



RESOURCE RECOVERY OPPORTUNITIES

MARCH 2023



Nate Francisco

Executive Director and CEO

- Farming
- University of Idaho
- Southern Idaho Solid Waste
- Idaho Solid Waste Association
- Solid Waste Association of North America
- Idaho National Lab – Citizens Advisory Board
- Cassia County Planning and Zoning Commission

*“Balancing economic
and environmental
responsibility”*



Southern Idaho Solid Waste

A Regional Solid Waste District

- Seven Member Counties
- Contract Counties
- 14 Transfer Stations
- Regional Landfill
- Waste Haul
- 3.9 MW Landfill-Gas-to-Energy



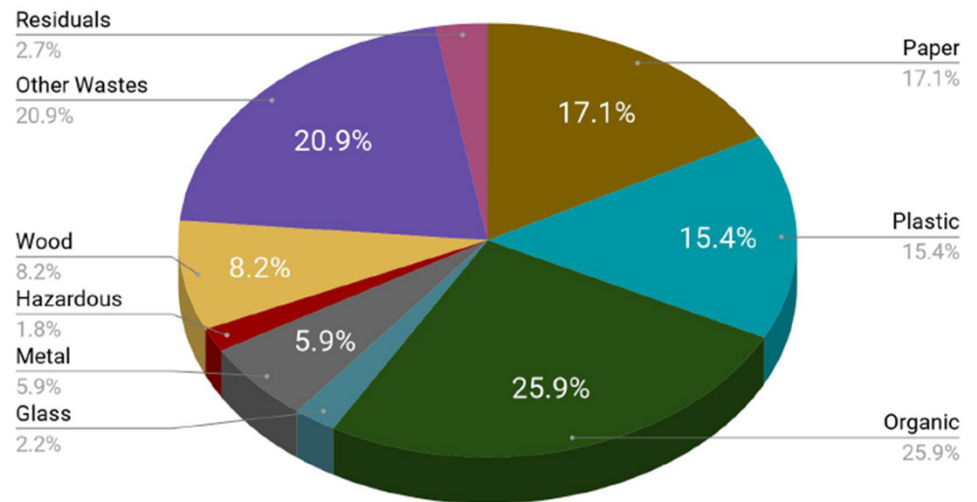


Milner Butte Landfill

Subtitle D – Municipal Solid Waste Landfill

- 300,000 Tons of Municipal Solid Waste Annually
- > 5 Million Tons in Place
- Current Footprint Approximately 100 Acres
- 35 Years of Space Available
- Landfill-Gas-to-Energy
- Landfill Disposal Cost
 - 35% of National Average
 - 25% of Regional Average
- Waste Characteristics

