

Data processing for PM data

GSA project

December 13, 2015

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1 Introduction

The document records the process of calculating EUI for different meter type for Jihyun

2 Check data time range for each meter type

number of records for 'District Chilled Water - Other' in each region
Region

1	100
2	100
3	566
4	576
5	1042
6	306
7	2673
8	153
9	273
11	136

dtype: int64

time range for 'End Date' of 'District Chilled Water - Other' -----#

1	2003-01-31 00:00:00	2011-04-30 00:00:00
2	2003-01-31 00:00:00	2011-04-30 00:00:00
3	2002-10-31 00:00:00	2015-06-30 00:00:00
4	2003-01-31 00:00:00	2014-04-30 00:00:00
5	2002-10-31 00:00:00	2015-06-30 00:00:00
6	2002-10-31 00:00:00	2015-06-29 00:00:00
7	2002-10-31 00:00:00	2015-07-16 00:00:00
8	2002-10-31 00:00:00	2015-06-30 00:00:00
9	2002-10-31 00:00:00	2015-06-30 00:00:00
11	2002-10-31 00:00:00	2014-11-02 00:00:00

number of records for 'District Chilled Water - Engine' in each region

Region

8	49
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dtype: int64

time range for 'End Date' of 'District Chilled Water - Engine' -----#

8	2011-08-31 00:00:00	2015-08-31 00:00:00
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number of records for 'Fuel Oil (No. 2)' in each region

Region

1	6714
2	3450
3	2868
4	1605
5	602
7	2045
8	1504

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10      1707
dtype: int64
time range for 'End Date' of 'Fuel Oil (No. 2)' -----#
  1      1998-06-30 00:00:00      2015-06-30 00:00:00
  2      2002-10-31 00:00:00      2015-06-30 00:00:00
  3      2002-10-31 00:00:00      2015-06-30 00:00:00
  4      2002-10-31 00:00:00      2015-06-30 00:00:00
  5      2002-10-31 00:00:00      2013-12-31 00:00:00
  7      2002-10-31 00:00:00      2014-06-01 00:00:00
  8      2002-10-31 00:00:00      2015-06-30 00:00:00
 10      2001-09-04 00:00:00      2015-06-30 00:00:00

```

number of records for 'District Chilled Water - Absorption' in each region
Region

```

1      153
dtype: int64
time range for 'End Date' of 'District Chilled Water - Absorption' -----#
  1      2002-10-31 00:00:00      2015-06-30 00:00:00

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number of records for 'Electric - Grid' in each region
Region

```

 1      10076
 2       7756
 3       7174
 4      19284
 5      11946
 6       3583
 7      18191
 8       9796
 9       9738
10       7883
11       5606
dtype: int64
time range for 'End Date' of 'Electric - Grid' -----#
  1      2002-10-31 00:00:00      2015-07-17 00:00:00
  2      1998-06-30 00:00:00      2015-07-19 00:00:00
  3      2002-10-31 00:00:00      2015-07-15 00:00:00
  4      2002-10-31 00:00:00      2015-08-03 00:00:00
  5      2002-10-31 00:00:00      2015-07-18 00:00:00
  6      2002-10-31 00:00:00      2015-07-16 00:00:00
  7      2002-10-31 00:00:00      2015-07-21 00:00:00
  8      2002-10-31 00:00:00      2015-08-31 00:00:00
  9      1998-06-30 00:00:00      2015-07-15 00:00:00
10      2002-10-31 00:00:00      2015-08-03 00:00:00
11      2002-10-31 00:00:00      2015-07-21 00:00:00

```

number of records for 'Potable: Mixed Indoor/Outdoor' in each region
Region

```

1      7872

