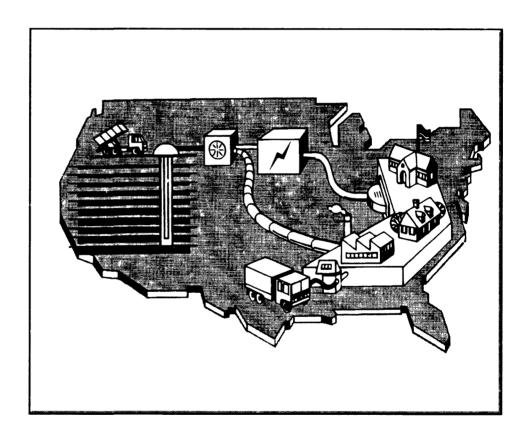


# **Landfill Gas-to-Energy Project Opportunities**

# **Landfill Profiles for the State of Oregon**





## **EPA Landfill Methane Outreach Program**



The EPA Landfill Methane Outreach Program, a key component of the United State's *Climate Change Action Plan*, encourages the use of landfill gas (LFG) as an energy resource. EPA assists utilities.

municipal and private landfill owners and operators, tribes, and state agencies in reducing methane emissions from landfills through the development of profitable landfill energy recovery projects. Methane captured from landfills can be transformed into a cost-effective fuel source for electricity, heat, boiler and vehicular fuel, or sale to a pipeline. EPA estimates there are approximately 200 landfill methane recovery projects in the U.S. and that up to 750 landfills could install economically viable landfill energy projects.

The Landfill Methane Outreach Program includes five important components: the State Ally, Energy Ally, Industry Ally, Community Partner, and Endorser programs. EPA establishes separate alliances with state agencies, energy providers (including investor-owned, municipal and other public power utilities and cooperatives), key trade and public sector associations, members of the landfill gas development industry (including developers, engineers, equipment vendors, and others) and local communities, municipalities and landfill owner/operators through a By signing the MOU, each Memorandum of Understanding (MOU). Ally/Partner acknowledges a shared commitment to the promotion of landfill gas-to-energy recovery at solid waste landfills, recognizes that the widespread use of landfill gas will reduce emissions of methane and other gases, and commits to undertake activities to enhance development of this resource. In return, EPA agrees to provide landfill gas-to-energy project assistance and public recognition of the Allies' and Partners' participation in the program.

#### Introduction

Since 1994 the U.S. EPA's Landfill Methane Outreach Program (LMOP) has participated in an ongoing effort to gather information on Municipal Solid Waste landfills (MSW). A key component of the LMOP is to provide MSW landfill owners and operators, project developers, utilities, and other potential project participants with information on MSW landfills that may offer attractive energy development opportunities. This document presents state specific landfill information, hereinafter referred to as the landfill profiles. These profiles are useful to evaluate the potential for developing landfill gas-toenergy projects (LFGTE). EPA assembled this information from state and local sources as well as various national solid waste publications, landfill owners and operators, and project developers.

The EPA has prepared a separate document to describe the methodology used to develop the state-specific landfill profiles and estimate the benefits of using LFGTE as an energy source. The document, Landfill Gas-to-Energy Project Opportunities, Background Information on Landfill Profiles, contains background information on gas collection and use, describes the data fields according to the five sections listed on the landfill profiles, and where applicable, illustrates calculations and default values used to derive estimates. EPA strongly recommends that users read the document prior to using the landfill profiles. Users can obtain the document by calling the LMOP hotline at 1-888-STAR-YES.

#### **Data Sources**

- EPA-ORD Landfill Gas Utilization-Survey (Thorneloe, 1997)
- Directory and Atlas of Solid Waste Disposal Facilities (SWA, 1994)
- Implementation Guide for Landfill Gas Recovery Projects in the Northeast (SCS, 1994)
- Landfill Gas-to-Energy 1994-1995 Activity Report (SWT, 1994)
- · Methane Recovery from Landfill Yearbook (GAA, 1994)
- · Project developers, landfill owners, and operators
- · State and local records
- · Survey of Landfill Gas Generation Potential (EPRI, 1992)
- · U.S. Landfill Directory (SWANA, 1992)

#### **Landfill Classification**

To facilitate the use of available landfill information, EPA has categorized the landfills into five categories: Current Project, <sup>1</sup> Candidate Project, Shutdown, Other, and Unknown waste-in-place (WIP). These categories are based on the status of the landfill's LFGTE project(s) and WIP. The generation of methane is a function of many factors, the most critical being the amount of waste-in-place and the number of years the waste has been in the landfill. Peak methane generation occurs soon after closure; therefore, the longer the landfill has been closed, the less attractive it becomes for methane recovery. Based on the general timing of peak methane generation, EPA assumes that landfills that ceased accepting waste prior to 1993 have a low probability of generating enough methane to make a gas recovery project economical. Consequently, landfills need to be operating in 1993 to be considered as having a Candidate Project.

#### **Landfill Categorizes**

#### **Current Project:**

 Landfill with operational LFGTE project or landfill with LFGTE project under construction.

#### **Candidate Project:**

- Landfill with a potential or planned LFGTE utilization project; or
- Landfill is currently operating or closed after 1993; and has more than 1,000,000 tons of municipal solid waste-inplace.<sup>2</sup>

#### Shutdown:

Landfill with shutdown LFGTE project.

#### Other:

 Landfill has less than 1,000,000 tons of municipal solid waste-in-place with no current or planned LFGTE project.

#### **Unknown WIP:**

 Landfill with insufficient data to determine the waste-inplace.

### **State Summary**

State-specific landfill profile information is summarized in three exhibits. Exhibit 1 presents a summary of the state-specific potential for LFG utilization energy by landfill category. Exhibit 2 summarizes the emissions avoided by fossil fuel displacement for electricity generation and direct use projects. Exhibit 3 presents an index of the state-specific MSW landfills, referenced by category, landfill name and general characteristics.

<sup>&</sup>lt;sup>2</sup> By modeling the relationship between WIP and methane generation, a cut-off of 1,000,000 tons of WIP was established; landfills having at least 1,000,000 tons of WIP are considered candidate landfills.



<sup>&</sup>lt;sup>1</sup> Current projects illustrate the wide range of successful project development options.

Exhibit 1: Oregon MSW Landfill Summary

Category	No. of	Est. Capac	ity Potential	Est. CH4	Methane Re		CO2 Equivale	1
	Landfills	Electricity (MW)	Gas Capacity (mmBtu/hr)	Generation (mmscf/d)	(tons/	(yr)	Reduct (tons/	3
					Potential	Current	Potential	Current
Current	4	16	164	5	30,307	6,167	636,453	129,507
Candidate	5	20	197	6	36,480	0	766,086	0
Other	3	3	35	1	6,458	0	135,612	Ó
Total	12	40	396	13	73,245	6,167	1,538,151	129,507

**Exhibit 2: Potential Oregon Emissions Avoided by Fossil Fuel Displacement** 

Category		Electi	ricity Gen	eration P	roject		·····		Direct Us	e Project		
	CC	)2 (tons/	'yr)	so	2 (tons/	yr)	CC	)2 (tons/	yr)	so	2 (tons/	yr) .
	Coal	Oil	Natural Gas	Coal	Oil	Natural Gas	Coal	Oil	Natural Gas	Coal	Oil	Natural Gas
Current	128,652	105,592	71,001	813	680	0	91,267	74,907	50,369	831	437	0
Candidate	156,277	128,265	86,247	988	826	0	109,855	90,164	60,628	1,000	526	1
Other	26,836	22,025	14,810	170	142	0	19,446	15,961	10,732	177	93	0
Total	311,764	255,882	172,058	1,971	1,647	0	220,568	181,033	121,729	2,007	1,055	1

