

#### MUNICIPALITY OF ANCHORAGE ENTERPRISE AND UTILITY OVERSIGHT COMMITTEE

#### Waste to Energy Feasibility Report



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**#DoSomething** 

March 12, 2020

#### Agenda



1 Why WTE



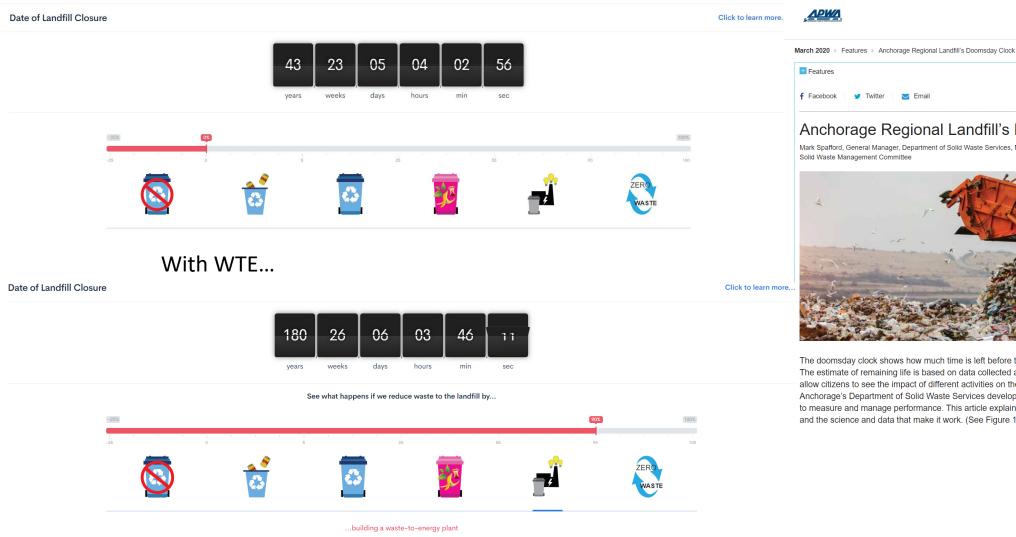
WTE Feasibility
Report



**S Next Steps** 

#### Time is running out...

#### All things the same...

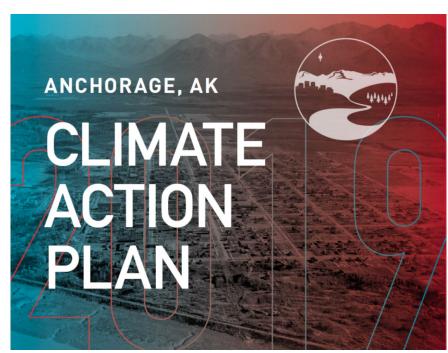


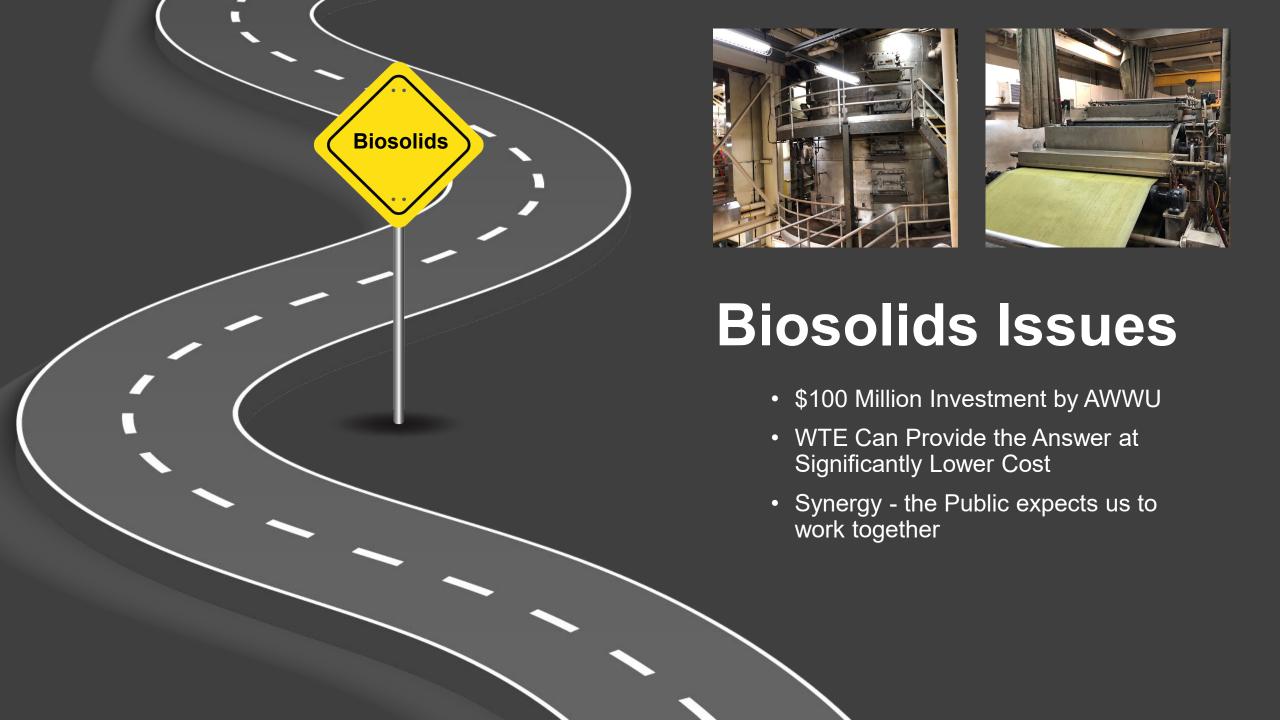


The doomsday clock shows how much time is left before the Anchorage Regional Landfill (ARL) is full. The estimate of remaining life is based on data collected at the landfill every day. Icons below the clock allow citizens to see the impact of different activities on the life of the landfill. The Municipality of Anchorage's Department of Solid Waste Services developed the clock in 2016 as part of a broader effort to measure and manage performance. This article explains the business reasons for the doomsday clock and the science and data that make it work. (See Figure 1)

