United States Industrial Sector Energy End Use Analysis

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This work was supported by the Advanced Manufacturing Office of the Energy Efficiency and Renewable Energy Program through the U.S. Department of Energy under Contract No. DE-AC02-05CH11231.

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Abstract

The United States Department of Energy's (DOE) Energy Information Administration (EIA) conducts the Manufacturing Energy Consumption Survey (MECS) to provide detailed data on energy consumption in the manufacturing sector. The survey is a sample of approximately 15,000 manufacturing establishments selected from the Economic Census - Manufacturing Sector. MECS provides statistics on the consumption of energy by end uses (e.g., boilers, process, electric drives, etc.) disaggregated by North American Industry Classification System (NAICS) categories. The manufacturing sector (NAICS Sector 31-33) consists of all manufacturing establishments in the 50 States and the District of Columbia. According to the NAICS, the manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. The establishments are physical facilities such as plants, factories, or mills. For many of the sectors in the MECS datasets, information is missing because the reported energy use is less than 0.5 units or BTUs, or is withheld to avoid disclosing data for individual establishments, or is withheld because the standard error is greater than 50%. We infer what the missing information likely are using several approximations techniques. First, much of the missing data can be easily calculated by adding or subtracting other values reported by MECS. If this is not possible (e.g. two data are missing), we look at historic MECS reports to help identify the breakdown of energy use in the past and assume it remained the same for the current MECS. Lastly, if historic data is also missing, we assume that 3 digit NAICS classifications predict energy use in their 4, 5, or 6 digit NAICS sub-classifications, or vice versa. Along with addressing data gaps, end use energy is disaggregated beyond the specified MECS allocations using additional industry-specific energy consumption data. The result is a completed table of energy end use by sector with mechanical drives broken down by pumps, fans, compressed air, and drives.

Introduction

In 2012, the United States industrial sector consumed 23.4 quadrillion BTUs of energy, representing approximately one-third of all U.S. delivered energy use (EIA, 2012). The U.S. Department of Energy's (DOE) Energy Information Administration (EIA) conducts the Manufacturing Energy Consumption Survey (MECS) to provide detailed data on energy consumption in the manufacturing sector. The survey is typically updated every four years and MECS 2006 is the most recent data available to date. MECS 2006 consists of reported energy use information from 15,500 sample establishments, which are used to represent 97-98% of the manufacturing payroll. Insight into relative energy use among different industries and how energy use is consumed within each of these industries provides opportunities to conduct analyses that can identify the potential impacts that would result various energy efficiency measures. This information can be used to target policy initiatives towards components within the U.S. industrial sector that will yield the greatest impacts on energy savings.

The utilization of MECS 2006 is partially limited owing to portions of data in the public version being withheld, either to protect the anonymity of a specific establishment or because the specific survey results generate a Relative Standard Error greater than 50%. Additionally, energy use estimates documented in the surveys that are less than 0.5 in corresponding physical units of BTU are withheld from the results. These withheld values create non-quantitative values throughout the MECS datasets, which limit the ability of this data to be incorporated into multi-decisional analysis tools.

This report presents an augmented form of the 2006 MECS datasets that provides estimates for any withheld data by evaluating trends in previous versions of MECS and disaggregates energy use beyond the specified MECS end-uses including additional industry-specific energy consumption data. Results present a more thorough understanding of energy use allocations throughout the U.S. industrial sector and provide and all-quantitative form of the data that can be more easily incorporated into other analysis tools.

Methods

For many of the sectors in the MECS datasets, information is missing because the reported energy use is less than 0.5 units or BTUs, or is withheld to avoid disclosing data for individual establishments, or is withheld because the standard error is greater than 50%. We infer what the missing information likely are using several approximations techniques. First, reported energy use values less than 0.5 units or BTUs are assumed to be zero. Since MECS provides total summed energy values even when one subcomponent energy values is absent, adding or subtracting other values reported by MECS can then easily calculate much of the withheld data. If this is not possible (e.g. two data are missing), we look at historic MECS reports to help identify the breakdown of energy use in the past and assume that MECS 2006 has the same energy use distribution ratio among end-use components within a specific national industry (a six-digit NAICS code). When historic data is also missing for a specific national industry, we assume that the distribution ratio of energy use within a three-digit NAICS subsector classification predicts the corresponding distribution ratio of energy use for the more detailed four-, five-, and six-digit NAICS classifications within that subsector, or vice versa. Along with addressing data gaps, end use energy consumption designated for the Machine Drives category in MECS is further separated into four motor categories (Pumps, Fans, Compressed Air, and Other Drives) using industry-specific data on the distribution of motor system energy use (Xenergy, 1998).

Results

Tables 1-6 present fuel-specific energy use – electricity, natural gas, petroleum, coal, steam, and biomass/byproducts, respectively – disaggregated by end-use for each of the NAICS categories available from MECS 2006, MECS 2002, and MECS 1998 data.

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Table 1: Electricity End Uses (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
3112	**100**	**4**	4	-	**86**	2	9	75	19	9	9	38	<1	<1	**8**	4	3	1	<1	-	-	**2**
311221	**100**	**5**	5	-	**86**	1	12	73	19	9	9	37	-	<1	**5**	2	2	<1	-	-	-	**4**
All Other 3112	**100**	**2**	2	-	**86**	3	6	76	20	9	9	39	<1	1	**11**	5	5	1	<1	-	-	**-**
31131	**100**	**4**	4	-	**78**	2	2	74	19	9	9	37	<1	-	**18**	6	6	1	-	-	5	**-**
3114	**100**	**3**	3	-	**80**	8	37	34	9	4	4	17	<1	<1	**18**	7	7	2	1	-	<1	**<1**
311421	**100**	**<1**	<1	-	**73**	2	24	45	12	5	5	23	1	<1	**22**	9	10	1	1	-	-	**5**
3115	**100**	**2**	2	-	**78**	5	32	40	10	5	5	20	<1	2	**19**	8	8	2	1	-	1	**<1**
3116	**100**	**2**	2	-	**80**	5	42	31	8	4	4	16	<1	1	**17**	7	7	2	<1	-	<1	**1**
All Other 311	**100**	**2**	2	-	**69**	10	22	37	9	4	4	19	<1	<1	**27**	13	10	4	<1	-	<1	**2**
3121	**100**	**1**	1	-	**75**	3	29	40	10	5	5	20	<1	3	**24**	9	10	3	<1	-	1	**<1**
3122	**100**	**1**	1	-	**48**	3	7	38	10	4	5	19	-	<1	**51**	35	12	4	<1	-	-	**-**
313	**100**	**1**	1	-	**77**	10	13	53	11	8	9	25	-	1	**22**	11	8	2	<1	-	<1	**-**
313210	**100**	**1**	-	-	**70**	3	10	57	11	1	<1	<1	<1	<1	**27**	15	10	2	<1	-	-	**2**
All Other 313	**100**	**1**	-	-	**74**	6	9	59	11	2	<1	<1	<1	1	**23**	13	8	1	<1	-	<1	**3**

