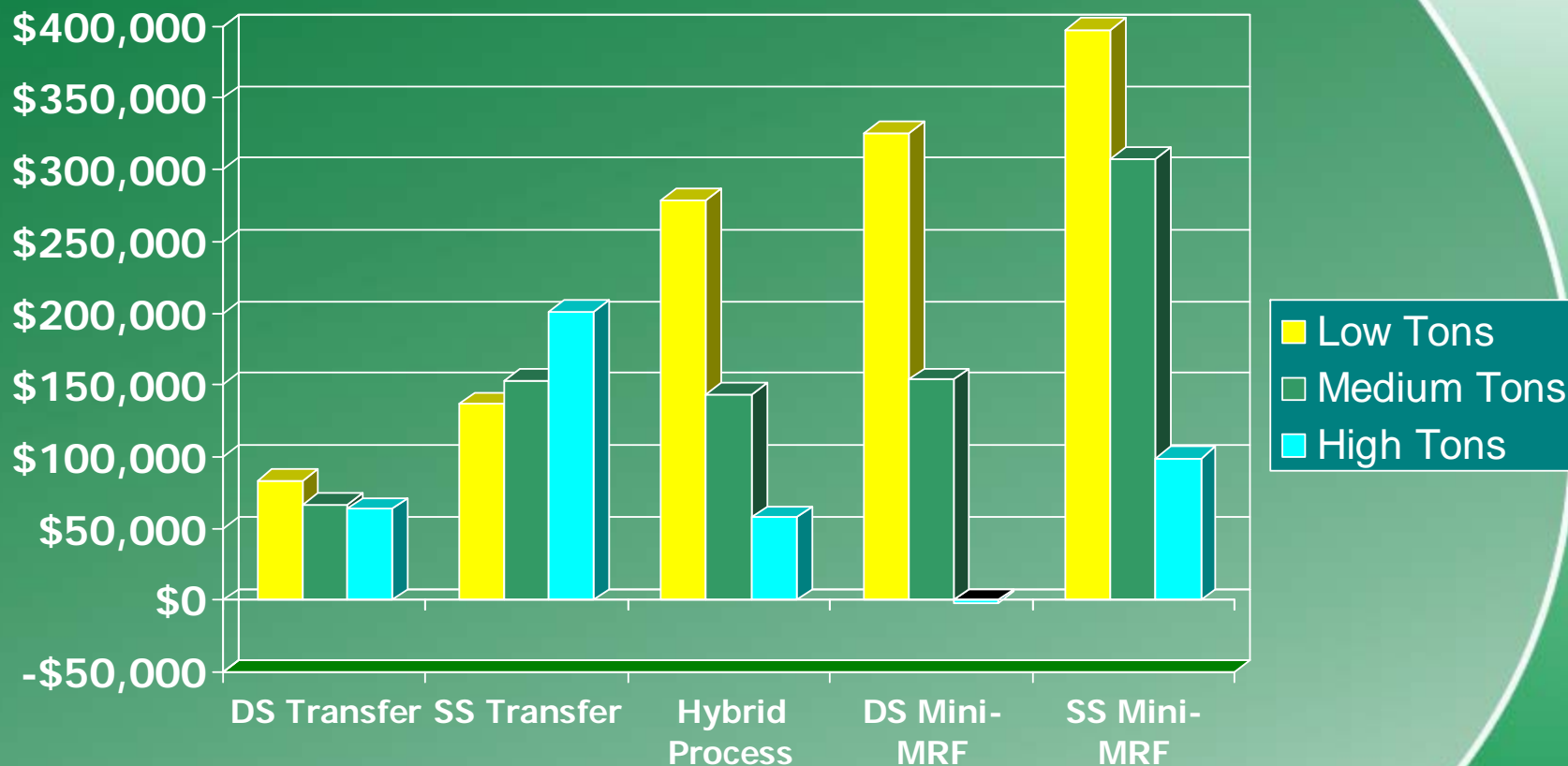


- Towns transfer stations share \$25/ton DS and \$5/ton SS
- Net operating costs range from \$47.26 to \$238.77 per ton
- Would require \$18.62 to \$31.45 per household per year



What Makes Sense?