```

2	6147
3	6547
4	18602
5	11156
6	3508
7	17058
8	6682
9	8749
10	7073
11	5073

dtype: int64

time range for 'End Date' of 'Potable: Mixed Indoor/Outdoor' -----#

1	2002-10-31 00:00:00	2015-07-15 00:00:00
2	2002-10-31 00:00:00	2015-07-15 00:00:00
3	2002-10-31 00:00:00	2015-07-14 00:00:00
4	2002-10-31 00:00:00	2015-07-17 00:00:00
5	2002-10-31 00:00:00	2015-07-21 00:00:00
6	2002-10-31 00:00:00	2015-07-15 00:00:00
7	2002-10-31 00:00:00	2015-07-20 00:00:00
8	2002-10-31 00:00:00	2015-08-31 00:00:00
9	2002-10-31 00:00:00	2015-07-16 00:00:00
10	2002-10-31 00:00:00	2015-07-14 00:00:00
11	2002-10-31 00:00:00	2015-07-30 00:00:00

number of records for 'Natural Gas' in each region

Region

1	4530
2	4532
3	5681
4	15374
5	9996
6	2355
7	15136
8	7202
9	7687
10	5342
11	1635

dtype: int64

time range for 'End Date' of 'Natural Gas' -----#

1	2002-10-31 00:00:00	2015-07-16 00:00:00
2	2002-10-31 00:00:00	2015-07-16 00:00:00
3	2002-10-31 00:00:00	2015-07-16 00:00:00
4	2002-10-31 00:00:00	2015-07-17 00:00:00
5	2002-10-31 00:00:00	2015-07-17 00:00:00
6	2002-10-31 00:00:00	2015-07-16 00:00:00
7	2002-10-31 00:00:00	2015-07-20 00:00:00
8	2002-10-31 00:00:00	2015-07-20 00:00:00
9	1998-07-31 00:00:00	2015-07-20 00:00:00
10	2002-10-31 00:00:00	2015-08-08 00:00:00

```

11          2002-10-31 00:00:00          2015-07-10 00:00:00

number of records for 'Uninterruptible Power Supply (UPS) Output Meter' in each region
Region
1          388
2          858
3          483
4          1608
5          288
6          375
7          486
8          96
9          1458
10         1066
11         648
dtype: int64
time range for 'End Date' of 'Uninterruptible Power Supply (UPS) Output Meter' -----#
1          2000-01-31 00:00:00          2014-09-30 00:00:00
2          2000-01-31 00:00:00          2013-06-30 00:00:00
3          2000-01-31 00:00:00          2015-05-20 00:00:00
4          2000-01-31 00:00:00          2015-03-30 00:00:00
5          2000-01-31 00:00:00          2013-06-30 00:00:00
6          2000-01-31 00:00:00          2015-03-31 00:00:00
7          2000-01-31 00:00:00          2013-06-30 00:00:00
8          2011-01-31 00:00:00          2014-12-31 00:00:00
9          2000-01-31 00:00:00          2013-06-30 00:00:00
10         2000-01-31 00:00:00          2015-07-31 00:00:00
11         2000-01-31 00:00:00          2013-06-30 00:00:00

number of records for 'Electric - Wind' in each region
Region
1          12
dtype: int64
time range for 'End Date' of 'Electric - Wind' -----#
1          2014-01-31 00:00:00          2014-12-31 00:00:00

number of records for 'Power Distribution Unit (PDU) Input Meter' in each region
Region
1          16
dtype: int64
time range for 'End Date' of 'Power Distribution Unit (PDU) Input Meter' -----#
1          2013-06-30 00:00:00          2014-09-30 00:00:00

number of records for 'Other Indoor' in each region
Region
2          14
dtype: int64
time range for 'End Date' of 'Other Indoor' -----#
2          2010-03-17 00:00:00          2013-06-13 00:00:00

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number of records for 'District Hot Water' in each region

Region

8 110

10 110

dtype: int64