Table 1: Electricity End Uses (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
314	**100**	**<1**	<1	-	**66**	11	8	43	9	7	7	20	<1	4	**30**	14	10	4	2	-	<1	**4**
315	**100**	**<1**	<1	-	**43**	5	5	33	7	5	6	15	-	<1	**53**	30	18	5	<1	-	-	**3**
316	**100**	**1**	1	-	**54**	5	2	47	10	7	8	22	-	1	**35**	12	16	3	<1	-	3	**9**
321113	**100**	**3**	3	-	**84**	9	1	74	16	11	12	34	<1	<1	**11**	4	6	1	<1	-	<1	**2**
321114	**100**	**4**	-	-	**74**	15	1	58	11	1	<1	<1	-	-	**14**	6	6	1	-	-	-	**8**
3212	**100**	**3**	3	-	**82**	7	1	73	16	11	12	34	1	1	**12**	5	6	1	<1	-	<1	**3**
3219	**100**	**<1**	<1	-	**65**	4	<1	61	13	9	10	28	-	-	**22**	11	9	2	<1	-	<1	**13**
All Other 321	**100**	**2**	2	-	**81**	6	6	68	14	10	11	31	<1	2	**16**	7	6	3	<1	-	<1	**1**
322110	**100**	**3**	3	-	**77**	4	2	71	26	17	4	24	<1	-	**9**	4	3	2	-	-	-	**10**
322121	**100**	**4**	4	-	**86**	5	1	78	29	18	4	27	<1	1	**10**	5	4	1	<1	-	<1	**-**
322122	**100**	**1**	1	-	**90**	3	2	79	29	19	4	27	6	-	**9**	3	3	1	1	-	1	**-**
322130	**100**	**12**	12	-	**82**	4	1	74	28	17	4	25	1	2	**5**	2	2	1	<1	-	<1	**1**
All Other 322	**100**	**11**	11	-	**70**	4	3	63	23	15	3	21	<1	1	**17**	8	7	2	<1	-	<1	**1**
323	**100**	**1**	1	-	**61**	3	6	52	11	8	9	24	<1	<1	**36**	19	12	4	<1	-	1	**2**

Table 1: Electricity End Uses (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
323110	**100**	**<1**	-	-	**63**	3	6	53	10	1	<1	<1	<1	1	**32**	18	12	2	<1	-	<1	**5**
All Other 323	**100**	**1**	-	-	**55**	3	5	46	9	1	<1	<1	1	<1	**35**	18	13	3	<1	-	1	**9**
324110	**100**	**1**	1	-	**93**	3	6	84	51	8	13	12	<1	<1	**6**	3	2	1	<1	-	<1	**-**
324199	**100**	**2**	2	-	**69**	16	2	51	31	5	8	7	-	<1	**29**	9	10	4	-	-	5	**-**
All Other 324	**100**	**2**	2	-	**76**	11	3	55	33	5	9	8	<1	6	**19**	10	6	3	<1	-	<1	**3**
325110	**100**	**<1**	<1	-	**88**	11	8	63	18	8	19	17	6	<1	**12**	5	6	1	-	-	-	**<1**
325120	**100**	**<1**	<1	-	**96**	<1	2	93	27	12	28	26	<1	-	**4**	2	1	<1	-	-	-	**-**
325181	**100**	**<1**	<1	-	**97**	<1	2	14	4	2	4	4	74	6	**3**	1	1	<1	-	-	<1	**-**
325182	**100**	**1**	1	-	**77**	2	<1	74	21	10	23	20	1	-	**22**	16	6	<1	<1	-	-	**-**
325188	**100**	**1**	1	-	**89**	2	3	63	18	8	19	17	20	1	**8**	4	2	1	<1	-	1	**3**
325192	**100**	**<1**	<1	-	**91**	64	7	20	6	3	6	6	-	-	**9**	4	3	2	-	-	<1	**-**
325193	**100**	**4**	4	-	**89**	8	11	67	19	9	21	19	-	2	**7**	3	3	1	<1	-	<1	**-**
325199	**100**	**1**	1	-	**89**	4	11	56	16	7	17	15	18	<1	**9**	5	3	1	<1	-	<1	**1**
325211	**100**	**18**	18	-	**73**	3	9	52	15	7	16	14	10	<1	**9**	3	3	2	<1	-	<1	**<1**

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325212	**100**	**1**	1	-	**81**	6	16	58	17	8	18	16	<1	<1	**17**	10	5	1	1	-	-	**1**
325222	**100**	**13**	13	-	**74**	7	16	50	14	7	15	14	-	1	**13**	6	4	2	<1	-	<1	**<1**
325311	**100**	**1**	1	-	**92**	2	11	78	22	10	24	22	<1	<1	**8**	3	4	1	<1	-	<1	**-**
325312	**100**	**-**	-	-	**94**	<1	<1	91	26	12	28	25	2	<1	**6**	3	2	2	<1	-	-	**-**
3254	**100**	**2**	2	-	**54**	14	12	27	8	4	8	8	<1	1	**42**	26	11	4	<1	-	1	**2**
325412	**100**	**2**	2	-	**56**	17	11	28	8	4	9	8	<1	<1	**41**	25	10	4	<1	-	2	**2**
All Other 3254	**100**	**1**	1	-	**48**	2	17	25	7	3	8	7	<1	2	**47**	31	13	4	-	-	-	**4**
325992	**100**	**9**	9	-	**57**	5	11	39	11	5	12	11	2	1	**34**	20	12	1	<1	-	-	**-**
All Other 325	**100**	**1**	1	-	**84**	7	12	62	18	8	19	17	3	<1	**15**	8	5	2	1	-	<1	**<1**
326	**100**	**1**	1	-	**76**	15	9	50	14	7	15	14	1	1	**23**	11	9	3	<1	-	<1	**<1**
326199	**100**	**1**	-	-	**75**	16	7	52	14	2	<1	<1	<1	<1	**19**	9	8	2	<1	-	-	**5**
All Other 326	**100**	**<1**	-	-	**78**	16	9	52	14	2	<1	<1	<1	<1	**19**	9	8	2	<1	-	<1	**3**
3272	**100**	**<1**	<1	-	**83**	38	5	39	8	6	7	18	<1	1	**15**	8	6	1	<1	-	<1	**2**
327211	**100**	**1**	1	-	**88**	39	7	39	8	6	7	18	1	2	**11**	4	5	1	1	-	-	**-**