## **Exhibit 3: Index of Landfills in Oregon**

Category	Landfill Name		WIP		Landfill	LFG Collected	LFG	Status of LFGTE
		<2.5 million tons	2.5 to 4 million tons	>4 million tons	Operating in 1998		Utilization Project	Project
Current	Coffin Butte LF			~	<b>✓</b>	<b>V</b>	<b>✓</b>	Operational
Current	River Bend Sanitary LF		<u> </u>		<b>Y</b>	<b>V</b>	<b>✓</b>	Operational
Current	Short Mountain LF		<b>V</b>		<b>&gt;</b>	<b>V</b>	<b>✓</b>	Operational
Current	St. Johns LF			<b>V</b>			<b>✓</b>	Operational
Candidate	Columbia Ridge LF			<b>✓</b>	>			Unknown
Candidate	Klamath Falls LF	✓			<b>&gt;</b>			Unknown
Candidate	Knott Pit LF	✓			>			Potential
Candidate	Northern Wasco County LF	<b>V</b>			>			Unknown
Candidate	Roseburg LF	✓			>			Unknown
Other	Finley Buttes LF	<b>V</b>			<u> </u>			Unknown
Other	Milton-Freewater LF	<b>V</b>			<b>V</b>			Unknown
Other	Pendleton LF	~			~			Unknown

			Coffin Butte LF		Landfill Cate	egory: Currer
		A. G	ENERAL LANDFILL INF	FORMATION		
Landfill Owner:	Valley	Landfills, Incorp	oorated Ann	ual Acceptance Rate (	tons):	250,000
Landfill Owner Type:	Private	:	Yea	r Annual Acceptance I	Rate Reported:	1995
Alternative Landfill N	lame:		Desi	ign Capacity (tons):		1,000,000
City:	Corvali	is	Acre	es Currently Landfilled	d (acres):	61
County:	Benton	ı	Ave	rage Depth (feet):		
State:	OR		199	5 Waste-in-Place (tons	s):	3,400,000
Year Open:	1978		1998	8 Waste-in-Place (tons	;):	4,150,000
Year Closed:	2002					
		I	B. LANDFILL GAS COLL	ECTION		
Estimated Methane G	eneration (mmsc	rf/d):		1.48		
LFG Collection Syste	m Status:		Opera	tional		
Current LFG Collecte	ed (mmscf/d):		•			
Collection and Treatm	nent System Req	uired Under NSF	PS/EG:	No		
			C. LANDFILL GAS UTIL	IZATION		
Current Utilization:						
Utilization System	m Status:	Operational				
Utilization System	m Type:	Reciprocatin	ng Engine			
Utilization System	m Start Year:	1996				
Electric Utility P	rovider(s):					
Natural Gas Prov	vider(s):					
Energy Purchase	r(s):	Pacific North	hwest Generating Cooperation	ve		
Capacity:		Electrici	ty Generation Project (MW)	OR	Direct Use Project (mm	ıBtu/hr)
E. In.	tial Canasitus			_		
Estimatea Poteni	nan Camacuv			5		46
Estimated Potent Current Capacity				5 2.4		46
Current Capacity Planned Capacity	<i>r</i> :			2.4		46
Current Capacity Planned Capacity	<i>r</i> :	Bonneville F	Power Admin; Consumers Po	2.4		46
Current Capacity Planned Capacity	<i>r</i> :		Power Admin; Consumers Po	2.4 ower Inc; Pacificorp		46
Current Capacity	<i>r</i> :		ROMENTAL BENEFITS	2.4  ower Inc; Pacificorp  OF UTILIZATION	Curre	
Current Capacity Planned Capacity Utilities in County:	<i>y</i> :			2.4  ower Inc; Pacificorp  OF UTILIZATION  ital	Curre	ent
Current Capacity Planned Capacity Utilities in County:	ons/yr):	D. ENVIR	ROMENTAL BENEFITS	2.4 ower Inc; Pacificorp OF UTILIZATION tial 8,554	Curre	ent C
Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to	ons/yr):	D. ENVIR	ROMENTAL BENEFITS	2.4  ower Inc; Pacificorp  OF UTILIZATION  ital	Curre	ent (
Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to	r; y: ons/yr): H4 Reduction (to)	D. ENVIR	ROMENTAL BENEFITS	2.4 power Inc; Pacificorp  OF UTILIZATION  itial  8,554 179,626	Curre Direct Use I	ent (
Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to	r; y: ons/yr): H4 Reduction (to)	D. ENVIR	ROMENTAL BENEFITS ( Potent	2.4 power Inc; Pacificorp  OF UTILIZATION  itial  8,554 179,626		ent ( ( Project
Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to	r; y: ons/yr): H4 Reduction (to)	D. ENVIR ns/yr): placement:	Potent  Electricity General  CO2 (tons/yr)	2.4  ower Inc; Pacificorp  OF UTILIZATION  tial  8,554  179,626  tion Project  SO2 (tons/yr)	Direct Use I CO2 (tons/yr)	ent ( ( Project SO2 (tons/yr)
Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to CO2 Equivalent of CE	r; y: ons/yr): H4 Reduction (to)	D. ENVIR ns/yr): placement: Coal:	Potent  Electricity General  CO2 (tons/yr)  36,307	2.4  cower Inc; Pacificorp  OF UTILIZATION  tial  8,554  179,626  tion Project  SO2 (tons/yr)  230	Direct Use I CO2 (tons/yr) 25,758	ent ( ( ( ( Project SO2 (tons/yr) 234
Current Capacity Planned Capacity	r: y: ons/yr): H4 Reduction (to) PFossil Fuel Disp	D. ENVIR ns/yr): placement: Coal: Fuel Oil:	Electricity General CO2 (tons/yr) 36,307 29,799	2.4  Dower Inc; Pacificorp  OF UTILIZATION  Pial  8,554  179,626  Pion Project  SO2 (tons/yr)  230  192	Direct Use I CO2 (tons/yr) 25,758 21,141	Project SO2 (tons/yr) 234
Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to CO2 Equivalent of CE	r: y: ons/yr): H4 Reduction (to) PFossil Fuel Disp	D. ENVIR ns/yr): placement: Coal:	Electricity General CO2 (tons/yr) 36,307 29,799 20,037	2.4  ower Inc; Pacificorp  OF UTILIZATION  vial  8,554 179,626  vion Project  SO2 (tons/yr)  230 192 0	Direct Use I CO2 (tons/yr) 25,758	ent C
Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to	r: y: ons/yr): H4 Reduction (to) PFossil Fuel Disp	D. ENVIR ns/yr): placement: Coal: Fuel Oil:	Electricity General CO2 (tons/yr) 36,307 29,799 20,037 E. CONTACT INFORM	2.4  ower Inc; Pacificorp  OF UTILIZATION  vial  8,554 179,626  vion Project  SO2 (tons/yr)  230 192 0	Direct Use I CO2 (tons/yr) 25,758 21,141	Project SO2 (tons/yr, 234
Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to CO2 Equivalent of CE Emissions Avoided by	ons/yr): H4 Reduction (to P Fossil Fuel Disp	D. ENVIR ns/yr): placement: Coal: Fuel Oil: latural Gas:	Electricity General CO2 (tons/yr) 36,307 29,799 20,037 E. CONTACT INFORM	2.4  ower Inc; Pacificorp  OF UTILIZATION  ital  8,554  179,626  tion Project  SO2 (tons/yr)  230  192  0  ATION	Direct Use I CO2 (tons/yr) 25,758 21,141 14,216 Landfill Operator	Project SO2 (tons/yr 234
Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to CO2 Equivalent of CE Emissions Avoided by  Contact Name:	ons/yr): H4 Reduction (too Fossil Fuel Disp	D. ENVIR ns/yr): placement: Coal: Fuel Oil: latural Gas:	Electricity General CO2 (tons/yr) 36,307 29,799 20,037 E. CONTACT INFORM	2.4  Dower Inc; Pacificorp  OF UTILIZATION  Dial  8,554  179,626  Dion Project  SO2 (tons/yr)  230  192  0  ATION  Brian Stone, Oper	Direct Use I CO2 (tons/yr) 25,758 21,141 14,216 Landfill Operator	Project SO2 (tons/yr 234
Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to CO2 Equivalent of CE Emissions Avoided by  Contact Name:	ons/yr): H4 Reduction (to P Fossil Fuel Disp	D. ENVIR ns/yr): placement: Coal: Fuel Oil: latural Gas:	Electricity General CO2 (tons/yr) 36,307 29,799 20,037 E. CONTACT INFORM	2.4  ower Inc; Pacificorp  OF UTILIZATION  ital  8,554  179,626  tion Project  SO2 (tons/yr)  230  192  0  ATION	Direct Use I CO2 (tons/yr) 25,758 21,141 14,216 Landfill Operator	Project SO2 (tons/yr 234
Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to CO2 Equivalent of CH Emissions Avoided by  Contact Name: Mailing Address:	ons/yr): H4 Reduction (to) Fossil Fuel Disp  N  Brian Stone, O P.O. Box 807	D. ENVIR ns/yr): placement: Coal: Fuel Oil: latural Gas:	Electricity General CO2 (tons/yr) 36,307 29,799 20,037 E. CONTACT INFORM	2.4  Dower Inc; Pacificorp  OF UTILIZATION  Dial  8,554  179,626  Dion Project  SO2 (tons/yr)  230  192  0  IATION  Brian Stone, Oper P.O. Box 807	Direct Use I CO2 (tons/yr) 25,758 21,141 14,216 Landfill Operator	Project SO2 (tons/yr 234
Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to CO2 Equivalent of CE	ons/yr): H4 Reduction (too Fossil Fuel Disp	D. ENVIR ns/yr): placement: Coal: Fuel Oil: latural Gas:	Electricity General CO2 (tons/yr) 36,307 29,799 20,037 E. CONTACT INFORM	2.4  Dower Inc; Pacificorp  OF UTILIZATION  Dial  8,554  179,626  Dion Project  SO2 (tons/yr)  230  192  0  ATION  Brian Stone, Oper	Direct Use I CO2 (tons/yr) 25,758 21,141 14,216 Landfill Operator	Project SO2 (tons/yr, 234