Low/Medium/High Tonnage Net Cost



- Dual stream (DS) transfer has been cost profile but no profitability
- Hybrid transfer/process has great cost profile at medium/high tons
- Dual stream (DS) mini-mrf good at medium/high tons + profit potential

Emmet County Dual Stream MRF Upgrade Goals



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- Expand a Rural Regional MRF
- Planned Upgrade of Processing Capabilities
- Optimizing Use of Available Equipment
- Improving Service and Lowering Costs
- Increasing Recycling Options
- Improving Recycling Quality
- Optimizing MRF Financial Performance



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Business Case for Upgrade 10 Year Facility Assessment

- State of the Existing Facility
 - Projected 10 Year Budget & Net Revenue
 - Projected 10 Year Revenue
 - Business as Usual (BAU) Tonnage
- Two Alternative 10 Year Scenarios
 - 10,000 tons by 2019
 - 15,000 tons by 2019



Current MRF Challenges

- **Capacity Constrained**
 - The facility is at capacity
 - Volumes are projected to increase beyond capacity
- **Service Constrained**
 - Can't add new materials
 - Can't add new service areas
- **Cost Controls are Limited**
 - No way to lower costs at existing facility
 - Outagamie County equipment more efficient
 - Includes Fiber/Container Lines/Conveyors



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Available Equipment from Outagamie County

Container Line

- 48" wide in-feed conveyor
- Presort station for trash and plastic film removal
- Overhead electromagnet to collect steel/tin cans
- Vibratory screen to remove fines
- Air classifier to separate plastic/aluminum from glass
- Glass sort conveyor
- Plastic and aluminum sort conveyor
- Elevated sort enclosure and 6 plastic and aluminum bins
- Can densifier to form bricks of steel cans (currently at EC)
- Eddy current separator to separate aluminum



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Available Equipment from Outagamie County

Baler Line

- 72" wide conveyor to feed fiber, containers, and OCC to baler
- Harris/Selco HLO-8110 AR (150 hp) baler from OC



Business as Usual (BAU) 10 Year Projected Financials

- Projected Costs
 - Steadily Increasing Cost Structure
 - Labor and Energy are Major Factors
- Projected Revenues
 - Based on Current Tonnage
 - Markets are Projected to Remain Strong
- Net Revenues
 - Don't Match Cost Increases
 - Yet Facility is Still Producing Net Revenue



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Recycling Facility Upgrade

Two Alternative Scenarios

- Business as Usual (BAU)
 - 7,500 tons held constant through 2019
 - Based on projected 2009 recycling tonnage
- Slow Tonnage Growth Alternative
 - 7,500 tons in 2009
 - 10,000 tons by 2019
- Medium Tonnage Growth Alternative
 - 7,500 tons in 2009
 - 15,000 tons by 2019



Key Differences from BAU Scenario

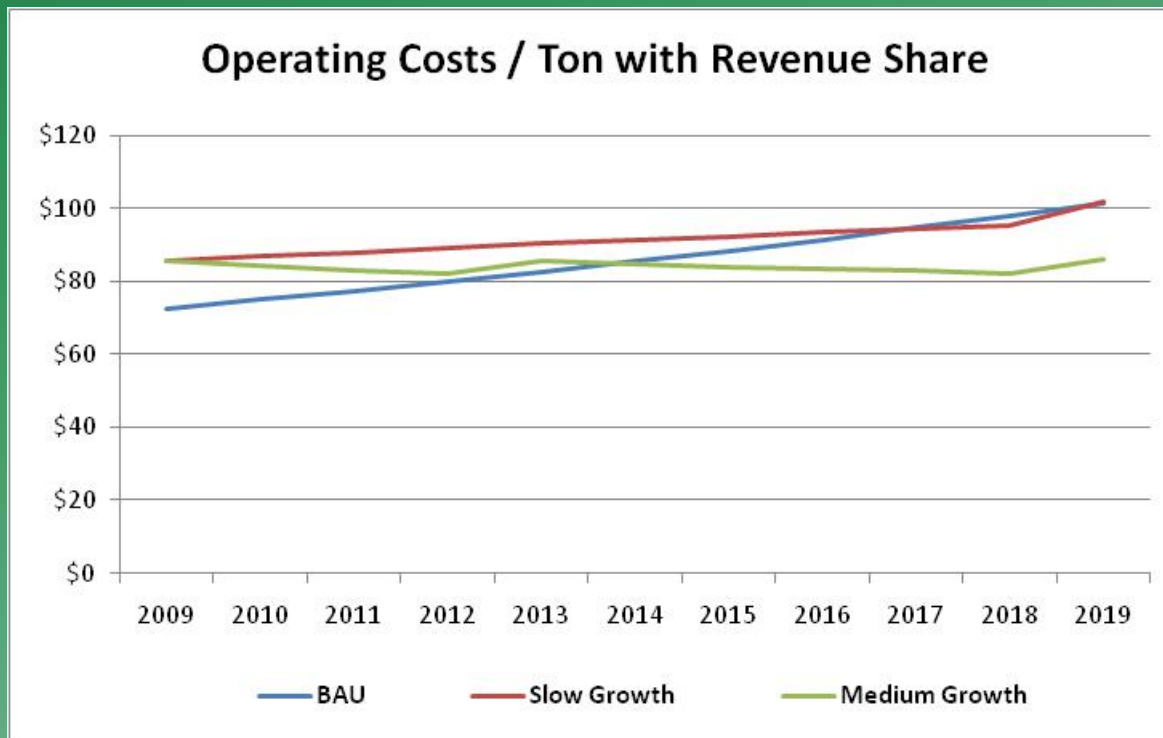
- Staffing
 - At 10,000 tons:
 - PT → FT temp
 - Add one more day to disabled worker crew
 - At 15,000 tons: add two fulltime sorters
- Energy Usage
 - Natural gas doubles
 - Electricity increases with equipment usage
- Capital Depreciation
 - \$110K at BAU to \$475K new system