Table 1: Electricity End Uses (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
327212	**100**	**<1**	<1	-	**86**	23	3	53	11	8	9	25	<1	7	**13**	7	5	<1	<1	-	-	**1**
327213	**100**	**-**	-	-	**89**	37	3	49	10	7	8	23	-	<1	**11**	5	4	1	<1	-	1	**-**
327215	**100**	**<1**	<1	-	**79**	44	7	25	5	4	4	12	1	2	**19**	10	7	1	<1	-	<1	**1**
All Other 3272	**100**	**<1**	<1	-	**78**	42	7	29	6	4	5	13	<1	1	**18**	10	6	1	<1	-	<1	**4**
327310	**100**	**-**	-	-	**85**	8	1	74	16	11	12	34	<1	3	**14**	6	5	3	1	-	1	**1**
327410	**100**	**-**	-	-	**90**	13	<1	75	16	11	13	35	1	-	**10**	4	4	2	-	-	-	**-**
327420	**100**	**<1**	<1	-	**91**	6	1	83	18	13	14	39	-	-	**9**	4	4	1	<1	-	-	**-**
327993	**100**	**<1**	<1	-	**91**	37	2	38	8	6	6	18	<1	14	**9**	3	4	2	<1	-	<1	**-**
All Other 327	**100**	**1**	1	-	**82**	19	4	58	12	9	10	27	-	<1	**17**	8	7	2	<1	-	<1	**<1**
331111	**100**	**<1**	<1	-	**92**	41	1	47	4	7	7	29	3	1	**7**	3	4	1	<1	-	<1	**<1**
331112	**100**	**-**	-	-	**98**	57	<1	8	1	1	1	5	30	2	**2**	1	1	<1	-	-	-	**-**
3312	**100**	**<1**	<1	-	**84**	24	1	55	5	9	8	33	3	2	**15**	6	7	1	<1	-	<1	**-**
3313	**100**	**<1**	<1	-	**96**	4	<1	12	1	2	2	8	79	<1	**4**	2	2	1	<1	-	<1	**<1**
331312	**100**	**-**	-	-	**97**	5	<1	7	1	1	1	5	85	-	**3**	2	1	<1	-	-	-	**-**

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331314	**100**	**<1**	<1	-	**81**	22	1	55	5	9	8	34	-	2	**19**	8	9	1	<1	-	1	**-**
331315	**100**	**<1**	<1	-	**88**	21	3	65	6	10	9	39	<1	<1	**11**	5	5	2	<1	-	<1	**<1**
331316	**100**	**<1**	<1	-	**81**	19	4	53	5	8	8	32	4	1	**19**	7	10	2	<1	-	<1	**-**
All Other 3313	**100**	**<1**	<1	-	**97**	2	<1	4	<1	1	1	3	92	-	**2**	1	1	1	<1	-	-	**-**
3314	**100**	**1**	1	-	**89**	32	2	26	2	4	4	16	27	2	**9**	4	4	1	<1	-	<1	**<1**
3315	**100**	**<1**	<1	-	**82**	45	2	30	3	5	4	18	3	2	**17**	9	6	2	<1	-	<1	**1**
331511	**100**	**<1**	<1	-	**82**	46	1	28	2	4	4	17	4	2	**18**	10	6	2	<1	-	1	**-**
331521	**100**	**<1**	<1	-	**76**	28	4	44	4	7	6	27	<1	<1	**24**	12	10	1	<1	-	<1	**-**
331524	**100**	**1**	1	-	**77**	31	2	42	4	7	6	26	<1	2	**22**	9	8	4	<1	-	-	**1**
All Other 3315	**100**	**<1**	<1	-	**85**	52	3	27	2	4	4	16	2	2	**12**	6	5	1	-	-	<1	**2**
332	**100**	**<1**	<1	-	**77**	20	4	49	10	7	8	23	2	3	**22**	10	9	2	<1	-	<1	**1**
333	**100**	**<1**	<1	-	**57**	7	3	45	10	7	8	21	<1	2	**41**	22	15	3	1	-	1	**2**
334	**100**	**1**	1	-	**51**	11	11	21	4	3	3	10	1	8	**48**	28	12	6	<1	-	2	**<1**
334413	**100**	**<1**	<1	-	**64**	14	14	21	4	3	4	10	3	13	**36**	24	6	5	<1	-	<1	**-**

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All Other 334	**100**	**1**	1	-	**40**	8	8	20	4	3	3	10	<1	3	**58**	32	16	7	<1	-	3	**1**
335	**100**	**<1**	<1	-	**69**	22	5	37	8	6	6	17	2	3	**30**	14	11	3	<1	-	<1	**1**
336	**100**	**1**	1	-	**60**	14	6	37	8	6	6	17	1	3	**39**	19	15	4	1	-	1	**1**
336111	**100**	**2**	2	-	**53**	7	4	36	8	6	6	17	2	4	**43**	24	15	3	1	-	<1	**2**
336112	**100**	**1**	1	-	**62**	3	8	43	9	6	7	20	2	6	**37**	18	14	4	2	-	<1	**-**
3364	**100**	**2**	2	-	**46**	13	8	22	5	3	4	10	1	2	**52**	28	19	5	1	-	<1	**1**
336411	**100**	**<1**	<1	-	**40**	8	10	20	4	3	3	9	<1	2	**59**	29	23	5	1	-	<1	**<1**
All Other 336	**100**	**1**	1	-	**68**	16	5	43	9	7	7	20	1	2	**31**	15	12	3	1	-	1	**<1**
337	**100**	**1**	1	-	**48**	6	1	40	9	6	7	19	<1	<1	**32**	13	14	4	<1	-	<1	**18**
339	**100**	**2**	2	-	**50**	10	6	33	7	5	6	15	1	1	**47**	25	17	5	<1	-	-	**1**