			Columbia Ridg		Landfill Ca	tegory: Candidate
		A. GI	ENERAL LANDFILL I	NFORMATION		
Landfill Owner:	WM D	isp. Services of C	OR A	nnual Acceptance Ra	te (tons):	1,670,000
Landfill Owner Type	: Private		Y	ear Annual Acceptan	ce Rate Reported:	1998
Alternative Landfill	Name:		D	esign Capacity (tons)	:	10,300,000
City:	Arlingt	on	A	cres Currently Landfi	illed (acres):	650
County:	Gillian	ı	A	verage Depth (feet):		
State:	OR		V	aste-in-Place (tons):		8,120,000
Year Open:	1990		1:	998 Waste-in-Place (1	ons):	10,440,000
Year Closed:	2002					
	<u> </u>	В	. LANDFILL GAS CO	LLECTION		
Estimated Methane G		:f/d):		3.09		
LFG Collection Syste						
Current LFG Collecte	•					
Collection and Treatr	nent System Req			No		······································
	<u> </u>	C	C. LANDFILL GAS UT	ILIZATION	<u> </u>	
Current Utilization:						
Utilization Syste		Unknown				
Utilization Syste		Unknown				
Utilization Syste						
Electric Utility F						
Natural Gas Pro	vider(s):					
Energy Purchase	er(s):					
Capacity:		Electricit	y Generation Project (M'	W) OR	Direct Use Project (mi	nBtu/hr)
Estimated Poten	tial Capacity:			10		97
Current Capacity						
Planned Capacit	y:			t   	·	
Utilities in County:		Bonneville P	ower Admin; Columbia l	Basin Elec Coop Inc;	Pacificorp; Wasco Electric	Coop Inc
		D. ENVIR	OMENTAL BENEFIT	S OF UTILIZATIO	N. A. S.	
			Pot	ential	Curr	ent
Methane Reduction (1	tons/vr):	į		17,855	•	0
CO2 Equivalent of Co		ns/vr):		374,959		0
Emissions Avoided by	y Fossil Fuel Disp	placement:	Electricity Gene	ration Project	Direct Use	Project
			CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)
		Coal:	76,560	484	53,769	489
		Fuel Oil:	62,837	405	44,131	257
						0
7.66		latural Gas:	42,252	0	29,674	V
	and the second	Landfill C	E. CONTACT INFOR	MATION	Landell One	
C	<del></del>	Landini	JWHEI	i	Landfill Operator	
Contact Name:	Doris Bjorn			Doris Bjorn		
Mailing Address:	18177 Cedar S	prings Lane		18177 Cedar S	Springs Lane	
	1					
Phone Number:	541-454-2030			541-454-2030		
Phone Number: Fax Number:	541-454-2030			541-454-2030 541-454-3312		

