

<https://github.com/nilmtnk/nilmtnk-contrib/issues/19> (<https://github.com/nilmtnk/nilmtnk-contrib/issues/19>).

In [1]:

```
1 from nilmtk.api import API
2 import warnings
3 warnings.filterwarnings("ignore")
```

In [2]:

```
1 from nilmtk import DataSet
2 from nilmtk.utils import print_dict
3
4 ukdale = DataSet('./data/ukdale.h5')
5 #iawe = DataSet('/data/iawe.h5')
6
7 print_dict(ukdale.metadata)
8 print_dict(ukdale.buildings)
```

- **brand_url**: <http://www.edfenergy.com/products-services/for-your-home/ecomanager> (<http://www.edfenergy.com/products-services/for-your-home/ecomanager>).
- **model**: EcoManagerTxPlug
- **seller**: EDF Energy
- **manufacturer**: Current Cost / Sailwider
- **CurrentCostTx**:
 - **max_sample_period**: 120
 - **model_url**: <http://www.currentcost.com/product-transmitter.html> (<http://www.currentcost.com/product-transmitter.html>).
 - **wireless_configuration**:
 - **base**: creators: [Jack Kelly] model: rfm_edf_ecomanager model_url: https://github.com/JackKelly/rfm_edf_ecomanager/ (https://github.com/JackKelly/rfm_edf_ecomanager/).
 - **protocol**: custom
 - **carrier_frequency**: 434

In [3]:

```
1 from nilmtk.disaggregate import Mean, CO, Hart85
2 # from nilmtk_contrib.disaggregate import AFHMM, AFHMM_SAC, DSC, RNN, Seq2Point, Seq
3 from nilmtk_contrib.disaggregate import RNN, Seq2Point, Seq2Seq, WindowGRU
```

Using TensorFlow backend.

In [4]:

```

1 d = {
2     'power': {
3         'mains': ['apparent', 'active'],
4         'appliance': ['apparent', 'active']
5     },
6     'sample_rate': 60,
7     'display_predictions': True,
8     'appliances': ['washing machine', 'fridge'],
9     'methods': {
10         'Mean': Mean({}),
11         "CO": CO({}),
12         'Hart85': Hart85({}),
13         #'RNN': RNN({'n_epochs': 50, 'batch_size': 1024}),
14         'Seq2Point': Seq2Point({'n_epochs': 50, 'batch_size': 1024})
15         #'Seq2Seq': Seq2Seq({'n_epochs': 50, 'batch_size': 1024}),
16         #'WindowGRU': WindowGRU({'n_epochs': 30, 'batch_size': 1024})
17     },
18     'train': {
19         'datasets': {
20             'UKDALE': {
21                 'path': './data/ukdale.h5',
22                 'buildings': {
23                     1: {
24                         'start_time': '2017-01-05',
25                         'end_time': '2017-03-05'
26                     },
27                 },
28             }
29         },
30     },
31 },
32 },
33
34 'test': {
35     'datasets': {
36         'REDD': {
37             'path': './data/redd.h5',
38             'buildings': {
39                 1: {
40                     'start_time': '2011-04-17',
41                     'end_time': '2011-04-27'
42                 },
43             },
44         },
45     },
46     'metrics': ['rmse', 'mae', 'relative_error', 'r2score', 'nde', 'nep', 'flsco
47 }
48 }