Figure 1. Seven-County Waste Composition by Category

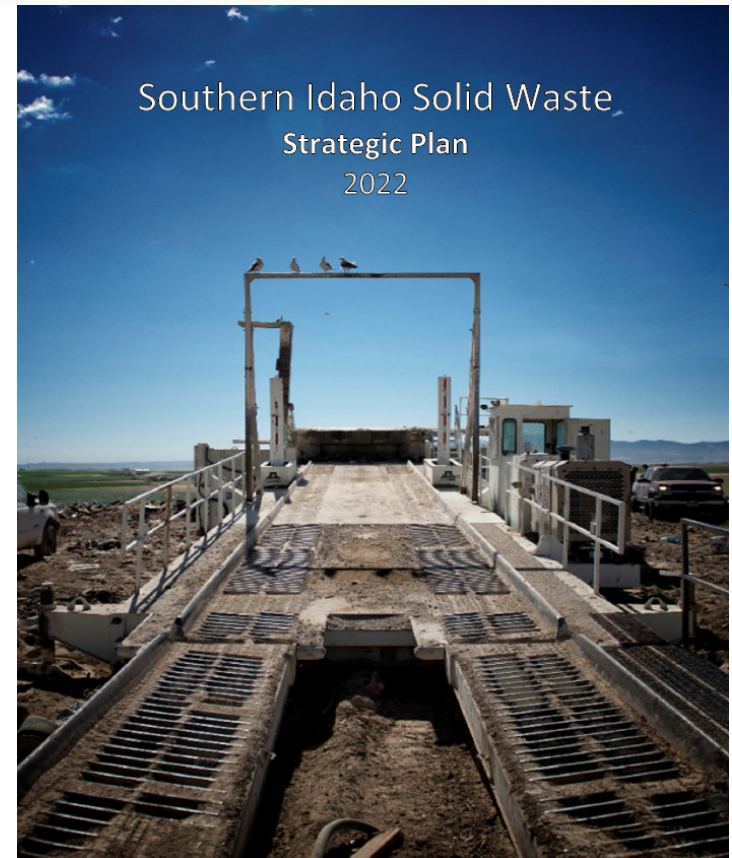




Southern Idaho Solid Waste
Strategic Plan

- Mission Statement
 - *“Provide safe, affordable, and professional integrated solid waste management to each of the communities that we serve”*

- Strategies
 1. Safe and Efficient Operations
 2. Regulatory Compliance
 3. Proactive Management
 4. Positive Public Perception



SIR

SOUTHERN IDAHO
**RESOURCE
RECOVERY**

WHAT IS

Resource Recovery

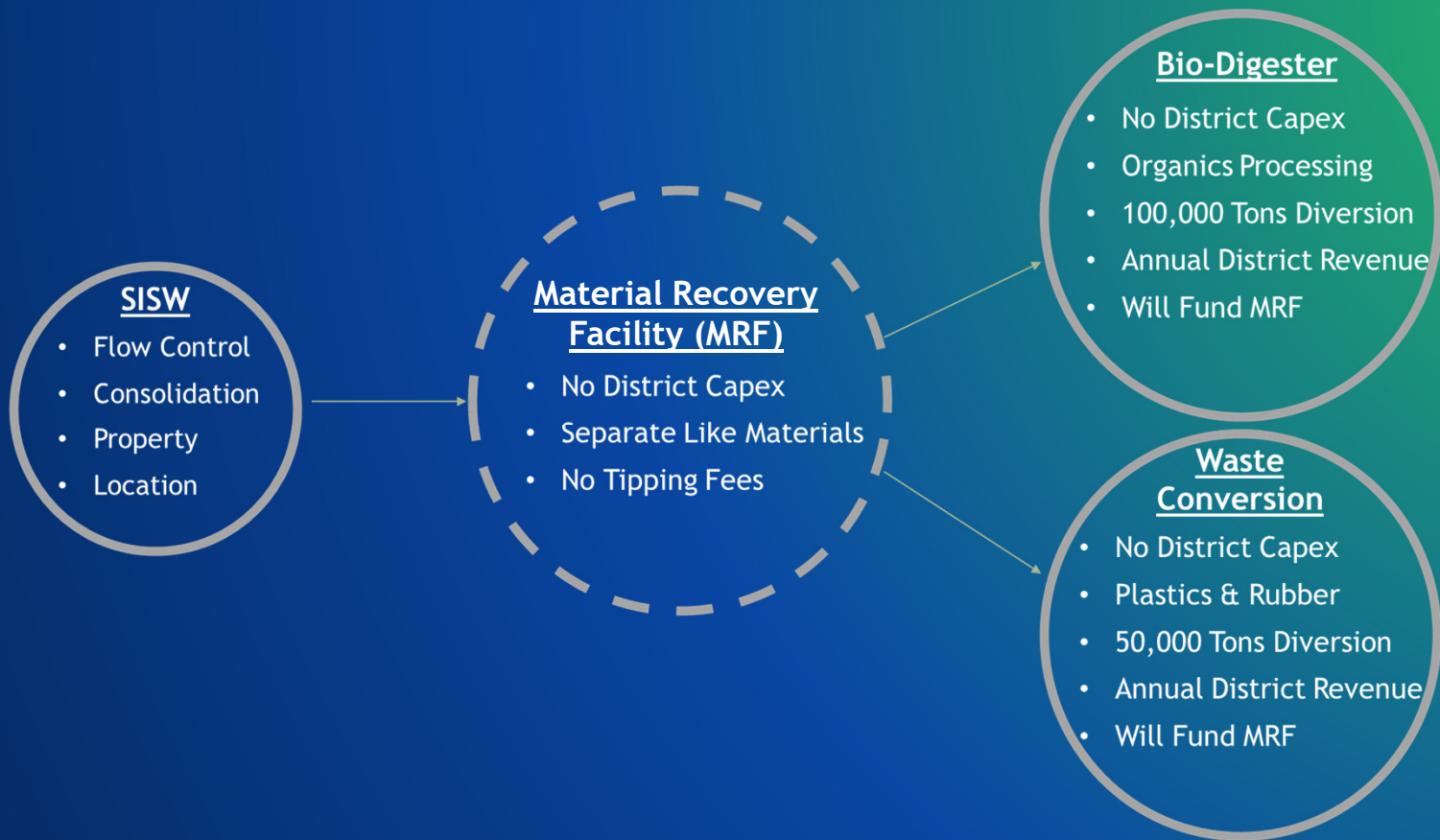
Resource recovery refers to the activity of separating materials from waste and using them as input materials to create valuable products as new outputs. Resource recovery aims to reduce the amount of waste entering the landfill and replace raw resources in the manufacturing process.