			Klamath Falls			Landfill Categor	y: Candidate
		A. G	ENERAL LANDFILL	INFORMAT	ION		
Landfill Owner:	Klamat	h County		Annual Accep			75,000
Landfill Owner Type:	Public				•	Rate Reported:	1998
Alternative Landfill N				Design Capaci	•		1,540,000
City:	Bonanz			cres Current	-	ed (acres):	60
County:	Klamat	h		verage Dept			1 100 000
State:	OR 1077			Vaste-in-Plac	-	-1.	1,100,000
Year Open: Year Closed:	1977 2007		Ι	998 Waste-in	-Piace (ion	s):	1,210,000
Teal Closed.	2007		B. LANDFILL GAS CO	LECTION			
			A LANDTIEL GAS CO			· · · · · · · · · · · · · · · · · · ·	
Estimated Methane Ge	-	f/d):		0.73			
LFG Collection System							
Current LFG Collected Collection and Treatm		uirad Undar NSI	99/EC:	No			
Conection and Treatin	ent System Requ		C. LANDFILL GAS UT		J		
			C. LANDINE GAS CI	ILILATIO	•		
Current Utilization:	Cr. c	77.1					
Utilization System		Unknown					
Utilization Syster Utilization Syster		Unknown					
Electric Utility Pr							
Natural Gas Prov							
Energy Purchaser	* *						
Energy I dienasei	(3).						
Capacity:		Electrici	ty Generation Project (M	<b>W</b> ) (	OR	Direct Use Project (mmBtu/	hr)
Estimated Potenti	ial Capacity:			2		-	23
Current Capacity:					1		
Planned Capacity							
Utilities in County:		Bonneville I	Power Admin; Midstate E	lectric Coop	Inc; Pacific	orp	
		D. ENVII	ROMENTAL BENEFIT	S OF UTIL	ZATION		
			Pot	ential		Current	
Methane Reduction (to	ons/yr):				4,206		0
CO2 Equivalent of CH	14 Reduction (to	ns/yr):			88,326		0
Emissions Avoided by	Fossil Fuel Disp	olacement:	Electricity Gene	•		Direct Use Proje	1
			CO2 (tons/yr)	SO2 (to	ns/yr)	CO2 (tons/yr) S	SO2 (tons/yr)
		Coal:	18,153		115	12,666	115
		Fuel Oil:	14,899		96	10,395	61
	N	atural Gas:	10,019		0	6,990	0
			E. CONTACT INFO	MATION			
		Landfill		MANION		Landfill Operator	ilea
Contact Name:	Keith Read, Di	rector		Keith	Read, Dire	ctor	
Mailing Address:	3735 Shasta W	'av		3735	Shasta Way	,	i !
		<b>-</b>			uj		! !
Phone Number:	541-883-4696			5/1 0	83-4696		:
i	J=1-00J=4070			i			1
Fax Number:				541-8	82-3046		
* Itallicized indicates v	alues estimated	by EPA.	Dec	ember 5, 199	8	State: OR Pag	ge: 3
<b>k</b>							