Table 2: Natural Gas End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
3112	**100**	**54**	47	8	**42**	38	-	2	-	-	-	-	-	1	**3**	3	-	-	-	-	-	**1**
311221	**100**	**45**	32	13	**53**	53	-	-	-	-	-	-	-	-	**2**	2	-	-	-	-	-	**-**
All Other 3112	**100**	**62**	60	3	**32**	26	-	3	-	-	-	-	-	2	**5**	3	-	-	-	-	-	**2**
31131	**100**	**72**	11	56	**22**	22	-	-	-	-	-	-	-	-	**6**	-	-	-	-	-	-	**-**
3114	**100**	**72**	69	3	**21**	21	-	1	-	-	-	-	-	-	**6**	5	-	2	-	-	-	**-**
311421	**100**	**72**	62	10	**40**	40	-	-	-	-	-	-	-	-	**7**	7	-	-	-	-	-	**3**
3115	**100**	**45**	44	1	**46**	38	-	2	-	-	-	-	-	6	**6**	5	-	1	-	-	-	**2**
3116	**100**	**68**	68	-	**25**	20	1	2	-	-	-	-	-	2	**8**	6	-	2	-	-	-	**-**
All Other 311	**100**	**35**	34	1	**53**	51	1	2	-	-	-	-	-	1	**8**	6	-	2	-	-	1	**5**
3121	**100**	**74**	66	8	**16**	11	-	3	-	-	-	-	-	5	**11**	11	-	-	-	-	-	**-**
3122	**100**	**100**	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
313	**100**	**52**	52	-	**35**	32	-	3	-	-	-	-	-	-	**12**	11	-	-	2	-	-	**-**
313210	**100**	**65**	-	-	**30**	26	-	-	-	-	-	-	-	-	**4**	4	-	-	-	-	-	**-**

Table 2: Natural Gas End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
All Other 313	**100**	**59**	-	-	**35**	33	-	3	-	-	-	-	-	-	**4**	4	-	-	-	-	-	**1**
314	**100**	**35**	35	-	**48**	46	-	-	-	-	-	-	-	2	**7**	7	-	-	-	-	-	**11**
315	**100**	**57**	57	-	**29**	11	-	17	-	-	-	-	-	-	**14**	14	-	-	-	-	-	**-**
316	**100**	**-**	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
321113	**100**	**50**	50	-	**42**	33	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**8**
321114	**100**	**33**	-	-	**67**	67	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3212	**100**	**33**	13	20	**60**	51	-	2	-	-	-	-	-	7	**4**	2	-	-	-	-	-	**2**
3219	**100**	**18**	18	-	**36**	36	-	-	-	-	-	-	-	-	**36**	36	-	-	-	-	-	**9**
All Other 321	**100**	**9**	9	-	**91**	91	-	9	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
322110	**100**	**57**	29	21	**36**	36	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**7**
322121	**100**	**55**	22	32	**38**	32	1	5	-	-	-	-	-	-	**3**	2	-	-	-	1	-	**4**
322122	**100**	**75**	-	75	**25**	13	-	-	-	-	-	-	-	13	**-**	-	-	-	-	-	-	**-**
322130	**100**	**72**	28	43	**22**	18	-	2	-	-	-	-	-	1	**3**	1	-	1	-	1	-	**3**
All Other 322	**100**	**48**	27	22	**28**	27	-	-	-	-	-	-	-	1	**6**	7	-	-	-	-	-	**18**
323	**100**	**13**	13	-	**67**	64	-	3	-	-	-	-	-	-	**21**	18	-	-	-	-	-	**-**

Table 2: Natural Gas End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
323110	**100**	**12**	-	-	**64**	56	-	8	-	-	-	-	-	-	**20**	20	-	-	-	-	-	**4**
All Other 323	**100**	**32**	-	-	**32**	21	-	5	-	-	-	-	-	5	**32**	26	-	-	-	-	-	**5**
324110	**100**	**32**	12	20	**65**	61	<1	2	-	-	-	-	-	2	**2**	1	-	<1	-	2	-	**-**
324199	**100**	**-**	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 324	**100**	**41**	41	-	**47**	33	-	3	-	-	-	-	-	10	**7**	7	-	-	-	-	-	**5**
325110	**100**	**34**	17	16	**65**	64	-	1	-	-	-	-	-	-	**1**	-	-	-	-	-	1	**-**
325120	**100**	**43**	43	-	**57**	43	-	-	-	-	-	-	-	14	**-**	-	-	-	-	-	-	**-**
325181	**100**	**55**	13	41	**45**	14	-	31	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325182	**100**	**18**	18	-	**36**	27	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**45**
325188	**100**	**26**	26	2	**61**	56	-	-	-	-	-	-	-	4	**4**	2	-	-	-	-	-	**9**
325192	**100**	**60**	60	-	**40**	40	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325193	**100**	**60**	56	4	**35**	32	-	-	-	-	-	-	-	4	**1**	1	-	-	-	-	-	**4**
325199	**100**	**67**	38	29	**28**	22	1	1	-	-	-	-	-	4	**2**	1	-	<1	-	<1	<1	**3**
325211	**100**	**79**	16	64	**19**	16	<1	<1	-	-	-	-	-	2	**1**	1	-	-	-	-	1	**<1**
325212	**100**	**85**	23	62	**15**	12	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 2: Natural Gas End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
325222	**100**	**59**	35	24	**32**	24	-	9	-	-	-	-	-	-	**9**	-	-	-	-	6	-	**-**
325311	**100**	**24**	21	3	**75**	56	10	5	-	-	-	-	-	3	**1**	-	-	-	-	-	-	**-**
325312	**100**	**9**	9	9	**91**	73	-	18	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3254	**100**	**80**	43	37	**7**	4	-	-	-	-	-	-	-	2	**13**	11	-	-	-	-	2	**-**
325412	**100**	**81**	39	42	**6**	6	-	-	-	-	-	-	-	-	**13**	10	-	-	-	-	3	**-**
All Other 3254	**100**	**80**	53	27	**7**	-	-	-	-	-	-	-	-	7	**13**	13	-	-	-	-	-	**-**
325992	**100**	**57**	14	43	**29**	14	-	-	-	-	-	-	-	14	**14**	14	-	-	-	-	-	**-**
All Other 325	**100**	**56**	34	21	**36**	19	-	15	-	-	-	-	-	6	**7**	8	-	1	-	-	-	**1**
326	**100**	**46**	46	-	**29**	24	-	2	-	-	-	-	-	2	**21**	19	-	2	-	-	-	**4**
326199	**100**	**19**	-	-	**46**	42	-	-	-	-	-	-	-	-	**31**	27	-	-	-	-	-	**4**
All Other 326	**100**	**59**	-	-	**22**	19	1	2	-	-	-	-	-	1	**17**	13	-	1	-	-	-	**2**
3272	**100**	**1**	1	-	**93**	91	-	1	-	-	-	-	-	1	**5**	5	-	-	-	-	-	**1**
327211	**100**	**4**	4	-	**94**	94	-	-	-	-	-	-	-	-	**2**	2	-	-	-	-	-	**-**
327212	**100**	**5**	5	-	**92**	88	-	-	-	-	-	-	-	-	**2**	6	-	-	-	-	-	**2**
327213	**100**	**-**	-	-	**96**	96	-	-	-	-	-	-	-	-	**4**	4	-	-	-	-	-	**-**