```

In [5]:

```

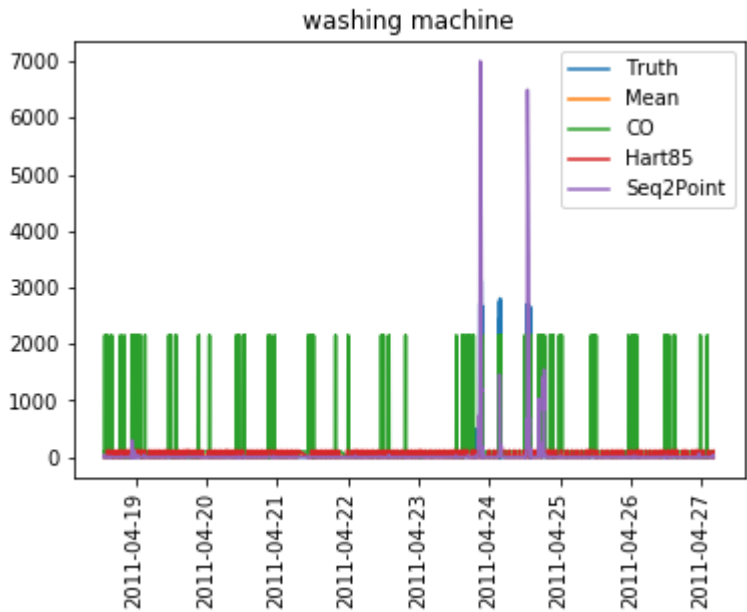
1
2 api_res = API(d)
3

```

```

Joint Testing for all algorithms
Loading data for REDD dataset
Loading data for meter ElecMeterID(instance=2, building=1, dataset='REDD')
Done loading data all meters for this chunk.
Loading data for meter ElecMeterID(instance=20, building=1, dataset='REDD')
Done loading data all meters for this chunk.
Dropping missing values
Generating predictions for : Mean
Generating predictions for : CO
.....CO disaggregate_chunk running.....
Generating predictions for : Hart85' machine'
Finding Edges, please wait ...
Edge detection complete.
Creating transition frame ...
Transition frame created.
Creating states frame ...
States frame created.
Finished.
Generating predictions for : Seq2Point
..... rmse .....
              Mean          CO          Hart85  Seq2Point
washing machine  240.491026  454.817992  244.148224  255.104612
fridge          86.998249   127.723353   63.406612   66.151083
..... mae .....
              Mean          CO          Hart85  Seq2Point
washing machine  48.796074   173.780289   56.424557   27.309673
fridge          63.049385    96.293411   37.008430   41.769711
..... relative_error .....
              Mean          CO          Hart85  Seq2Point
washing machine  1.851959    0.844631   12.936861    0.535279
fridge          1.647661    4.935380   11.027180    2.458342
..... r2score .....
              Mean          CO          Hart85  Seq2Point
washing machine -0.000024  -2.576745  -0.030670  -0.125251
fridge         -0.041837  -1.245533   0.446589   0.397645
..... nde .....
              Mean          CO          Hart85  Seq2Point
washing machine  0.994999    1.881748    1.010131    1.055461
fridge          0.859022    1.261142    0.626078    0.653177
..... nep .....
              Mean          CO          Hart85  Seq2Point
washing machine  2.018863    7.189895    2.334480    1.129896
fridge          1.152645    1.760400    0.676574    0.763618
..... flscore .....
              Mean          CO          Hart85  Seq2Point
washing machine  0.024350    0.028505    0.036135    0.392581
fridge          0.422594    0.485313    0.788753    0.507400

```



In [6]:

1 api_res.errors

Out[6]:

	Mean	CO	Hart85	Seq2Point
washing machine	240.491026	454.817992	244.148224	255.104612
fridge	86.998249	127.723353	63.406612	66.151083,
	Mean	CO	Hart85	Seq2Point
washing machine	48.796074	173.780289	56.424557	27.309673
fridge	63.049385	96.293411	37.008430	41.769711,
	Mean	CO	Hart85	Seq2Point
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fridge	1.647661	4.935380	11.027180	2.458342,
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fridge	0.859022	1.261142	0.626078	0.653177,
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fridge	1.152645	1.760400	0.676574	0.763618,
	Mean	CO	Hart85	Seq2Point
washing machine	0.024350	0.028505	0.036135	0.392581
fridge	0.422594	0.485313	0.788753	0.507400]

In [7]:

1 api_res.errors_keys

Out[7]:

```
[ 'REDD_1_rmse',
  'REDD_1_mae',
  'REDD_1_relative_error',
  'REDD_1_r2score',
  'REDD_1_nde',
  'REDD_1_nep',
  'REDD_1_flscore']
```

In []:

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