		· · · · · · · · · · · · · · · · · · ·	Knott Pit LI ENERAL LANDFILL I		······································	Landfill Cat	egory: Candidate
Landfill Owner:		ites County		nnual Acceptance			80,000
Landfill Owner Type: Alternative Landfill Name	Public			ear Annual Accep	-	nted:	1998
				esign Capacity (to			1,500,000 130
City: County:	Bend Deschu	tos		cres Currently Lai			130
State:	OR	nes		verage Depth (fee aste-in-Place (ton			1,690,000
Year Open:	OK 1971			998 Waste-in-Place	-		1,820,000
Year Closed:	2007		T:	990 wasie-in-riac	e (ions):		1,820,000
Teal Closed.	2007		B. LANDFILL GAS CO	LLECTION			
Estimated Methane Gener	ration (mmsc	f/d)·		0.88		· · · · · · · · · · · · · · · · · · ·	
LFG Collection System S	•	,,,,,		0.00			
Current LFG Collected (n							
Collection and Treatment	-	uired Under NSI	PS/EG:	No			
	- 7		C. LANDFILL GAS UT	ILIZATION			
Current Utilization:		•					
Utilization System S	Status:	Potential					
Utilization System T		Unknown					
Utilization System S							
Electric Utility Provi							
Natural Gas Provider							
Energy Purchaser(s):	:						
		Electrici	ty Generation Project (MY	W) OR	Direct U	se Project (mn	nBtu/hr)
Capacity:	Capacity:	Electrici	ty Generation Project (M	<del></del>	Direct U	se Project (mn	<del></del>
Capacity:  Estimated Potential	Capacity:	Electrici	ty Generation Project (M	W) OR 3	Direct U	se Project (mn	nBtu/hr)
Capacity:	Capacity:	Electrici	ty Generation Project (M	<del></del>	Direct U	se Project (mn	<del></del>
Capacity:  Estimated Potential of Current Capacity: Planned Capacity:	Capacity:		ty Generation Project (M	3			28
Capacity:  Estimated Potential of Current Capacity: Planned Capacity:	Capacity:	Bonneville F		3 ctric Coop Inc; Ha	arney Electric Co		28
Capacity:  Estimated Potential ( Current Capacity:	Capacity:	Bonneville F	Power Admin; Central Ele	3 ctric Coop Inc; Ha	arney Electric Co		28 ate Electric Coo
Capacity:  Estimated Potential of Current Capacity: Planned Capacity: Utilities in County:		Bonneville F	Power Admin; Central Ele	3 ctric Coop Inc; Has OF UTILIZAT	arney Electric Co	op Inc; Midsta	28 ate Electric Coo
Capacity:  Estimated Potential of Current Capacity: Planned Capacity:  Utilities in County:	/yr):	Bonneville I	Power Admin; Central Ele	3 ctric Coop Inc; Has SOF UTILIZAT	arney Electric Co	op Inc; Midsta	28  ate Electric Coo
Capacity:  Estimated Potential of Current Capacity: Planned Capacity: Utilities in County:  Methane Reduction (tons/CO2 Equivalent of CH4 R	/yr): Reduction (ton	Bonneville I  D. ENVII  ns/yr):	Power Admin; Central Ele  ROMENTAL BENEFIT  Pote	ctric Coop Inc; Has SOF UTILIZAT ential 5,1 107,2	arney Electric Co	op Inc; Midsta Curre	28  ate Electric Coo  ent  0 0
Capacity:  Estimated Potential of Current Capacity: Planned Capacity: Utilities in County:  Methane Reduction (tons/	/yr): Reduction (ton	Bonneville I  D. ENVII  ns/yr):	Power Admin; Central Ele  ROMENTAL BENEFIT  Pote  Electricity Gene	ctric Coop Inc; Has SOF UTILIZAT ential 5,1 107,2 ration Project	arney Electric Co TON 08 268	Curre	28  ate Electric Coo  ent  0 0  Project
Capacity:  Estimated Potential of Current Capacity: Planned Capacity: Utilities in County:  Methane Reduction (tons/	/yr): Reduction (ton	Bonneville I  D. ENVII  ns/yr):	Power Admin; Central Ele  ROMENTAL BENEFIT  Pote	ctric Coop Inc; Has SOF UTILIZAT ential 5,1 107,2	arney Electric Co TON 08 268	op Inc; Midsta Curre	28  ate Electric Coo  ent  0 0
Capacity:  Estimated Potential of Current Capacity: Planned Capacity: Utilities in County:  Methane Reduction (tons/	/yr): Reduction (ton	Bonneville I  D. ENVII  ns/yr):	Power Admin; Central Ele  ROMENTAL BENEFIT  Pote  Electricity Gene	ctric Coop Inc; Has SOF UTILIZAT ential 5,1 107,2 ration Project	arney Electric Co TON 08 268 0 CO2	Curre	28  ate Electric Coo  ent  0 0  Project
Capacity:  Estimated Potential of Current Capacity: Planned Capacity: Utilities in County:  Methane Reduction (tons/CO2 Equivalent of CH4 R	/yr): Reduction (ton	Bonneville I  D. ENVII  ns/yr):  placement:	Power Admin; Central Ele  ROMENTAL BENEFIT  Pote  Electricity Gene.  CO2 (tons/yr)	ctric Coop Inc; Has SOF UTILIZAT  ential 5,1 107,2  ration Project SO2 (tons/yr)	arney Electric Co FION  08 68 CO2	Curre  Direct Use 12 (tons/yr)	28  ate Electric Coo  ent  0 0  Project  SO2 (tons/yr)
Capacity:  Estimated Potential of Current Capacity: Planned Capacity: Utilities in County:  Methane Reduction (tons/CO2 Equivalent of CH4 R	/yr): Reduction (tot ssil Fuel Disp	Bonneville I  D. ENVII  ns/yr):  placement:  Coal:	Power Admin; Central Ele  ROMENTAL BENEFIT  Pote  Electricity Gene.  CO2 (tons/yr)  22,100	ctric Coop Inc; Has S OF UTILIZAT ential 5,1 107,2 ration Project SO2 (tons/yr) 140	arney Electric Co PION  08 268  CO2	Direct Use 12 (tons/yr)	28  ate Electric Coo  ent  0 0  Project  SO2 (tons/yr) 140
Capacity:  Estimated Potential of Current Capacity: Planned Capacity: Utilities in County:  Methane Reduction (tons/CO2 Equivalent of CH4 R	/yr): Reduction (tot ssil Fuel Disp	Bonneville I  D. ENVII  ns/yr):  placement:  Coal:  Fuel Oil:	Power Admin; Central Ele  ROMENTAL BENEFIT  Pote  Electricity Gene.  CO2 (tons/yr)  22,100  18,139  12,197	ctric Coop Inc; Has SOF UTILIZAT ential 5,1 107,2 ration Project SO2 (tons/yr) 140 117	arney Electric Co TON  08 268  CO2	Direct Use 12 (tons/yr) 15,382 12,625	28  ate Electric Coo  ent  0 0  Project SO2 (tons/yr) 140 74
Capacity:  Estimated Potential of Current Capacity: Planned Capacity: Utilities in County:  Methane Reduction (tons/CO2 Equivalent of CH4 R	/yr): Reduction (tot ssil Fuel Disp	Bonneville I  D. ENVII  ns/yr):  placement:  Coal:  Fuel Oil:	Power Admin; Central Ele  ROMENTAL BENEFIT  Pote  Electricity Gene  CO2 (tons/yr)  22,100  18,139  12,197  E. CONTACT INFOR	3 ctric Coop Inc; Has SOF UTILIZAT ential 5,1 107,2 ration Project SO2 (tons/yr) 140 117	arney Electric Co FION  08 268  CO2	Direct Use 12 (tons/yr) 15,382 12,625	28  ate Electric Coo  ent  0 0  Project SO2 (tons/yr) 140 74
Capacity:  Estimated Potential of Current Capacity: Planned Capacity: Utilities in County:  Methane Reduction (tons/CO2 Equivalent of CH4 Reference of CH4 Refe	/yr): Reduction (tot ssil Fuel Disp	Bonneville I  D. ENVII  ns/yr):  clacement:  Coal:  Fuel Oil:  latural Gas:  Landfill	Power Admin; Central Ele  ROMENTAL BENEFIT  Pote  Electricity Gene  CO2 (tons/yr)  22,100  18,139  12,197  E. CONTACT INFOR	ctric Coop Inc; Has of UTILIZAT ential 5,1 107,2 ration Project SO2 (tons/yr) 140 117 0 MATION	arney Electric Co FION  08 268  CO2	Direct Use 12 (tons/yr) 15,382 12,625 8,489	28  ate Electric Coo  ent  0 0  Project SO2 (tons/yr) 140 74
Capacity:  Estimated Potential of Current Capacity: Planned Capacity: Utilities in County:  Methane Reduction (tons/CO2 Equivalent of CH4 Remissions Avoided by Fostional Contact Name:  Ti	/yr): Reduction (ton ssil Fuel Disp N	Bonneville I  D. ENVII  ns/yr):  clacement:  Coal: Fuel Oil: datural Gas:  Landfill  Director	Power Admin; Central Ele  ROMENTAL BENEFIT  Pote  Electricity Gene  CO2 (tons/yr)  22,100  18,139  12,197  E. CONTACT INFOR	ctric Coop Inc; Has S OF UTILIZAT  ential 5,1 107,2  ration Project SO2 (tons/yr) 140 117 0  EMATION Tim Schim	arney Electric Co TON  08  08  068  CO2  1  Landfi	Direct Use 12 (tons/yr) 15,382 12,625 8,489	28  ate Electric Coo  ent  0 0  Project SO2 (tons/yr) 140 74
Capacity:  Estimated Potential of Current Capacity: Planned Capacity: Utilities in County:  Methane Reduction (tons/CO2 Equivalent of CH4 Remissions Avoided by Fostional Contact Name:  Ti	/yr): Reduction (tot ssil Fuel Disp	Bonneville I  D. ENVII  ns/yr):  clacement:  Coal: Fuel Oil: datural Gas:  Landfill  Director	Power Admin; Central Ele  ROMENTAL BENEFIT  Pote  Electricity Gene  CO2 (tons/yr)  22,100  18,139  12,197  E. CONTACT INFOR	ctric Coop Inc; Has of UTILIZAT ential 5,1 107,2 ration Project SO2 (tons/yr) 140 117 0 MATION	arney Electric Co TON  08  08  068  CO2  1  Landfi	Direct Use 12 (tons/yr) 15,382 12,625 8,489	28  ate Electric Coo  ent  0 0  Project SO2 (tons/yr) 140 74
Capacity:  Estimated Potential of Current Capacity: Planned Capacity: Utilities in County:  Methane Reduction (tons/CO2 Equivalent of CH4 Remissions Avoided by Fostional Contact Name: Mailing Address:  61	/yr): Reduction (ton ssil Fuel Disp  N Tim Schimke, 1000 SE 27th	Bonneville I  D. ENVII  ns/yr):  clacement:  Coal: Fuel Oil: datural Gas:  Landfill  Director	Power Admin; Central Ele  ROMENTAL BENEFIT  Pote  Electricity Gene  CO2 (tons/yr)  22,100  18,139  12,197  E. CONTACT INFOR	ctric Coop Inc; Has SOF UTILIZAT  ential  5,1 107,2  ration Project SO2 (tons/yr) 140 117 0  EMATION  Tim Schim 61000 SE 2	Landfinke, Director	Direct Use 12 (tons/yr) 15,382 12,625 8,489	28  ate Electric Coo  ent  0 0  Project SO2 (tons/yr) 140 74
Capacity:  Estimated Potential of Current Capacity: Planned Capacity: Utilities in County:  Methane Reduction (tons/CO2 Equivalent of CH4 Remissions Avoided by Fosting Mailing Address:  Mailing Address:  61 Phone Number:	/yr): Reduction (ton ssil Fuel Disp N	Bonneville I  D. ENVII  ns/yr):  clacement:  Coal: Fuel Oil: datural Gas:  Landfill  Director	Power Admin; Central Ele  ROMENTAL BENEFIT  Pote  Electricity Gene  CO2 (tons/yr)  22,100  18,139  12,197  E. CONTACT INFOR	ctric Coop Inc; Has S OF UTILIZAT  ential 5,1 107,2  ration Project SO2 (tons/yr) 140 117 0  EMATION Tim Schim	Landfiinke, Director	Direct Use 12 (tons/yr) 15,382 12,625 8,489	28  ate Electric Coo  ent  0 0  Project SO2 (tons/yr) 140 74