Table 2: Natural Gas End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
327215	**100**	**17**	17	-	**10**	10	-	-	-	-	-	-	-	-	**4**	4	-	-	-	-	-	**69**
All Other 3272	**100**	**4**	4	-	**84**	80	-	2	-	-	-	-	-	2	**8**	8	-	-	-	-	-	**4**
327310	**100**	**5**	-	5	**95**	89	-	5	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327410	**100**	**-**	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327420	**100**	**3**	3	-	**92**	92	-	-	-	-	-	-	-	-	**1**	1	-	-	-	-	-	**4**
327993	**100**	**-**	-	-	**79**	79	-	-	-	-	-	-	-	-	**6**	6	-	-	-	-	-	**15**
All Other 327	**100**	**-**	-	-	**-**	-	-	31	-	-	-	-	-	6	**50**	-	-	6	-	-	-	**50**
331111	**100**	**8**	4	4	**87**	83	-	2	-	-	-	-	-	2	**5**	4	-	<1	-	-	-	**-**
331112	**100**	**50**	50	-	**50**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3312	**100**	**12**	12	-	**72**	72	-	-	-	-	-	-	-	-	**16**	12	-	-	-	-	-	**-**
3313	**100**	**16**	3	12	**78**	75	2	1	-	-	-	-	-	1	**4**	3	-	1	-	-	-	**2**
331312	**100**	**5**	5	-	**89**	83	-	-	-	-	-	-	-	6	**5**	5	-	-	-	-	-	**-**
331314	**100**	**-**	-	-	**100**	89	6	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
331315	**100**	**3**	3	-	**89**	86	-	-	-	-	-	-	-	-	**5**	3	-	-	-	-	-	**3**
331316	**100**	**6**	6	-	**88**	82	-	-	-	-	-	-	-	-	**6**	6	-	-	-	-	-	**-**

Table 2: Natural Gas End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
All Other 3313	**100**	**36**	5	32	**57**	57	2	2	-	-	-	-	-	2	**5**	5	-	2	-	-	-	**2**
3314	**100**	**12**	12	-	**74**	70	-	2	-	-	-	-	-	2	**7**	7	-	-	-	-	-	**7**
3315	**100**	**4**	4	-	**72**	69	-	1	-	-	-	-	-	1	**19**	18	-	1	-	-	-	**4**
331511	**100**	**4**	4	-	**65**	57	-	-	-	-	-	-	-	4	**30**	30	-	-	-	-	-	**-**
331521	**100**	**6**	6	-	**75**	75	-	-	-	-	-	-	-	-	**13**	13	-	-	-	-	-	**6**
331524	**100**	**-**	-	-	**79**	79	-	-	-	-	-	-	-	-	**14**	14	-	-	-	-	-	**7**
All Other 3315	**100**	**5**	5	-	**74**	74	-	5	-	-	-	-	-	-	**16**	11	-	5	-	-	-	**5**
All Other 331	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
332	**100**	**15**	15	1	**66**	65	-	<1	-	-	-	-	-	1	**16**	15	-	1	-	-	-	**3**
333	**100**	**25**	19	6	**34**	29	-	-	-	-	-	-	-	5	**39**	36	-	2	-	-	-	**2**
334	**100**	**42**	42	-	**9**	7	-	-	-	-	-	-	-	2	**40**	38	-	-	-	-	2	**9**
334413	**100**	**47**	47	-	**11**	5	-	-	-	-	-	-	-	5	**42**	37	-	-	-	-	-	**-**
All Other 334	**100**	**38**	38	-	**8**	8	-	-	-	-	-	-	-	-	**38**	38	-	-	-	-	4	**15**
335	**100**	**17**	17	-	**61**	56	2	-	-	-	-	-	-	2	**22**	20	-	-	-	-	-	**-**

Table 2: Natural Gas End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
336	**100**	**17**	15	2	**46**	30	1	1	-	-	-	-	-	14	**36**	34	-	2	-	-	-	**2**
336111	**100**	**14**	14	-	**59**	50	5	-	-	-	-	-	-	-	**23**	23	-	-	-	-	-	**5**
336112	**100**	**24**	24	-	**48**	44	-	-	-	-	-	-	-	-	**28**	28	-	-	-	-	-	**-**
3364	**100**	**45**	32	13	**23**	13	-	6	-	-	-	-	-	3	**26**	23	-	-	-	-	-	**6**
336411	**100**	**56**	56	-	**22**	11	-	-	-	-	-	-	-	-	**22**	22	-	-	-	-	-	**-**
All Other 336	**100**	**9**	8	-	**49**	30	1	1	-	-	-	-	-	20	**41**	40	-	2	-	-	-	**1**
337	**100**	**6**	6	-	**41**	41	-	-	-	-	-	-	-	-	**41**	41	-	-	-	-	-	**12**
339	**100**	**16**	16	-	**24**	20	-	-	-	-	-	-	-	4	**56**	52	-	4	-	-	-	**4**