The logo for SIR (Southern Idaho Resource Recovery) features the letters 'S', 'I', and 'R' in a stylized, bold font. The 'S' is blue, the 'I' is green, and the 'R' is blue. To the right of the logo, the text 'Southern Idaho Resource Recovery' is written in a smaller, grey font, and 'Project Concepts' is written in a larger, bold, blue font.

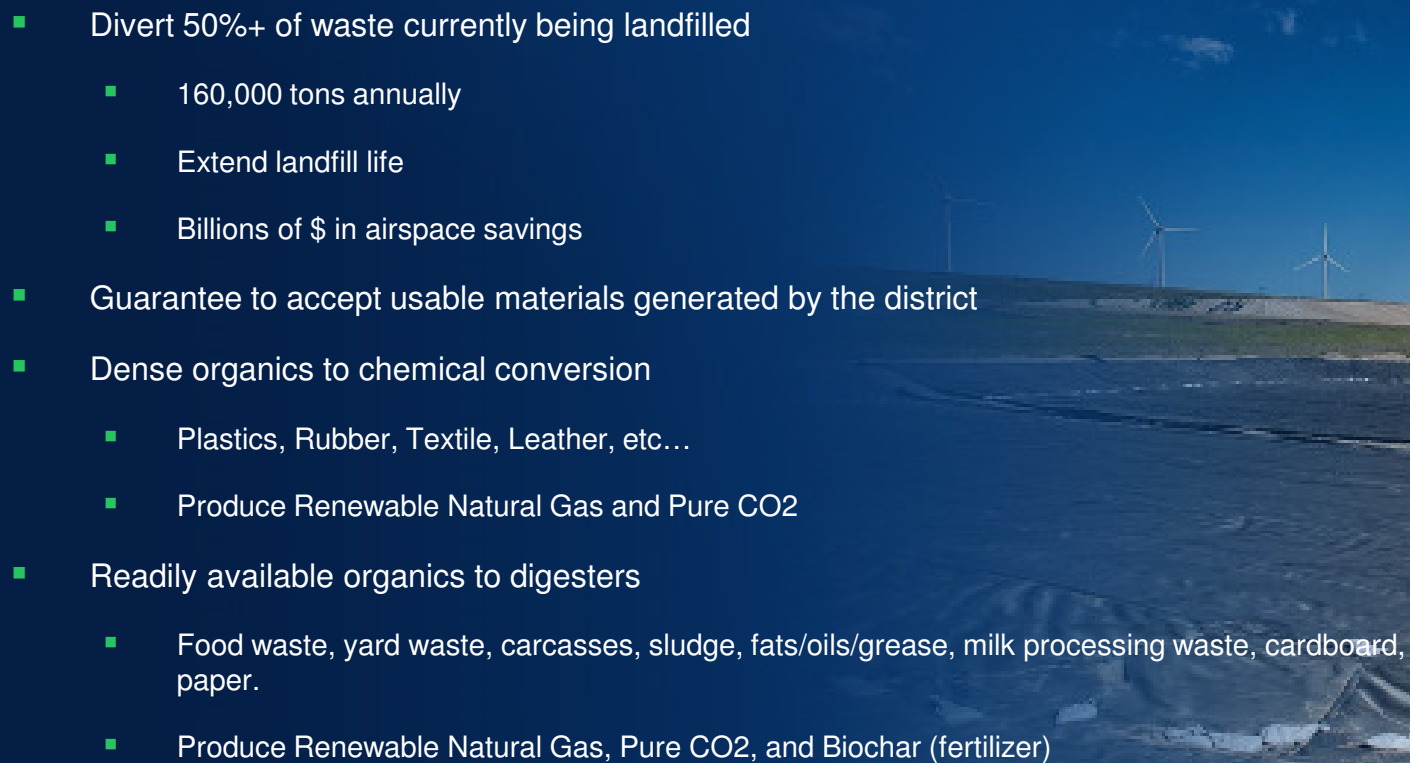
SIR Southern Idaho Resource Recovery Project Concepts