## Following the Plans...







### Alaska has garbage problems too







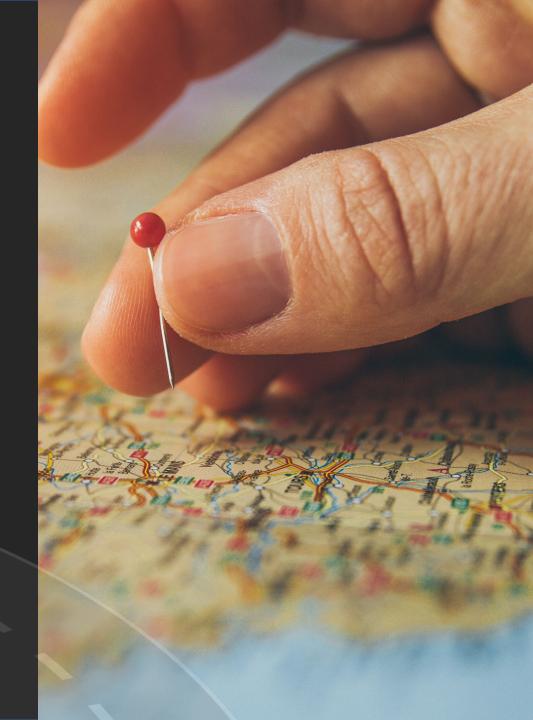


#### PART 2

# Presentation of Waste-to-Energy Feasibility Report

Marc J. Rogoff

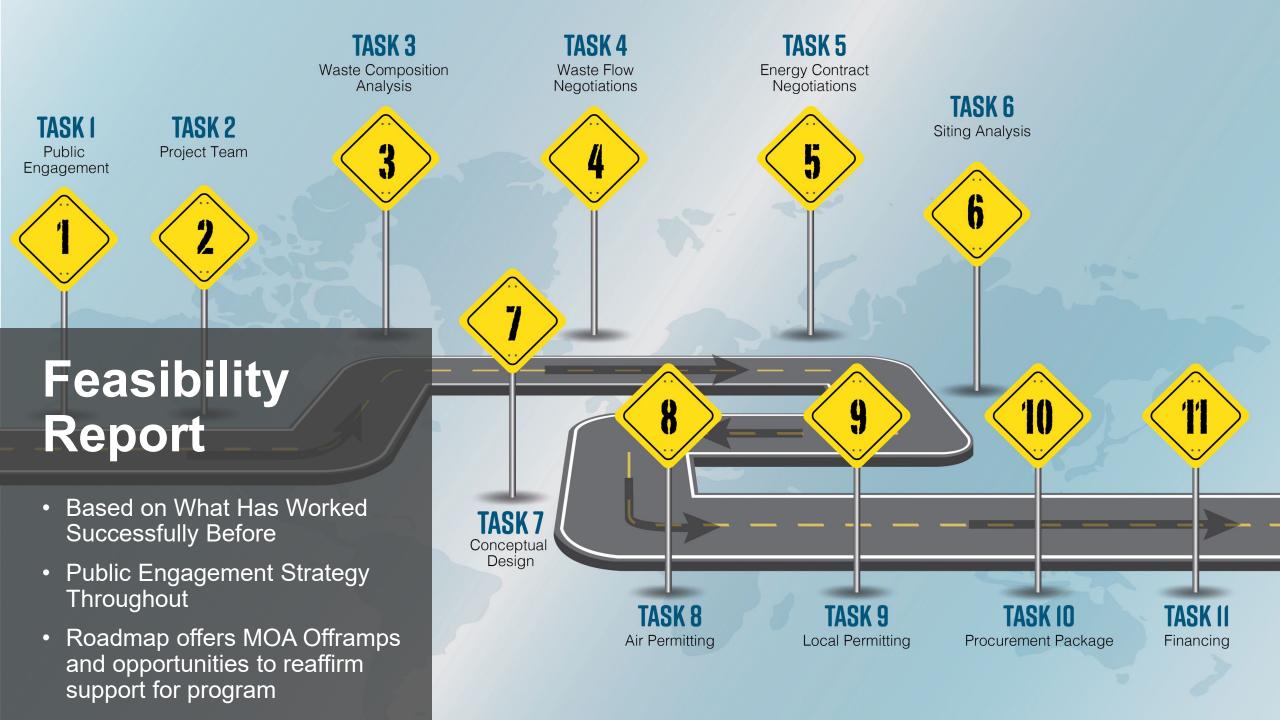
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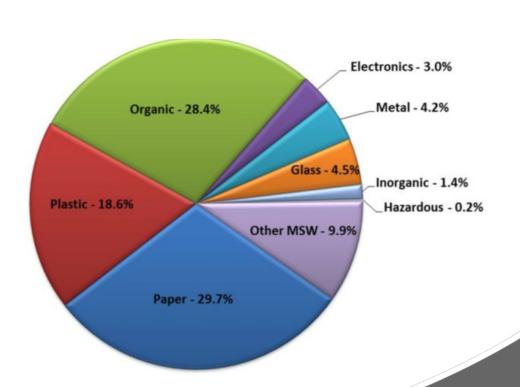
# TASK 1 Public Engagement

- Need to Create a Meaningful Program
- Engage a Consultant
- Part of All Project Efforts