Table 3: Petroleum End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
3112	**100**	67	67	-	**-**	-	-	-	-	-	-	-	-	-	**33**	-	-	-	33	-	-	**-**
311221	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 3112	**100**	67	67	-	**-**	-	-	-	-	-	-	-	-	-	**33**	-	-	-	33	-	-	**-**
31131	**100**	100	-	100	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3114	**100**	67	67	-	**-**	-	-	-	-	-	-	-	-	-	**33**	-	-	-	-	-	-	**-**
311421	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3115	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3116	**100**	57	57	-	**14**	-	-	-	-	-	-	-	-	-	**29**	-	-	-	-	-	-	**-**
All Other 311	**100**	52	52	-	**29**	10	5	14	-	-	-	-	-	5	**19**	5	-	-	10	10	-	**-**
3121	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3122	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
313	**100**	-	-	-	**100**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
313210	**100**	50	-	-	**25**	25	-	-	-	-	-	-	-	-	**25**	25	-	-	-	-	-	**-**
All Other 313	**100**	75	-	-	**25**	25	-	-	-	-	-	-	-	8	**-**	-	-	-	-	-	-	**-**
314	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
315	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 3: Petroleum End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
316	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
321113	**100**	11	11	-	**22**	-	-	11	-	-	-	-	-	-	**67**	-	-	-	56	-	-	**-**
321114	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3212	**100**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**100**	-	-	-	100	-	-	**-**
3219	**100**	-	-	-	**33**	-	-	33	-	-	-	-	-	-	**67**	-	-	-	67	-	-	**-**
All Other 321	**100**	-	-	-	**50**	17	-	17	-	-	-	-	-	-	**-**	-	-	-	-	-	17	**50**
322110	**100**	40	-	33	**40**	40	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**20**
322121	**100**	67	14	53	**27**	25	-	2	-	-	-	-	-	-	**6**	-	-	-	4	-	-	**-**
322122	**100**	33	-	-	**-**	-	-	-	-	-	-	-	-	-	**67**	33	-	33	-	-	-	**-**
322130	**100**	27	18	155	**64**	64	-	-	-	-	-	-	-	-	**9**	-	-	-	9	-	-	**-**
All Other 322	**100**	-	-	-	**40**	20	-	20	-	-	-	-	-	-	**60**	-	-	-	60	-	-	**-**
323	**100**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**100**	-	-	-	-	-	-	**-**
323110	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 323	**100**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**100**	-	-	-	-	-	-	**-**
324110	**100**	16	12	7	**74**	67	-	5	-	-	-	-	-	2	**2**	-	-	-	2	-	-	**7**
324199	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 3: Petroleum End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
All Other 324	**100**	-	-	-	**91**	68	-	23	-	-	-	-	-	-	**9**	-	-	-	9	-	-	**-**
325110	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325120	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325181	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325182	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325188	**100**	63	63	-	**38**	38	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325192	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325193	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325199	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325211	**100**	33	33	-	**67**	-	-	-	-	-	-	-	-	67	**-**	-	-	-	-	-	-	**-**
325212	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325222	**100**	67	33	33	**33**	33	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325311	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325312	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3254	**100**	50	-	50	**-**	-	-	-	-	-	-	-	-	-	**50**	-	-	-	-	-	-	**-**
325412	**100**	50	-	50	**-**	-	-	-	-	-	-	-	-	-	**50**	-	-	-	-	-	-	**-**
All Other	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 3: Petroleum End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
3254																						
325992	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 325	**100**	45	36	9	**27**	18	-	9	-	-	-	-	-	-	**27**	9	-	-	27	-	-	**-**
326	**100**	67	67	-	**-**	-	-	-	-	-	-	-	-	-	**33**	-	-	-	22	-	-	**-**
326199	**100**	-	-	-	**33**	-	-	-	-	-	-	-	-	-	**67**	-	-	-	33	-	-	**-**
All Other 326	**100**	86	-	-	**-**	-	-	-	-	-	-	-	-	-	**14**	-	-	-	29	-	-	**-**
3272	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327211	**100**	-	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327212	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327213	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327215	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 3272	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327310	**100**	-	-	-	**40**	40	-	-	-	-	-	-	-	-	**40**	-	-	-	40	-	-	**20**
327410	**100**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**100**	-	-	-	100	-	-	**-**
327420	**100**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**100**	-	-	-	100	-	-	**-**
327993	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 3: Petroleum End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
All Other 327	**100**	-	-	-	**67**	7	-	44	-	-	-	-	-	15	**33**	-	-	-	19	-	7	**-**
331111	**100**	18	-	18	**55**	50	-	-	-	-	-	-	-	-	**9**	-	-	-	9	-	-	**18**
331112	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3312	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3313	**100**	-	-	-	**50**	50	-	-	-	-	-	-	-	-	**50**	-	-	-	-	-	-	**-**
331312	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
331314	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
331315	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
331316	**100**	-	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 3313	**100**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**100**	-	-	-	-	-	-	**-**
3314	**100**	-	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3315	**100**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**100**	-	-	-	100	-	-	**-**
331511	**100**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**100**	-	-	-	-	-	-	**-**
331521	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
331524	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 3315	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 3: Petroleum End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
All Other 331	**100**	-	-	-	**67**	67	-	-	-	-	-	-	-	-	**33**	-	-	-	67	-	-	**-**
332	**100**	-	-	-	**17**	-	-	-	-	-	-	-	-	-	**83**	17	-	-	67	-	-	**-**
333	**100**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**100**	-	-	-	25	-	25	**-**
334	**100**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**100**	-	-	-	-	-	-	**-**
334413	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 334	**100**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**100**	-	-	-	-	-	-	**-**
335	**100**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**100**	-	-	-	100	-	-	**-**
336	**100**	55	36	18	**9**	-	-	-	-	-	-	-	-	-	**36**	-	-	-	27	-	-	**-**
336111	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
336112	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3364	**100**	100	33	67	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
336411	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 336	**100**	38	38	-	**13**	-	-	-	-	-	-	-	-	-	**50**	-	-	-	38	-	-	**-**
337	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
339	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 4: Coal End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
3112	**100**	88	18	69	**7**	7	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**5**
311221	**100**	86	17	69	**7**	7	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**6**
All Other 3112	**100**	95	26	68	**5**	5	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
31131	**100**	90	10	84	**10**	10	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3114	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
311421	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3115	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3116	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 311	**100**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**100**
3121	**100**	88	6	81	**13**	-	-	6	-	-	-	-	-	6	**-**	-	-	-	-	-	-	**-**
3122	**100**	100	50	50	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 312	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
313	**100**	100	53	47	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
313210	**100**	67	-	-	**33**	33	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 313	**100**	94	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**6**
314	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 4: Coal End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
315	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
316	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
321113	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
321114	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3212	**100**	50	50	-	**50**	50	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3219	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 321	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
322110	**100**	100	-	100	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
322121	**100**	95	7	88	**4**	2	-	2	-	-	-	-	-	-	**1**	1	-	-	-	-	-	**-**
322122	**100**	100	-	100	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
322130	**100**	71	3	68	**4**	4	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**25**
All Other 322	**100**	100	-	100	**-**	20	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
323	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
323110	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 323	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
324110	**100**	-	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 4: Coal End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
324199	**100**	4	2	-	**96**	-	-	96	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 324	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325110	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325120	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325181	**100**	88	29	59	**12**	12	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325182	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325188	**100**	96	13	83	**4**	4	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325192	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325193	**100**	63	58	5	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**37**
325199	**100**	94	15	79	**6**	6	-	2	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325211	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325212	**100**	100	50	50	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325222	**100**	100	38	63	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325311	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325312	**100**	-	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3254	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325412	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 4: Coal End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
3254																						
325992	**100**	100	-	100	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 325	**100**	100	100	20	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
326	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
326199	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 326	**100**	100	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3272	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327211	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327212	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327213	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327215	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 3272	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327310	**100**	-	-	-	**99**	99	-	1	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**1**
327410	**100**	-	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327420	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327993	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 4: Coal End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
All Other 327	**100**	-	-	-	**97**	84	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**3**
331111	**100**	7	-	7	**93**	27	-	-	-	-	-	-	-	60	**-**	-	-	-	-	-	-	**-**
331112	**100**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**100**
3312	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3313	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
331312	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
331314	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
331315	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
331316	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 3313	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3314	**100**	20	-	20	**-**	-	-	-	-	-	-	-	-	-	**60**	-	-	-	-	60	-	**20**
3315	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
331511	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
331521	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
331524	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 3315	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 4: Coal End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
All Other 331	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
332	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
333	**100**	100	-	100	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
334	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
334413	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 334	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
335	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
336	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
336111	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
336112	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3364	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
336411	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 336	**100**	100	100	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
337	**100**	33	33	-	**-**	-	-	-	-	-	-	-	-	-	**33**	33	-	-	-	-	-	**33**
339	**-**	-	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 5: Steam End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
3112	**100**	**-**	-	-	**92**	92	-	-	-	-	-	-	-	-	**8**	8	-	-	-	-	-	**-**
311221	**100**	**-**	-	-	**97**	97	-	-	-	-	-	-	-	-	**3**	3	-	-	-	-	-	**-**
All Other 3112	**100**	**-**	-	-	**88**	88	-	-	-	-	-	-	-	-	**13**	13	-	-	-	-	-	**-**
31131	**100**	**-**	-	-	**80**	80	-	-	-	-	-	-	-	-	**20**	20	-	-	-	-	-	**-**
3114	**100**	**-**	-	-	**77**	77	-	-	-	-	-	-	-	-	**23**	23	-	-	-	-	-	**-**
311421	**100**	**-**	-	-	**84**	84	-	-	-	-	-	-	-	-	**16**	16	-	-	-	-	-	**-**
3115	**100**	**-**	-	-	**88**	88	-	-	-	-	-	-	-	-	**12**	12	-	-	-	-	-	**-**
3116	**100**	**-**	-	-	**77**	77	-	-	-	-	-	-	-	-	**23**	23	-	-	-	-	-	**-**
All Other 311	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3121	**100**	**-**	-	-	**60**	60	-	-	-	-	-	-	-	-	**40**	40	-	-	-	-	-	**-**
3122	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 312	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
313	**100**	**-**	-	-	**74**	74	-	-	-	-	-	-	-	-	**26**	26	-	-	-	-	-	**-**
313210	**100**	**-**	-	-	**88**	88	-	-	-	-	-	-	-	-	**13**	13	-	-	-	-	-	**-**

