

R-tools

Ran at 2015-05-17 08:06:04

```
> wiki_username <- "Jouni"
> ## This code was tun from page [[Energy balance in Stuttgart#Answer]]
> library(OpasnetUtils)
> library(ggplot2)
> N <- 10
> objects.latest("Op_en5141", code_name = "initiate")
> balance <- Ovariable("balance", ddata = "Op_en5815.equations")
> nonlinearity <- Ovariable("nonlinearity", ddata = "Op_en5141", subset = "No nonlinearities")
> directinput <- Ovariable("directinput", ddata = "Op_en5141", subset = "No modelled upstream variables")
> energy.balance <- EvalOutput(energy.balance)
> oprint(summary(energy.balance))
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	Year	energybalanceVars	mean
1	2008	Boughtdistrictheating	419.00
2	2010	Boughtdistrictheating	343.00
3	2025	Boughtdistrictheating	489.76
4	2008	Boughtelectricity	10679.76
5	2010	Boughtelectricity	9672.10
6	2025	Boughtelectricity	9241.53
7	2008	CESelectricity	117.00
8	2010	CESelectricity	115.00
9	2025	CESelectricity	101.24
10	2008	CESlocalheating	11.00
11	2010	CESlocalheating	10.00
12	2025	CESlocalheating	8.80
13	2008	CHPelectricity	84.00
14	2010	CHPelectricity	27.00
15	2025	CHPelectricity	23.77
16	2008	CHPgas	216.00
17	2010	CHPgas	33.00
18	2025	CHPgas	29.05
19	2008	CHPlocalheating	122.00
20	2010	CHPlocalheating	37.00
21	2025	CHPlocalheating	32.57
22	2008	CHPloss	132.00
23	2010	CHPloss	96.00
24	2025	CHPloss	84.51
25	2008	CHPmineraloil	14.00
26	2010	CHPmineraloil	11.00
27	2025	CHPmineraloil	9.68
28	2008	CHPrenewableenergy	108.00
29	2010	CHPrenewableenergy	116.00
30	2025	CHPrenewableenergy	102.12
31	2008	ConsCommercedistrictheating	851.00
32	2010	ConsCommercedistrictheating	927.00
33	2025	ConsCommercedistrictheating	941.00
34	2008	ConsCommerceelectricity	695.00
35	2010	ConsCommerceelectricity	498.00
36	2025	ConsCommerceelectricity	485.00
37	2008	ConsCommercelocalheating	203.00
38	2010	ConsCommercelocalheating	194.00
39	2025	ConsCommercelocalheating	162.00
40	2008	ConsHomedistrictheating	35.00
41	2010	ConsHomedistrictheating	73.00
42	2025	ConsHomedistrictheating	74.00
43	2008	ConsHomeelectricity	1077.00
44	2010	ConsHomeelectricity	1047.00
45	2025	ConsHomeelectricity	1137.00
46	2008	ConsHomelocalheating	54.00

47	2010	ConsHomelocalheating	34.00
48	2025	ConsHomelocalheating	38.00
49	2008	ConsInddistrictheating	513.00
50	2010	ConsInddistrictheating	394.00
51	2025	ConsInddistrictheating	400.00
52	2008	ConsIndelectricity	2257.00
53	2010	ConsIndelectricity	2390.00
54	2025	ConsIndelectricity	2499.00
55	2008	ConsIndlocalheating	35.00
56	2010	ConsIndlocalheating	6.00
57	2025	ConsIndlocalheating	6.00
58	2008	ConsTrafficelectricity	224.00
59	2010	ConsTrafficelectricity	225.00
60	2025	ConsTrafficelectricity	268.00
61	2008	Indelectricity	0.61
62	2010	Indelectricity	0.18
63	2025	Indelectricity	0.16
64	2008	Indgas	1.75
65	2010	Indgas	0.53
66	2025	Indgas	0.47
67	2008	Indloss	1.14
68	2010	Indloss	0.35
69	2025	Indloss	0.30
70	2008	Lossdistrictheating	121.00
71	2010	Lossdistrictheating	120.00
72	2025	Lossdistrictheating	105.64
73	2008	Losselectricity	128.37
74	2010	Losselectricity	119.28
75	2025	Losselectricity	105.01
76	2008	Losslocalheating	13.00
77	2010	Losslocalheating	15.00
78	2025	Losslocalheating	13.21
79	2008	STPelectricity	8.00
80	2010	STPelectricity	12.00
81	2025	STPelectricity	10.56
82	2008	STPlocalheating	30.00
83	2010	STPlocalheating	46.00
84	2025	STPlocalheating	40.50
85	2008	STPrenewableenergy	22.00
86	2010	STPrenewableenergy	34.00
87	2025	STPrenewableenergy	29.93
88	2008	TPEcoal	1019.00
89	2010	TPEcoal	1019.00
90	2025	TPEcoal	897.07
91	2008	TPEdistrictheating	1101.00
92	2010	TPEdistrictheating	1171.00
93	2025	TPEdistrictheating	1030.88
94	2008	TPEelectricity	379.00
95	2010	TPEelectricity	402.00
96	2025	TPEelectricity	353.90
97	2008	TPEgas	162.00
98	2010	TPEgas	162.00
99	2025	TPEgas	142.62
100	2008	TPEloss	828.00
101	2010	TPEloss	881.00
102	2025	TPEloss	775.58
103	2008	TPEmineraloil	1.00
104	2010	TPEmineraloil	1.00
105	2025	TPEmineraloil	0.88
106	2008	TPEwaste	1126.00

107	2010	TPEwaste	1272.00
108	2025	TPEwaste	1119.79
109	2008	TPPelectricityinput	9.00
110	2010	TPPelectricityinput	9.00
111	2025	TPPelectricityinput	7.92
112	2008	TPPelectricityoutput	50.00
113	2010	TPPelectricityoutput	61.00
114	2025	TPPelectricityoutput	53.70
115	2008	TPPgas	167.00
116	2010	TPPgas	217.00
117	2025	TPPgas	191.03
118	2008	TPPlocalheating	164.00
119	2010	TPPlocalheating	176.00
120	2025	TPPlocalheating	154.94
121	2008	TPPloss	5.00
122	2010	TPPloss	6.00
123	2025	TPPloss	5.28
124	2008	TPPmineraloil	43.00
125	2010	TPPmineraloil	17.00
126	2025	TPPmineraloil	14.97
127	2008	Vcoal	105.00
128	2010	Vcoal	105.00
129	2025	Vcoal	145.26
130	2008	Velectricity	6745.00
131	2010	Velectricity	5799.00
132	2025	Velectricity	5105.10
133	2008	Vgas	438.00
134	2010	Vgas	468.00
135	2025	Vgas	412.00
136	2008	Vmineraloil	530.00
137	2010	Vmineraloil	533.00
138	2025	Vmineraloil	469.22
139	2008	Vrenewableenergy	6.00
140	2010	Vrenewableenergy	8.00
141	2025	Vrenewableenergy	7.04
142	2008	WWPelectricity	67.00
143	2010	WWPelectricity	52.00
144	2025	WWPelectricity	45.78
145	2008	WWPrenewableenergy	67.00
146	2010	WWPrenewableenergy	52.00
147	2025	WWPrenewableenergy	45.78

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> ggplot(energy.balance@output, aes_string(x = "energybalanceVars", y = "energy.balanceResult")) + #, fill = "Year")) +
+ geom_boxplot() +
+ facet_wrap(~Year, ncol = 1) +
+ theme_grey(base_size = 24) +
+ theme(axis.text.x = element_text(angle = 90, hjust = 1, vjust = 0.2))
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