# TASK 3 Waste Composition Analysis

Need to Know Btu Value and Composition of Fuel

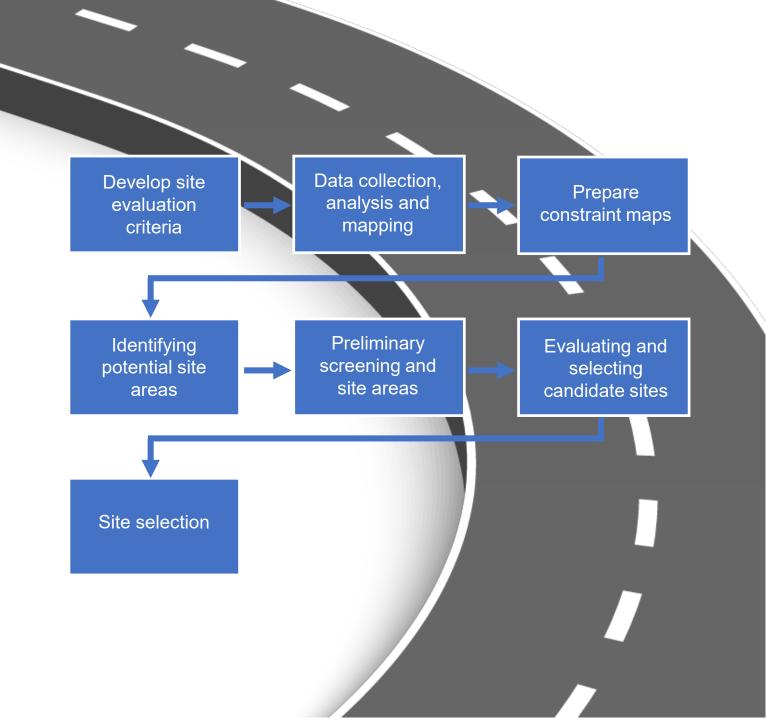






# TASK 6 Siting Analysis

- Comparison of Feasibility Sites
  - Landfill
  - Central Transfer Station
  - Asplund Wastewater Plant
  - Southcentral Power Plant
  - Others
- Fatal Flaw Analysis
- Public Engagement





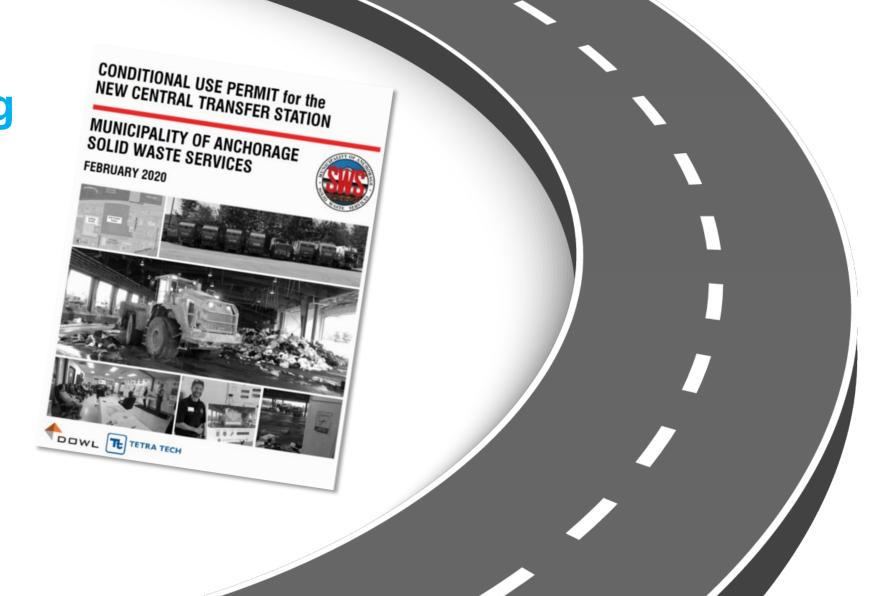


# TASK 8 Air Permitting

- Approvals By ADEC
- Establish Monitoring Station
- Modelling
- Stack Height
- Application
- Public Engagement
- Permitting Process

# TASK 9 Local Permitting

- Conditional Use Permit
- Pre-Application
- Community Meeting
- Application
- Planning and Zoning





# TASK 10 Procurement Package

- Design, Build, Operate
- MOA's Front-End Documents
- Specifications and MOA Needs/Desires
- Contracts
- Selection Process
- Negotiation
- Assembly Approval

# **TASK 11 Financing**

- \$350 to \$400 Million Bonds
- Preliminary Financial Plan
- Short Term Debt
- Long Term Bonds
- Debt Paid By Revenues of System