Recycling Facility Upgrade



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Cost per Ton (without Depreciation)

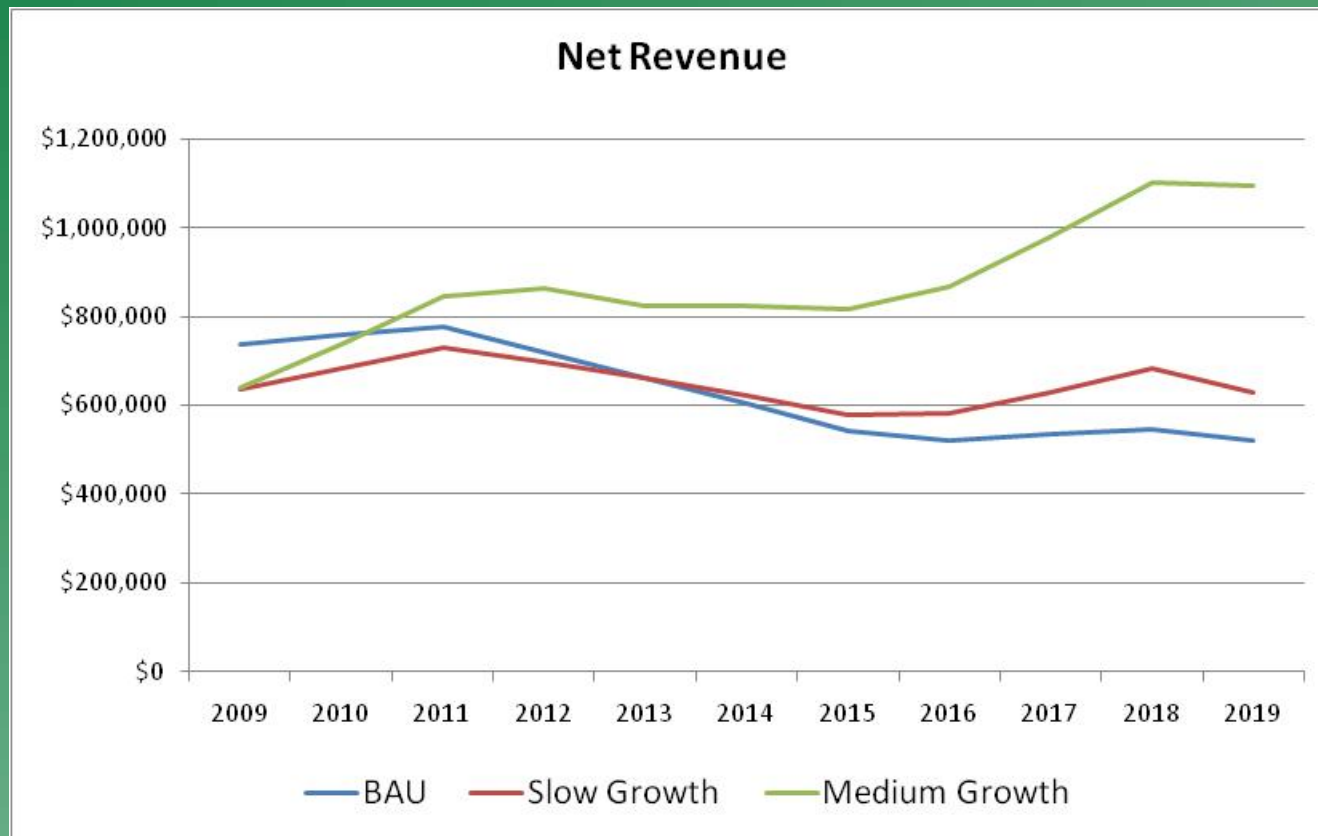


Recycling Facility Upgrade

Net Revenue (without Depreciation)