i			Northern Wasco C	ounty LF		Landfill Category:	Candidate
		A. G	ENERAL LANDFILL	INFORMAT	ION		
Landfill Owner:	USA W	/aste Cascade Di	strict	Annual Accept	tance Rate	(tons):	95,000
Landfill Owner Type:	Private		•	Year Annual A	Acceptance	Rate Reported:	1998
Alternative Landfill Na	me: The Da	illes Landfill	·	Design Capaci	ty (tons):		366,286
City:	The Da	lles	,	Acres Currentl	y Landfille	ed (acres):	170
County:	Wasco		1	Average Depth	(feet):		
State:	OR			Waste-in-Place			1,600,000
Year Open:	1972		j	1998 Waste-in	-Place (ton	s):	1,728,000
Year Closed:	2001	_					
		J	B. LANDFILL GAS CO	DLLECTION		10 CO	
Estimated Methane Gen		f/d):		0.86			
LFG Collection System							
Current LFG Collected	• /						
Collection and Treatme	ent System Requ			No			
			C. LANDFILL GAS U	ITLIZATION		· · · · · · · · · · · · · · · · · · ·	
Current Utilization:							
Utilization System		Unknown					
Utilization System		Unknown					
Utilization System							
Electric Utility Pro Natural Gas Provi							
Energy Purchaser	• •						
. Ellergy Furchaser	(5).						
Capacity:		Electrici	ty Generation Project (M	(W) C	)R	Direct Use Project (mmBtu/h	;)
Estimated Potentia	al Capacity:			3			27
Current Capacity:	. ,						
Planned Capacity:							
Utilities in County:		Donnovillo F	Power Admin Control El	antria Coon In	a. Nauthau	n Wasco County P U D; Wasco	Electric
Offices in County.						ii wasco County F O D, wasco	LIECTIC
		D. ENVIR	OMENTAL BENEFIT	SOFUTILI	ZATION	l -	
			Po	tential		Current	
Methane Reduction (to					4,972		0
CO2 Equivalent of CH	4 Reduction (to	ns/yr):		1	104,412		0
Emissions Avoided by I	Fossil Fuel Disi	olacement:	Electricity Gene	eration Project	·	Direct Use Project	,
Emissions rivolaca by I	ossii ruci Disj	incement.	CO2 (tons/yr)	SO2 (tor			2 (tons/yr)
		<i>c</i> ,	·	502 (10)			
		Coal:	21,311		135	14,973	136
		Fuel Oil:	17,491		113	12,289	72
	N	atural Gas:	11,761		0	8,263	0
			E. CONTACT INFO	RMATION			
		Landfill (	Owner			Landfill Operator	
Contact Name:	Jim Tarr, Site I	Manager		Jim Ta	arr, Site Ma	anager	
		_				<b>U</b> -	
Mailing Address:	2550 Steele Ro	1.		25503	Steele Rd.		;
DI NY							:
Phone Number:	541-296-4082			541-29	96-4082		 
Fax Number:							1
* Italliai-ad in di-	aluan antimate I	h. EDA	D-	nambar 5 100	· · · · · · · · · · · · · · · · · · ·	State: OR Page:	
* Itallicized indicates vo		-	Dec	cember 5, 199	o	State: OR Page:	. 5
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			River Bend Sa	•		Landfill Cates	gory: Curre
		A. G	ENERAL LANDFIL	L INFOR	MATION		
Landfill Owner:	Riverbe	end Landfill Con	npany Incorporated	Annual A	Acceptance Rate	(tons):	330,000
Landfill Owner Type	: Private				nual Acceptance	Rate Reported:	1998
Alternative Landfill	Name:			Design C	Capacity (tons):		4,200,000
City:	McMin	nville		Acres Cu	irrently Landfille	ed (acres):	450
County:	Yamhil	1		_	Depth (feet):		
State:	OR			1995 Wa	aste-in-Place (toi	ns):	2,300,000
Year Open:	1982	•.		1998 Wa	ste-in-Place (ton	es):	2,900,000
Year Closed:	2020						
			3. LANDFILL GAS	COLLECT	TION		<u> </u>
Estimated Methane G	ieneration (mmsc	f/d):		1.10	6		
LFG Collection Syste	em Status:		•	Operationa	1		
Current LFG Collecte	ed (mmscf/d):						
Collection and Treatm	nent System Requ	ired Under NSF	PS/EG:	N	o		
			C. LANDFILL GAS	UTILIZA'	TION		
Current Utilization:							
Utilization Syste	m Status:	Operational					
Utilization Syste	m Type:	Leachate Ev	aporation				
Utilization Syste	m Start Year:	1998					
Electric Utility F	Provider(s):						
Natural Gas Pro	vider(s):						
Energy Purchase	er(s):						
Capacity:		Flectrici	ty Generation Project	(MW)	OR	Direct Use Project (mmE	Rtn/hr)
			- Concration Project			Direct eserroject (mini-	
Estimated Poten				. 4			36
Current Capacity							
Planned Capacit	y:						
Utilities in County:		Bonneville I	Power Admin; McMin	nville Wate	er & Light; Portl	and General Electric Co; Ti	llamook Peo
		D. ENVII	ROMENTAL BENEI	FITS OF U	TILIZATION		
			,	Potential		Curren	ıt
Methane Reduction (t	tons/yr):	•			6,705		(
CO2 Equivalent of Cl	•	ıs/yr):			140,807		(
						<u> </u>	
Emissions Avoided by	v Fossil Fuel Disp	olacement:	Electricity G		=	Direct Use Pi	-
			CO2 (tons/yr)	SO	02 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr
		Coal:	28,414	4	180	20,192	184
		Fuel Oil:	23,321	1	150	16,572	91
	A.						
	IV	atural Gas:	15,681		0	11,144	
		Landfill	E. CONTACT INF	ORMATI	ON	Landfill Operator	
Contact Name:	D Wilson Ci				Dan Wilson City	<del></del>	
Contact Name.	Dan Wilson, S	ite Manager			Dan Wilson, Site	e Manager	
Mailing Address:	13469 Southwe	est Highway 18			13469 Southwes	t Highway 18	
Phone Number:	503 472 2176				502 472 2176		
	503-472-3176			,	503-472-3176		
Fax Number:	1						
* Itallicized indicates	values estimated	by EPA.	]	December :	5, 1998	State: OR	Page:
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		Roseburg			Landfill Category:	Candidate
	Α.	GENERAL LANDFILL	INFORMAT	ION		
Landfill Owner:	Douglas County Sout	hwest Administration	Annual Accep	tance Rate (	(tons):	97,700
Landfill Owner Type:	Public			<del>-</del>	Rate Reported:	1998
Alternative Landfill Na			Design Capaci	-		480,000
City:	Roseburg		Acres Current		d (acres):	35
County:	Douglas		Average Dept			
State:	OR		1995 Waste-in			1,075,000
Year Open:	1975		1998 Waste-in	-Place (ton:	s):	1,300,000
Year Closed:	2007					•
		B. LANDFILL GAS C		2-7-4		
Estimated Methane Gen			0.75			
LFG Collection System						
Current LFG Collected						
Collection and Treatme	nt System Required Under N		No	*		
		C. LANDFILL GAS U	TILIZATION	1		
Current Utilization:						
Utilization System						
Utilization System					•	
Utilization System						
Electric Utility Pro	•					
Natural Gas Provid	er(s):		•			
Energy Purchaser(s	s):					
Capacity:	Electri	city Generation Project (N	и <b>w</b> ) (	)R	Direct Use Project (mmBtu/h	r)
Estimated Potentia	l Canacity:		2			24
Current Capacity:			_			
Planned Capacity:						
				1		
Utilities in County:		<u> </u>			os-Curry Electric Coop Inc; Do	uglas Ele
	D. ENV	IROMENTAL BENEFI		ZATION	9	
		Po	otential	4.000	. Current	^
Methane Reduction (ton	• •			4,339		0
CO2 Equivalent of CH4	Reduction (tons/yr):			91,121		0
Emissions Avoided by F	ossil Fuel Displacement:	Electricity Gen	eration Projec	rt	Direct Use Projec	1
		CO2 (tons/yr)	SO2 (to		•	D2 (tons/yr)
	Coal:	18,153		115	13,067	119
	Fuel Oil:	14,899		96	10,724	63
	Natural Gas:	10,019		0	7,211	0
		E. CONTACT INFO	RMATION	**************************************	· · · · · · · · · · · · · · · · · · ·	······································
	Landfil	l Owner	and the state of t		Landfill Operator	
Contact Name:	Terri Peterson		Chucl	Cates, Env	vironmental Coordinator	
Mailing Address:	1036 SE Douglas Ave. #219	÷	1036	SE Douglas	Ave. #219	
Phone Number:	541-440-4350		541-4	40-4526		
Fax Number:						
			; !			
* Itallicized indicates va	lues estimated by EPA.	De	ecember 5, 199	8	State: OR Page	: 7
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			Short Mountain		Landfill Ca	tegory: Current
	······································	A. G	ENERAL LANDFILL I	FORMATION		
Landfill Owner:	Lane Co	ounty	Ar	nnual Acceptance I	Rate (tons):	240,000
Landfill Owner Type:	Public			-	ance Rate Reported:	
Alternative Landfill N	ame:		De	esign Capacity (ton	s):	
City:	Eugene	:	Ac	cres Currently Land	dfilled (acres):	64
County:	Lane		Av	verage Depth (feet)	:	160
State:	OR		19	994 Waste-in-Place	e (tons):	3,410,000
Year Open:	1976		19	98 Waste-in-Place	(tons):	3,410,000
Year Closed:	2014	<del></del>	L ANDRILL CAS COL	LECTRON		
			3. LANDFILL GAS COL	····	and the second s	<u> </u>
Estimated Methane Ge	-	f/d):	_	1.29		
LFG Collection System			Ope	rational		
Current LFG Collected	•			1.6		
Collection and Treatm	ent System Requ			Yes		
			C. LANDFILL GAS UTI	LIZATION		
Current Utilization:						
Utilization System		Operational				