#### Municipality of Anchorage, Alaska Waste to Energy Project (\$400 Million - 40 Year Amortization)

19,724,250

19,687,022

Maximum Annual Debt Service

Average Annual Debt Service



Current Market Rates +100bps

	Tax Exempt	Taxable		Tax Exempt	Taxable
Sources of Funds	Bonds	Bonds	Total	Bonds	Bonds Total
Par Amount	\$ 338,405,000	\$ 21,765,000	\$ 360,170,000	\$ 368,600,000 \$	21,945,000 \$ 390,545,000
Premium	75,597,031		75,597,031	47,347,371	- 47,347,371
Total Sources	\$ 414,002,031	\$ 21,765,000	\$ 435,767,031	\$ 415,947,371 \$	21,945,000 \$ 437,892,371
	Tax Exempt	Taxable		Tax Exempt	Taxable
Uses of Funds	Bonds	Bonds	Total	Bonds	Bonds Total
Project Fund Deposit	\$ 380,000,000	\$ 20,000,000	\$ 400,000,000	\$ 380,000,000 \$	20,000,000 \$ 400,000,000
Capitalized Interest	11,400,000	600,000	12,000,000	11,400,000	600,000 12,000,000
Debt Service Reserve Fund	19,724,250	979,915	20,704,165	21,483,500	1,161,015 22,644,515
Cost of Issuance	845,613	54,387	900,000	849,428	50,572 900,000
Underwriter's Discount	2,030,430	130,590	2,161,020	2,211,600	131,670 2,343,270
Additional Proceeds	1,738	108	1,846	2,843	1,743 4,586
Total Uses	\$ 414,002,031	\$ 21,765,000	\$ 435,767,031	\$ 415,947,371 \$	21,945,000 \$ 437,892,371
	Tax Exempt	Taxable		Tax Exempt	Taxable
Bond Statistics	Bonds	Bonds	Total	Bonds	Bonds Total
Dated & Delivery Date	6/1/25	6/1/25	6/1/25	6/1/25	6/1/25 6/1/25
First Coupon	12/1/25	12/1/25	12/1/25	12/1/25	12/1/25 12/1/25
Last Maturity	12/1/65	12/1/65	12/1/65	12/1/65	12/1/65 12/1/65
Arbitrage Yield	2.4740%	3.2296%	2.4740%	3.4722%	4.2935% 3.4722%
True Interest Cost (TIC)	3.6633%	3.2668%	3.6437%	4.1974%	4.3343% 4.2043%
All-In TIC	3.6765%	3.2824%	3.6571%	4.2112%	4.3500% 4.2182%
Average Life (years)	27.122	24.941	26.991	27.122	26.150 27.068
Total Interest	458,919,375	17,674,114	476,593,489	499,860,250	24,845,855 524,706,105
Total Debt Service	797,324,375	39,439,114	836,763,489	868,460,250	46,790,855 915,251,105

979,915

973,805

20,703,093

20,660,827

21,483,500

21,443,463

1,161,015

1,155,330

22,643,623

22,598,793

**Current Market Rates** 





3 Years+ Dependent on Regulatory Process



Air Permitting Critical Path



Public and Assembly Engagement



## WTE Project Budget

		Esti	SWS		
	Type of Outside	FY 2021	FY 2022	FY 2023	Passthrough
Tasks	Advisor/Consultant				(Fees,
	7 tavisoi/ Consultant				Permits,
					etc.)
Air Permit	Air Emissions	100,000	300,000	200,000	150,000
Application	Permitting				X Y
	Consultant				
	Monitoring Station	50,000	50,000	50,000	850,000
Conditional	Land Use	125,000	50,000	25,000	25,000
Use Permit	Development			1	/ II
Application	Consultant				
Financial	Bond Counsel <sup>1</sup>	0	0	0	0
Plan	Financial Advisor <sup>1</sup>	0	0	0	0
Procurement	Engineer of	400,000	500,000	250,000	0
	Record/Program				
	Manager				
	Legal Support	250,000	50,000	50,000	0
Public	Public Relations	100,000	100,000	50,000	25,000
Engagement	Expert	1.			
Plan					
Siting	Land	250,000	25,000	0	100,000
Analysis	Use/Permitting	<b>A N Y</b>			
	Expert				
SWS Staffing	WTE Program	150,000	150,000	150,000	0
	Manager				
Total		\$1,425,000	\$1,225,000	\$775,000	\$1,150,000



## Project Milestone Actions By Assembly

Milestone	Review	Approval (Off Ramp)
Public Engagement	X	X
Waste Flow Negotiations	X	X
Energy Contract Negotiations	X	X
Siting Analysis	X	X
Conceptual Design	X	X
Air Permitting	X	X
Local Permitting	X	X
Project Team	X	X
Procurement Package	X	X
Financing Plan	X	X

# PART 3 Next Steps

Mark Spafford

Department of Solid Waste Services | March 12, 2020



#### **Next Steps**

- SWS took this effort as far as we can in 2020 with existing budget
- Update Long Range Financial Plan
- Complete Business Case Evaluation of landfill/recycling/WTE options
- Come back to assembly July/August with this information in hand to make decision on continuing to investigate WTE, etc.
- Submit FY2021 Budget for approval