- Public/Private Partnerships
- Take advantage of Efficient Systems
- Divert Large Quantities of Material – Avoided Cost
- No Upfront Investment or Risk to the District
- Generate Revenue – Maintain Low Cost

SIR Southern Idaho Resource Recovery Project Components



 **Significant Benefits to SISW**
Waste Diversion

- Divert 50%+ of waste currently being landfilled
 - 160,000 tons annually
 - Extend landfill life
 - Billions of \$ in airspace savings
 - Guarantee to accept usable materials generated by the district
 - Dense organics to chemical conversion
 - Plastics, Rubber, Textile, Leather, etc...
 - Produce Renewable Natural Gas and Pure CO₂
 - Readily available organics to digesters
 - Food waste, yard waste, carcasses, sludge, fats/oils/grease, milk processing waste, cardboard, paper.
 - Produce Renewable Natural Gas, Pure CO₂, and Biochar (fertilizer)
- 

The logo for SIR Revenue, with 'SIR' in blue and green and 'Revenue' in green.

Significant Benefits to SISW
Revenue

- Guaranteed Annual Revenue
 - Through lease agreements
 - Help with short term budget constraints (rapid inflation)
- Revenue Sharing
 - % of net distributable profits
 - 3rd party audits
 - Keep costs low long-term



 **SIR** Significant Benefits to SISW
Risk Management

The logo features the letters 'SIR' in a stylized font. The 'S' is blue, the 'I' is green, and the 'R' is blue. To the right of 'SIR' is the text 'Significant Benefits to SISW' in a smaller, grey font, and below that is 'Risk Management' in a larger, bold blue font.