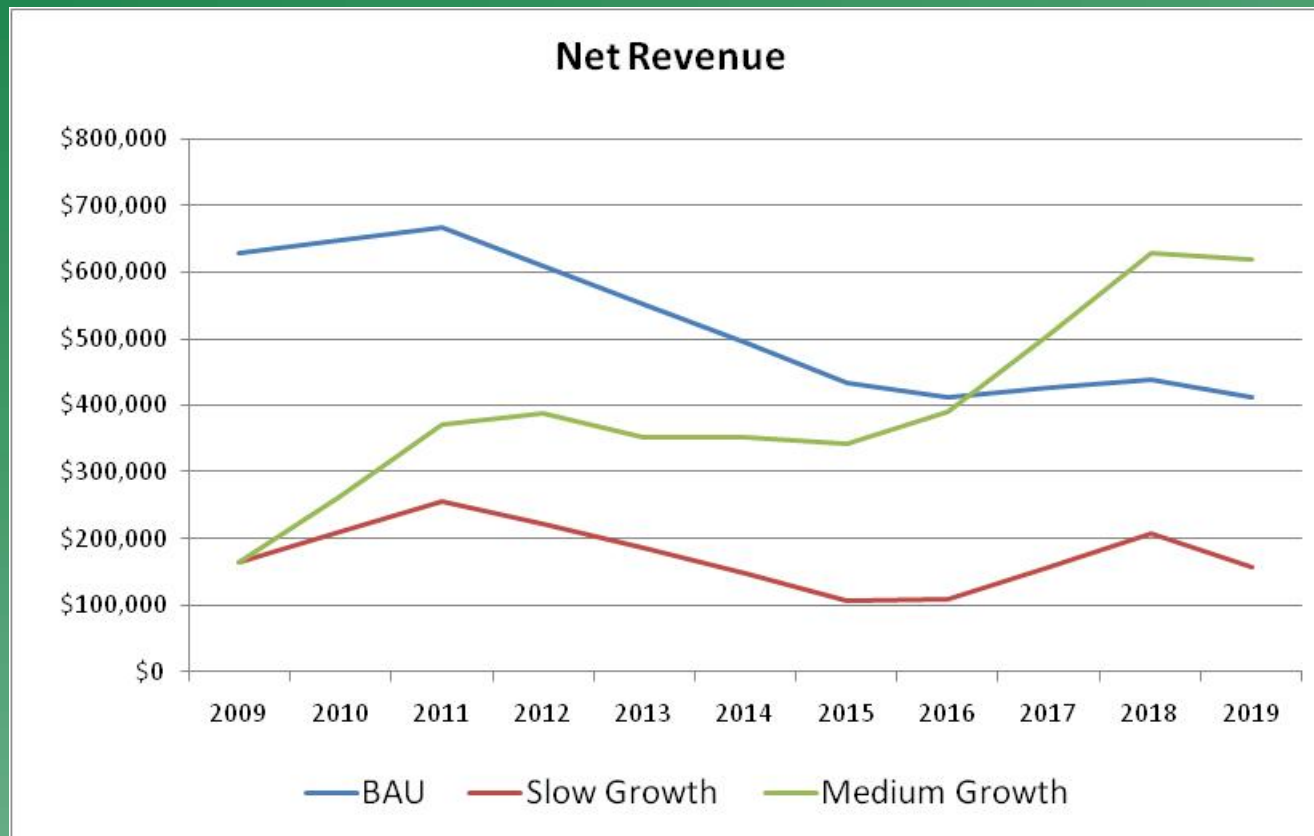
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Recycling Facility Upgrade



Net Revenue (with Depreciation)



Upgrade Provides County with Growth Potential



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- Capacity to process 30,000 tons/year
- Can take recyclables from 5 adjacent counties
- Existing buildings available for other recycling
- Labor efficiency improves as tonnage increases
- Increased tonnage drops processing cost/ton
- Optional upgrade to single stream

Emmet County Business Case Conclusions



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- \$4 Million Investment is Affordable for EC
 - Controls Costs Per Ton and Increases Net Revenue
 - Pays Back Enterprise Fund Investment
 - Funds Depreciation
- Investment Benefits EC Programs
 - Adds Recyclables
 - More Efficient Recycling Facility
 - Paves Way for Lowered Collection Costs
 - Paves Way for Additional Services
- Grand Opening June 25th – Be There!

Questions/Discussion



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Thank You!