Utilization Syster		Reciprocatin	g Engine			
Utilization System		1992				
Electric Utility Pr		Emerald Peo	ples Utility District			
Natural Gas Prov	, ,					
Energy Purchaser	r(s):	Emerald Peo	ples Utility District			
<b>a</b>		Electricis	to Companies Design (M)	on	Direct Use Project (m	mDtu/ha)
Capacity:		, Electrici	ty Generation Project (ivi v	V) OR	Direct Osc Froject (iii	IIIDtu/III <i>)</i>
	ial Canacity:	, Electricit	ty Generation Project (MV		Direct Osc Floject (III	
Estimated Potent		Electricis	ty Generation Project (www	4	Direct Osc Hoject (III	40
Estimated Potenti Current Capacity	:	Electricit	ty Generation Project (M v		Direct Osc (10)cet (III	
Estimated Potentic Current Capacity Planned Capacity	:	Electricit	ty Generation Project (M v	4	Direct Osc Hoject (III	40
Estimated Potentic Current Capacity Planned Capacity	:	Electricit	ty Generation Project (M v	4	Direct Osc Hoject (III	40
Estimated Potentic Current Capacity Planned Capacity	:		ROMENTAL BENEFITS	3.2		40
Estimated Potentic Current Capacity Planned Capacity	:			4 3.2 SOF UTILIZATI	ON	40 33
Estimated Potents Current Capacity Planned Capacity Utilities in County:	:		ROMENTAL BENEFITS	4 3.2 SOF UTILIZATI	<b>ON</b> Cur	40 33
Estimated Potents Current Capacity Planned Capacity Utilities in County:	: v: ons/yr):	D. ENVIR	ROMENTAL BENEFITS	4 3.2  SOF UTILIZATI  ntial	ON Cur	40 33
Estimated Potents Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to	: ons/yr): 14 Reduction (tor	D. ENVIE	ROMENTAL BENEFITS Pote	4 3.2 S OF UTILIZATI ntial 7,45 156,64	ON Cur	40 33 rent 6,167 129,507
Estimated Potents Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to	: ons/yr): 14 Reduction (tor	D. ENVIE	ROMENTAL BENEFITS Pote  Electricity Gener	4 3.2  SOF UTILIZATI  ntial 7,45 156,64  ration Project	ON Cur  9 5 Direct Use	40 33 rent 6,167 129,507
Estimated Potents Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to	: ons/yr): 14 Reduction (tor	D. ENVIE	ROMENTAL BENEFITS Pote	4 3.2 S OF UTILIZATI ntial 7,45 156,64	ON Cur	40 33 rent 6,167 129,507
Estimated Potents Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to	: ons/yr): 14 Reduction (tor	D. ENVIE	ROMENTAL BENEFITS Pote  Electricity Gener	4 3.2  SOF UTILIZATI  ntial 7,45 156,64  ration Project	ON Cur  9 5 Direct Use	40 33 rent 6,167 129,507
Estimated Potents Current Capacity Planned Capacity Utilities in County:  Methane Reduction (10	: ons/yr): 14 Reduction (tor	D. ENVIE ns/yr): placement: Coal:	ROMENTAL BENEFITS  Pote  Electricity Gener  CO2 (tons/yr)  31,571	4 3.2  SOF UTILIZATI  ntial  7,45 156,64  ration Project  SO2 (tons/yr) 200	ON  Cur  9  5  Direct Use  CO2 (tons/yr)  22,463	40 33 rent 6,167 129,507 Project SO2 (tons/yr) 204
Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to	: ons/yr): 14 Reduction (tor Fossil Fuel Disp	D. ENVIR ns/yr): placement: Coal: Fuel Oil:	ROMENTAL BENEFITS  Pote  Electricity Gener  CO2 (tons/yr)  31,571  25,912	4 3.2  SOF UTILIZATI  ntial 7,45 156,64  ration Project SO2 (tons/yr) 200 167	ON  Cure  9  5  Direct Use  CO2 (tons/yr)  22,463  18,436	40 33 rent 6,167 129,507 Project SO2 (tons/yr) 204 107
Estimated Potents Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to	: ons/yr): 14 Reduction (tor Fossil Fuel Disp	D. ENVIE ns/yr): placement: Coal:	Electricity Gener CO2 (tons/yr) 31,571 25,912 17,424	4 3.2  SOF UTILIZATI ntial 7,45 156,64 ration Project SO2 (tons/yr) 200 167 0	ON  Cur  9  5  Direct Use  CO2 (tons/yr)  22,463	40 33 rent 6,167 129,507 Project SO2 (tons/yr) 204
Estimated Potents Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to	: ons/yr): 14 Reduction (tor Fossil Fuel Disp	D. ENVIR ns/yr): placement: Coal: Fuel Oil: latural Gas:	ROMENTAL BENEFITS  Pote  Electricity Gener  CO2 (tons/yr)  31,571  25,912  17,424  E. CONTACT INFOR	4 3.2  SOF UTILIZATI ntial 7,45 156,64 ration Project SO2 (tons/yr) 200 167 0	ON  Cur  9  5  Direct Use  CO2 (tons/yr)  22,463  18,436  12,397	40 33 rent 6,167 129,507 Project SO2 (tons/yr) 204 107
Estimated Potent. Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to CO2 Equivalent of Ch Emissions Avoided by	ons/yr):  14 Reduction (tor  Fossil Fuel Disp	D. ENVIR ns/yr): placement: Coal: Fuel Oil:	ROMENTAL BENEFITS  Pote  Electricity Gener  CO2 (tons/yr)  31,571  25,912  17,424  E. CONTACT INFOR	4 3.2  SOF UTILIZATI ntial 7,45 156,64 ration Project SO2 (tons/yr) 200 167 0	ON  Cure  9  5  Direct Use  CO2 (tons/yr)  22,463  18,436	40 33 rent 6,167 129,507 Project SO2 (tons/yr) 204 107
Estimated Potent. Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to CO2 Equivalent of Ch Emissions Avoided by	: ons/yr): 14 Reduction (tor Fossil Fuel Disp	D. ENVIR ns/yr): placement: Coal: Fuel Oil: latural Gas:	ROMENTAL BENEFITS  Pote  Electricity Gener  CO2 (tons/yr)  31,571  25,912  17,424  E. CONTACT INFOR	4 3.2  SOF UTILIZATI ntial 7,45 156,64 ration Project SO2 (tons/yr) 200 167 0	ON  Cur  9  5  Direct Use  CO2 (tons/yr)  22,463  18,436  12,397	40 33 rent 6,167 129,507 Project SO2 (tons/yr) 204 107
Estimated Potents Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to CO2 Equivalent of Ch Emissions Avoided by	ons/yr):  14 Reduction (tor  Fossil Fuel Disp	D. ENVIR ns/yr): placement: Coal: Fuel Oil: latural Gas: Landfill (	ROMENTAL BENEFITS  Pote  Electricity Gener  CO2 (tons/yr)  31,571  25,912  17,424  E. CONTACT INFOR	4 3.2  SOF UTILIZATI ntial 7,45 156,64 ration Project SO2 (tons/yr) 200 167 0	ON  Cur  9  5  Direct Use  CO2 (tons/yr)  22,463  18,436  12,397	40 33 rent 6,167 129,507 Project SO2 (tons/yr) 204 107
Estimated Potents Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to CO2 Equivalent of Ch Emissions Avoided by  Contact Name: Mailing Address:	ons/yr): 14 Reduction (ton Fossil Fuel Disp	D. ENVIR ns/yr): placement: Coal: Fuel Oil: latural Gas: Landfill (	ROMENTAL BENEFITS  Pote  Electricity Gener  CO2 (tons/yr)  31,571  25,912  17,424  E. CONTACT INFOR	4 3.2  SOF UTILIZATI ntial 7,45 156,64 ration Project SO2 (tons/yr) 200 167 0	ON  Cur  9  5  Direct Use  CO2 (tons/yr)  22,463  18,436  12,397	40 33 rent 6,167 129,507 Project SO2 (tons/yr) 204 107
Estimated Potentic Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to CO2 Equivalent of Chief Emissions Avoided by Contact Name:	cons/yr): 14 Reduction (ton Fossil Fuel Disp	D. ENVIR ns/yr): placement: Coal: Fuel Oil: latural Gas: Landfill (	ROMENTAL BENEFITS  Pote  Electricity Gener  CO2 (tons/yr)  31,571  25,912  17,424  E. CONTACT INFOR	4 3.2  SOF UTILIZATI ntial 7,45 156,64 ration Project SO2 (tons/yr) 200 167 0	ON  Cure  9  5  Direct Use  CO2 (tons/yr)  22,463  18,436  12,397  Landfill Operator	40 33 rent 6,167 129,507 Project SO2 (tons/yr) 204 107
Estimated Potents Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to CO2 Equivalent of Ch Emissions Avoided by  Contact Name: Mailing Address:	ons/yr): 14 Reduction (ton Fossil Fuel Disp	D. ENVIR ns/yr): placement: Coal: Fuel Oil: latural Gas: Landfill (	ROMENTAL BENEFITS  Pote  Electricity Gener  CO2 (tons/yr)  31,571  25,912  17,424  E. CONTACT INFOR	4 3.2  SOF UTILIZATI ntial 7,45 156,64 ration Project SO2 (tons/yr) 200 167 0 MATION	ON  Cure  9  5  Direct Use  CO2 (tons/yr)  22,463  18,436  12,397  Landfill Operator	40 33 rent 6,167 129,507 Project SO2 (tons/yr) 204 107
Estimated Potents Current Capacity Planned Capacity Utilities in County:  Methane Reduction (to CO2 Equivalent of Ch Emissions Avoided by  Contact Name: Mailing Address: Phone Number:	cons/yr): 14 Reduction (ton Fossil Fuel Disp  No.  Ken Kohl 3100 E. 17th A  541-682-4120	D. ENVIR ns/yr): clacement: Fuel Oil: latural Gas: Landfill (	Electricity Gener CO2 (tons/yr) 31,571 25,912 17,424 E. CONTACT INFOR	4 3.2  SOF UTILIZATI ntial 7,45 156,64 ration Project SO2 (tons/yr) 200 167 0 MATION	ON  Cure  9  5  Direct Use  CO2 (tons/yr)  22,463  18,436  12,397  Landfill Operator	40 33 rent 6,167 129,507 Project SO2 (tons/yr) 204 107