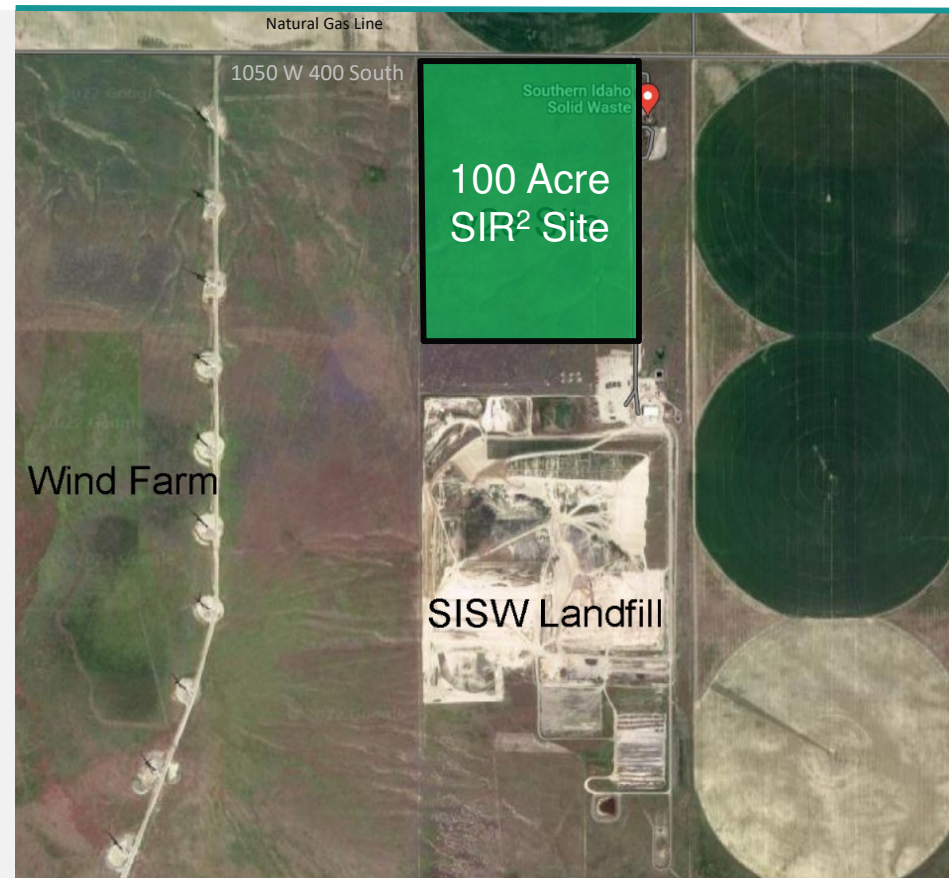
- SISW Assumes no risk in the project
 - Financial
 - No district capex or financial liability
 - Environmental
 - Perform environmental analysis of property prior to construction
 - Bonds in place for remediation
 - Restoration
 - Restore Site back to original state upon facility closure
 - Bonds in place for restoration
 - Liability
 - Any imported waste will have bonds in place to cover disposal cost



SIR Southern Idaho Resource Recovery

Site Specific Factors

- ✓ Networking and Vision
- ✓ Economies of Scale
- ✓ Flow Control
 - ✓ High organic waste content
- ✓ Property Availability
 - ✓ 100 acres on the north side of the Milner Butte Landfill that is not planned for future expansion.
- ✓ Property Location
 - ✓ Natural gas transmission line in close proximity
 - ✓ No major zoning or air quality issues
- ✓ Favorable business and political environment
- ✓ Local off-take opportunities
- ✓ Low energy cost





- .Synergy with Landfill-Gas-to-Energy Facility
 - Waste heat
 - Electricity
- Possibility of converting LFG to RNG
- Use of biochar
- Compressed Natural Gas opportunities for truck fleet.
 - Self-Reliance
 - Levelized Budgets
- Shared cost for gas conditioning, pipelines, RNG Injection
- Electrical demand
 - Possibly use electricity from LFGE Facility
 - Self Reliance/Grid Resilience

Southern Idaho Resource Recovery

Benefits to the Community

- ✓ No increased cost to customers and help keep costs low in the future.
- ✓ Remove human behavior component
 - ✓ *"We Recycle for You"*
- ✓ Supports agriculture waste problems
 - ✓ Dairy & Beef (Carcasses)
 - ✓ Food Waste
- ✓ Significant materials recovery and repurposing waste streams back into the economy
 - ✓ 50% Recycling Rate
 - ✓ Local markets for products like RNG, CO₂, and Biochar
- ✓ Solving waste tire problem in Idaho
- ✓ Economic Development
 - ✓ Businesses can benefit from low cost and high recycling rate.
- ✓ Education & Research
 - ✓ Work with universities, colleges, and DOE
 - ✓ Community involvement through education, tours and programs for local schools, colleges, universities and community groups.
- ✓ Create a new model for recycling that does not depend on tipping or user fees.

Questions?

Materials Flow