time range for 'End Date' of 'District Hot Water' -----#

8 2011-08-31 00:00:00 2015-08-31 00:00:00

10 2002-10-31 00:00:00 2011-11-30 00:00:00

number of records for 'District Chilled Water - Electric' in each region

Region

3 306

5 171

8 51

dtype: int64

time range for 'End Date' of 'District Chilled Water - Electric' -----#

3 2002-10-31 00:00:00 2015-06-30 00:00:00

5 2002-10-31 00:00:00 2015-01-05 00:00:00

8 2011-12-31 00:00:00 2014-12-31 00:00:00

number of records for 'Potable Indoor' in each region

Region

5 12

6 24

8 1141

dtype: int64

time range for 'End Date' of 'Potable Indoor' -----#

5 2012-08-31 00:00:00 2013-07-31 00:00:00

6 2012-01-31 00:00:00 2013-12-31 00:00:00

8 2011-01-31 00:00:00 2015-08-31 00:00:00

number of records for 'Other: Mixed Indoor/Outdoor' in each region

Region

1 21

2 42

3 270

4 9

6 35

7 33

8 17

9 24

10 16

dtype: int64

time range for 'End Date' of 'Other: Mixed Indoor/Outdoor' -----#

1 2013-10-31 00:00:00 2015-07-14 00:00:00

2 2013-05-30 00:00:00 2015-07-08 00:00:00

3 2013-05-30 00:00:00 2015-06-30 00:00:00

4 2014-11-20 00:00:00 2015-07-09 00:00:00

6	2012-09-10 00:00:00	2015-07-13 00:00:00
7	2013-03-19 00:00:00	2015-07-13 00:00:00
8	2014-03-02 00:00:00	2015-07-06 00:00:00
9	2013-07-24 00:00:00	2015-06-29 00:00:00
10	2013-10-04 00:00:00	2015-04-04 00:00:00

number of records for 'Electric - Solar' in each region

Region

1	290
2	151
3	330
4	95
5	209
6	143
8	18
9	137
10	524
11	3

dtype: int64

time range for 'End Date' of 'Electric - Solar' -----#

1	2007-01-31 00:00:00	2015-03-30 00:00:00
2	2007-10-31 00:00:00	2015-08-31 00:00:00
3	2010-09-30 00:00:00	2015-08-31 00:00:00
4	2007-10-31 00:00:00	2015-08-31 00:00:00
5	2010-11-17 00:00:00	2015-06-09 00:00:00
6	2011-03-31 00:00:00	2015-08-31 00:00:00
8	2013-03-31 00:00:00	2014-08-31 00:00:00
9	2013-11-01 00:00:00	2015-09-01 00:00:00
10	2002-09-30 00:00:00	2015-08-01 00:00:00
11	2014-11-30 00:00:00	2015-01-31 00:00:00

number of records for 'District Steam' in each region

Region

1	1007
2	1355
3	1224
4	676
5	2041
6	772
7	2560
8	578
9	258
10	806
11	4475

dtype: int64

time range for 'End Date' of 'District Steam' -----#

1	2002-10-31 00:00:00	2015-06-30 00:00:00
2	1998-06-30 00:00:00	2015-07-16 00:00:00
3	2002-10-31 00:00:00	2015-06-30 00:00:00

4	2003-01-31 00:00:00	2014-04-30 00:00:00
5	2002-10-31 00:00:00	2015-07-09 00:00:00
6	2002-10-31 00:00:00	2015-07-19 00:00:00
7	2002-10-31 00:00:00	2015-07-16 00:00:00
8	2002-10-31 00:00:00	2015-06-30 00:00:00
9	2002-10-31 00:00:00	2015-06-30 00:00:00
10	2002-10-31 00:00:00	2015-06-30 00:00:00
11	2002-10-31 00:00:00	2015-06-30 00:00:00

number of records for 'Power Distribution Unit (PDU) Output Meter' in each region
Region

3 106

dtype: int64

time range for 'End Date' of 'Power Distribution Unit (PDU) Output Meter' -----#

3	2011-01-20 00:00:00	2015-05-20 00:00:00
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number of records for 'Other:' in each region

Region

1 289

3 260

7 31

dtype: int64

time range for 'End Date' of 'Other:' -----#

1	2014-02-28 00:00:00	2015-06-30 00:00:00
3	2013-05-30 00:00:00	2015-06-30 00:00:00
7	2012-12-14 00:00:00	2015-06-30 00:00:00