St. Johns LF Landfill Category: Current A. GENERAL LANDFILL INFORMATION Landfill Owner: Portland Metro Annual Acceptance Rate (tons): Landfill Owner Type: **Public** Year Annual Acceptance Rate Reported: Alternative Landfill Name: Design Capacity (tons): City: Portland Acres Currently Landfilled (acres): 220 Multnomah County: Average Depth (feet): 65 State: OR Waste-in-Place (tons): Year Open: 1998 Waste-in-Place (tons): 13,839,604 Year Closed: 1991 B. LANDFILL GAS COLLECTION Estimated Methane Generation (mmscf/d): 1.31 LFG Collection System Status: Current LFG Collected (mmscf/d): Collection and Treatment System Required Under NSPS/EG: No C. LANDFILL GAS UTILIZATION Current Utilization: **Utilization System Status:** Operational Utilization System Type: Direct Thermal 1998 Utilization System Start Year: Electric Utility Provider(s): Natural Gas Provider(s): Energy Purchaser(s): Ash Grove Cement Company Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr) Capacity: Estimated Potential Capacity: 4 41 100 Current Capacity: Planned Capacity: Utilities in County: D. ENVIROMENTAL BENEFITS OF UTILIZATION Potential Current Methane Reduction (tons/yr): 7.589 0 CO2 Equivalent of CH4 Reduction (tons/yr): 159,375 . 0 Emissions Avoided by Fossil Fuel Displacement: **Electricity Generation Project** Direct Use Project SO2 (tons/yr) SO2 (tons/yr) CO2 (tons/yr) CO2 (tons/yr) 205 208 Coal: 32,360 22,854 109 Fuel Oil: 26,560 171 18,758 Natural Gas: 17,859 0 12,613 0 E. CONTACT INFORMATION Landfill Owner Landfill Operator Contact Name: Paul Ehringer, Landfill Manager 600 NE Grand Ave Mailing Address: Phone Number: 503-797-1795 503-797-1795 Fax Number: 503-797-1789 \* Itallicized indicates values estimated by EPA. December 5, 1998 State: OR Page: STAR Version 1.0/LMOP