Table 5: Steam End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
314	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
315	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
316	**100**	**-**	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
321113	**100**	**-**	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
321114	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3212	**100**	**-**	-	-	**93**	93	-	-	-	-	-	-	-	-	**7**	7	-	-	-	-	-	**-**
3219	**100**	**-**	-	-	**50**	50	-	-	-	-	-	-	-	-	**50**	50	-	-	-	-	-	**-**
All Other 321	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
322110	**100**	**-**	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
322121	**100**	**-**	-	-	**92**	92	-	-	-	-	-	-	-	-	**8**	8	-	-	-	-	-	**-**
322122	**100**	**-**	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
322130	**100**	**-**	-	-	**89**	89	-	-	-	-	-	-	-	-	**11**	11	-	-	-	-	-	**-**
All Other 322	**100**	**-**	-	-	**83**	83	-	-	-	-	-	-	-	-	**17**	17	-	-	-	-	-	**-**
323	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
323110	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 5: Steam End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
324110	**100**	**-**	-	-	**97**	97	-	-	-	-	-	-	-	-	**3**	3	-	-	-	-	-	**-**
324199	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 324	**100**	**-**	-	-	**87**	87	-	-	-	-	-	-	-	-	**13**	13	-	-	-	-	-	**-**
325110	**100**	**-**	-	-	**99**	99	-	-	-	-	-	-	-	-	**1**	1	-	-	-	-	-	**-**
325120	**100**	**-**	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325181	**100**	**-**	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325182	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325188	**100**	**-**	-	-	**94**	94	-	-	-	-	-	-	-	-	**6**	6	-	-	-	-	-	**-**
325192	**100**	**-**	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325193	**100**	**-**	-	-	**97**	97	-	-	-	-	-	-	-	-	**3**	3	-	-	-	-	-	**-**
325199	**100**	**-**	-	-	**94**	94	-	-	-	-	-	-	-	-	**6**	6	-	-	-	-	-	**-**
325211	**100**	**-**	-	-	**94**	94	-	-	-	-	-	-	-	-	**6**	6	-	-	-	-	-	**-**
325212	**100**	**-**	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325222	**100**	**-**	-	-	**79**	79	-	-	-	-	-	-	-	-	**21**	21	-	-	-	-	-	**-**
325311	**100**	**-**	-	-	**99**	99	-	-	-	-	-	-	-	-	**1**	1	-	-	-	-	-	**-**

