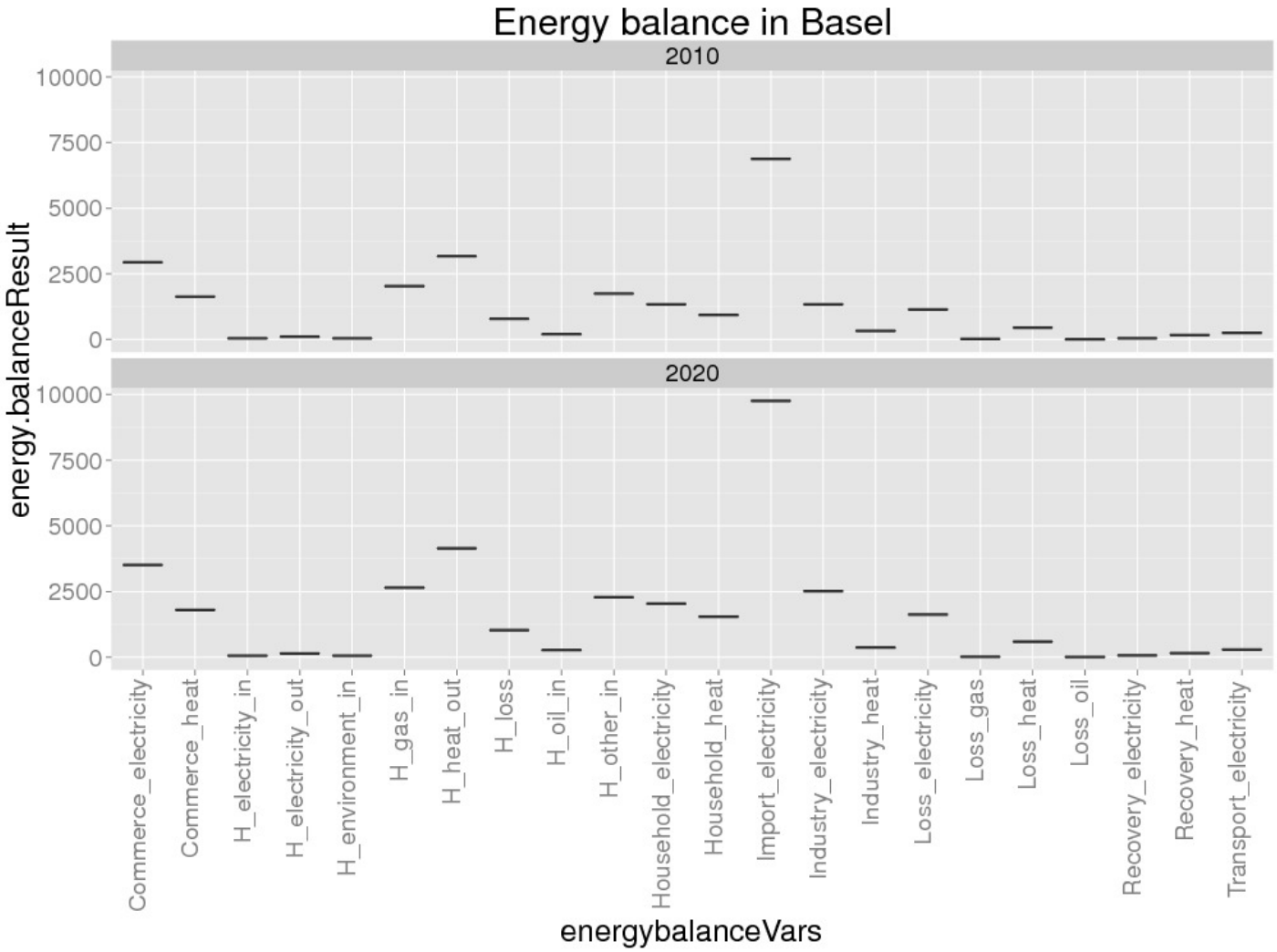
R-tools

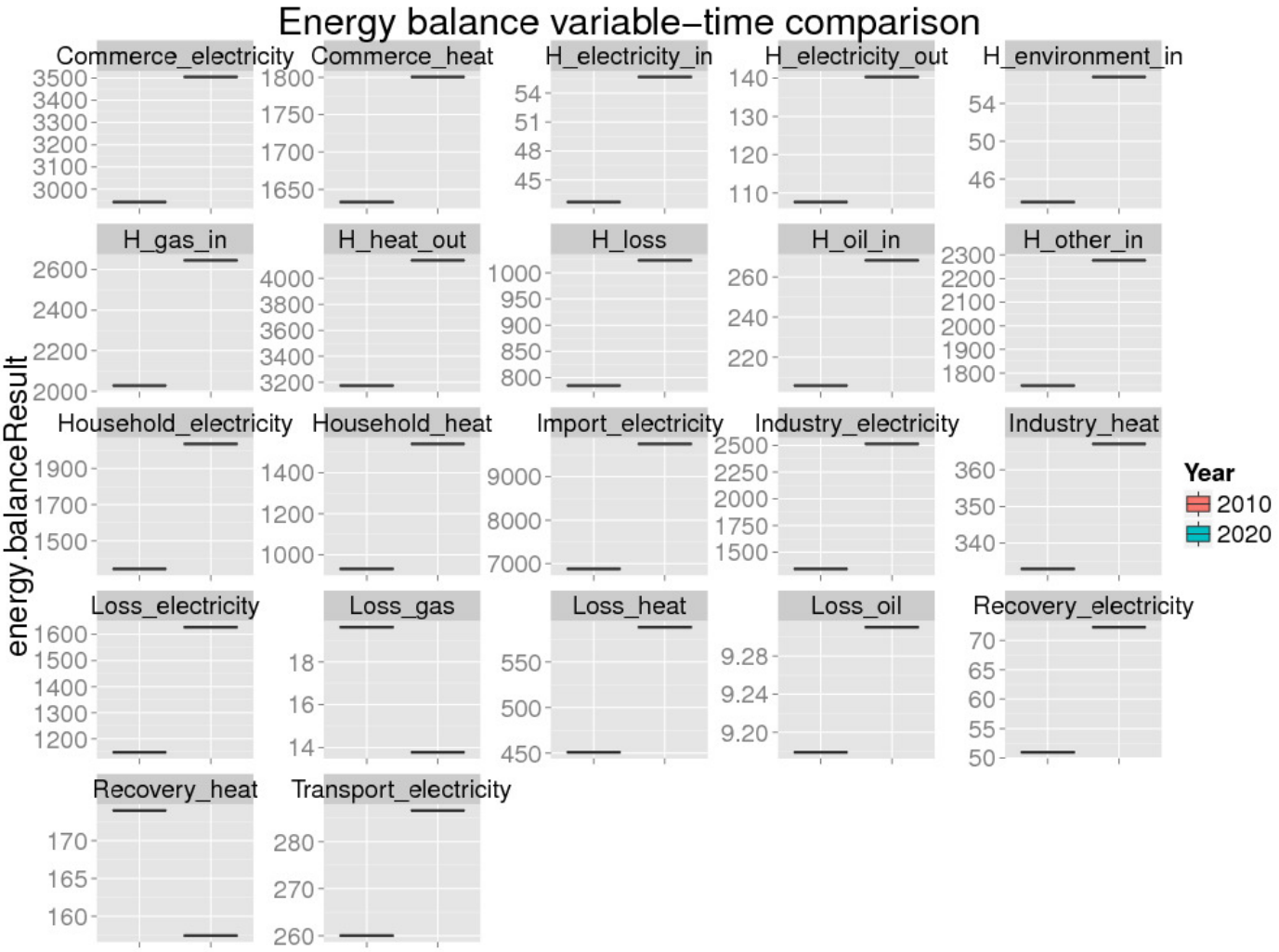
Ran at 2015-05-17 08:20:40
> wiki_username <- "Jouni"
> ## This code was run from page [[Energy balance in Basel#Answer]]
> library(OpasnetUtils)
> library(ggplot2)
> N <- 10 # Number of iterations
> objects.latest("Op_en5141", code_name = "initiate")
> balance <- Ovariable("balance", ddata = "Op_en6349.equations")
> 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))

	Year	energybalanceVars	mean
1	2010	Commerce_electricity	2940.97
2	2020	Commerce_electricity	3505.32
3	2010	Commerce_heat	1633.00
4	2020	Commerce_heat	1800.38
5	2010	H_electricity_in	42.71
6	2020	H_electricity_in	55.68
7	2010	H_electricity_out	107.63
8	2020	H_electricity_out	140.32
9	2010	H_environment_in	43.56
10	2020	H_environment_in	56.80
11	2010	H_gas_in	2028.69
12	2020	H_gas_in	2644.90
13	2010	H_heat_out	3175.01
14	2020	H_heat_out	4139.40
15	2010	H_loss	785.00
16	2020	H_loss	1023.44
17	2010	H_oil_in	205.86
18	2020	H_oil_in	268.39
19	2010	H_other_in	1746.81
20	2020	H_other_in	2277.40
21	2010	Household_electricity	1344.11
22	2020	Household_electricity	2037.59
23	2010	Household_heat	932.00
24	2020	Household_heat	1541.30
25	2010	Import_electricity	6876.74
26	2020	Import_electricity	9759.84
27	2010	Industry_electricity	1341.96
28	2020	Industry_electricity	2515.18
29	2010	Industry_heat	333.00