Table 5: Steam End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
325312	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325412	**100**	**-**	-	-	**33**	33	-	-	-	-	-	-	-	-	**67**	67	-	-	-	-	-	**-**
All Other 3254	**100**	**-**	-	-	**33**	33	-	-	-	-	-	-	-	-	**67**	67	-	-	-	-	-	**-**
325992	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 325	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
326	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
326199	**100**	**-**	-	-	**60**	60	-	-	-	-	-	-	-	-	**40**	40	-	-	-	-	-	**-**
3272	**100**	**-**	-	-	**95**	95	-	-	-	-	-	-	-	-	**5**	5	-	-	-	-	-	**-**
327211	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327212	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327213	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327215	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327310	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327410	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
327420	**100**	**-**	-	-	**99**	99	-	-	-	-	-	-	-	-	**1**	1	-	-	-	-	-	**-**

Table 5: Steam End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
327993	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
331111	**100**	**-**	-	-	**95**	95	-	-	-	-	-	-	-	-	**5**	5	-	-	-	-	-	**-**
331112	**100**	**-**	-	-	**100**	100	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3312	**100**	**-**	-	-	**82**	82	-	-	-	-	-	-	-	-	**18**	18	-	-	-	-	-	**-**
331312	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
331314	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
331315	**100**	**-**	-	-	**94**	94	-	-	-	-	-	-	-	-	**6**	6	-	-	-	-	-	**-**
331316	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 3313	**100**	**-**	-	-	**93**	93	-	-	-	-	-	-	-	-	**7**	7	-	-	-	-	-	**-**
3314	**100**	**-**	-	-	**91**	91	-	-	-	-	-	-	-	-	**9**	9	-	-	-	-	-	**-**
3315	**100**	**-**	-	-	**79**	79	-	-	-	-	-	-	-	-	**21**	21	-	-	-	-	-	**-**
331511	**100**	**-**	-	-	**68**	68	-	-	-	-	-	-	-	-	**32**	32	-	-	-	-	-	**-**
331521	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
331524	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
332	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 5: Steam End Use (in percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
333	**100**	**-**	-	-	**47**	47	-	-	-	-	-	-	-	-	**53**	53	-	-	-	-	-	**-**
334	**100**	**-**	-	-	**18**	18	-	-	-	-	-	-	-	-	**82**	82	-	-	-	-	-	**-**
334413	**100**	**-**	-	-	**20**	20	-	-	-	-	-	-	-	-	**80**	80	-	-	-	-	-	**-**
335	**100**	**-**	-	-	**74**	74	-	-	-	-	-	-	-	-	**26**	26	-	-	-	-	-	**-**
336111	**100**	**-**	-	-	**72**	72	-	-	-	-	-	-	-	-	**28**	28	-	-	-	-	-	**-**
336112	**100**	**-**	-	-	**63**	63	-	-	-	-	-	-	-	-	**37**	37	-	-	-	-	-	**-**
All Other 336	**100**	**-**	-	-	**54**	54	-	-	-	-	-	-	-	-	**46**	46	-	-	-	-	-	**-**
3364	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
336411	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
337	**100**	**-**	-	-	**50**	50	-	-	-	-	-	-	-	-	**50**	50	-	-	-	-	-	**-**
339	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 6: Byproducts and Biomass End Use (by percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
3112	**100**	**93**	25	69	**6**	5	-	<1	-	-	-	-	-	<1	**<1**	<1	-	-	-	-	-	**<1**
311221	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Other 3112	**100**	**87**	38	49	**11**	9	-	1	-	-	-	-	-	1	**2**	1	-	-	-	-	-	**1**
31131	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
311421	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3116	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Other 311	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3121	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3122	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
313	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
313210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
314	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
315	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
316	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
321113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 6: Byproducts and Biomass End Use (by percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
321114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3212	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3219	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Other 321	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
322110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
322121	**100**	**100**	29	71	**<1**	<1	<1	<1	-	-	-	-	-	-	**<1**	<1	-	-	-	<1	-	**<1**
322122	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
322130	**100**	**100**	26	74	**<1**	<1	-	<1	-	-	-	-	-	<1	**<1**	<1	-	<1	-	<1	-	**<1**
All Other 322	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
323	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
323110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
324110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
324199	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Other 324	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
325110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
325120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 6: Byproducts and Biomass End Use (by percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
325181	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325182	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325188	**100**	**27**	25	2	**60**	55	-	-	-	-	-	-	-	4	**4**	2	-	-	-	-	-	**9**
325192	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325193	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325199	**100**	**68**	37	31	**27**	21	1	1	-	-	-	-	-	4	**2**	1	-	<1	-	<1	<1	**3**
325211	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325212	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325222	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325311	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325312	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
3254	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325412	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
325992	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
All Other 325	**100**	**100**	83	17	**<1**	<1	-	<1	-	-	-	-	-	<1	**<1**	<1	-	<1	-	-	-	**<1**
326	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**
326199	**-**	**-**	-	-	**-**	-	-	-	-	-	-	-	-	-	**-**	-	-	-	-	-	-	**-**

Table 6: Byproducts and Biomass End Use (by percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
3272	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
327211	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
327212	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
327213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
327215	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
327310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
327410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
327420	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
327993	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Other 327	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
331111	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
331112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3312	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3313	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
331312	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
331314	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
331315	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 6: Byproducts and Biomass End Use (by percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
331316	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3314	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3315	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
331511	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
331521	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
331524	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Other 331	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
332	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
333	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
334413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Other 334	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
336	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
336111	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
336112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
336411	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 6: Byproducts and Biomass End Use (by percentages)

	TOTAL FUEL CONSUMPTION	**Indirect Uses-Boiler Fuel**	Conventional Boiler Use	CHP and/or Cogeneration Process	**Direct Uses-Total Process**	Process Heating	Process Cooling and Refrigeration	Machine Drive	Motors: pumps	Motors: fans	Motors: compressed air	Motors: drives	Electro-Chemical Processes	Other Process Use	**Direct Uses-Total Non-process**	Facility HVAC (g)	Facility Lighting	Other Facility Support	Onsite Transportation	Conventional Electricity Generation	Other Non-process Use	**End Use Not Reported**
336																						
337	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
339	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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