30	2020	Industry_heat	367.13
31	2010	Loss_electricity	1148.29
32	2020	Loss_electricity	1627.67
33	2010	Loss_gas	19.62
34	2020	Loss_gas	13.78
35	2010	Loss_heat	451.01
36	2020	Loss_heat	588.00
37	2010	Loss_oil	9.18
38	2020	Loss_oil	9.31
39	2010	Recovery_electricity	50.97
40	2020	Recovery_electricity	72.24
41	2010	Recovery_heat	174.00
42	2020	Recovery_heat	157.41
43	2010	Transport_electricity	260.00
44	2020	Transport_electricity	286.65

> ggplot(energy.balance@output, aes(x = energybalanceVars, y = energy.balanceResult)) +

```
 + 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)) +
 + ggtitle("Energy balance in Basel")
 > ggplot(energy.balance@output, aes(x = Year, y = energy.balanceResult, fill = Year)) +
 + geom_boxplot() +
 + facet_wrap(~energybalanceVars, scales = "free") +
 + theme_grey(base_size = 24) +
 + theme(axis.text.x = element_blank(), axis.title.x = element_blank()) +
 + ggtitle("Energy balance variable-time comparison")
```




Energy balance variable–time comparison
Commerce_electricity
Commerce_heat
H_electricity_in
H_electricity_out
H_environment_in
H_gas_in
H_heat_out
H_loss
H_oil_in
H_other_in
Household_electricity
Household_heat
Import_electricity
Industry_electricity
Industry_heat
Loss_electricity
Loss_gas
Loss_heat
Loss_oil
Recovery_electricity
Recovery_heat
Transport_electricity
energy.balanceResult
Year
2010
2020