Algorithm using wpd values for clustering 8 households

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```
library(knitr)
```

```
## Warning: package 'knitr' was built under R version 4.0.2
```

```
library(tidyverse)
```

```
## Warning: package 'tidyverse' was built under R version 4.0.2
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.0 --
```

```
## v ggplot2 3.3.3     v purrr   0.3.4
## v tibble  3.1.0     v dplyr   1.0.5
## v tidyr   1.1.3     v stringr 1.4.0
## v readr   1.4.0     v forcats 0.5.1
```

```
## Warning: package 'ggplot2' was built under R version 4.0.2
```

```
## Warning: package 'tibble' was built under R version 4.0.2
```

```
## Warning: package 'tidyr' was built under R version 4.0.2
```

```
## Warning: package 'readr' was built under R version 4.0.2
```

```
## Warning: package 'dplyr' was built under R version 4.0.2
```

```
## Warning: package 'forcats' was built under R version 4.0.2
```

```
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
library(lubridate)
```

```
## Warning: package 'lubridate' was built under R version 4.0.2
```

```
##
## Attaching package: 'lubridate'
```

```
## The following objects are masked from 'package:base':
##
##     date, intersect, setdiff, union
```

```
library(lvplot)
#library(ggridges)
library(tsibble)
```

```
## Warning: package 'tsibble' was built under R version 4.0.2
```

```
##
## Attaching package: 'tsibble'
```

```
## The following object is masked from 'package:lubridate':
##
##     interval
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, union
library(gravitas)
library(ggpubr)
## Warning: package 'ggpubr' was built under R version 4.0.2
library(readr)
library(kableExtra)
## Warning: package 'kableExtra' was built under R version 4.0.2
##
## Attaching package: 'kableExtra'
## The following object is masked from 'package:dplyr':
##
##     group_rows
library(distributional)
## Warning: package 'distributional' was built under R version 4.0.2
library(ggplot2)
library(sugrrants)
## Warning: package 'sugrrants' was built under R version 4.0.2
library(here)
## Warning: package 'here' was built under R version 4.0.2
## here() starts at /Users/sgup0008/Documents/paper-gracsR
library(ggplot2)
library(patchwork)
## Warning: package 'patchwork' was built under R version 4.0.2
library(scales)
##
## Attaching package: 'scales'
## The following object is masked from 'package:purrr':
##
##     discard
## The following object is masked from 'package:readr':
##
##     col_factor
library(GGally)
## Warning: package 'GGally' was built under R version 4.0.2
## Registered S3 method overwritten by 'GGally':
```

```
##   method from
##   +.gg   ggplot2
```

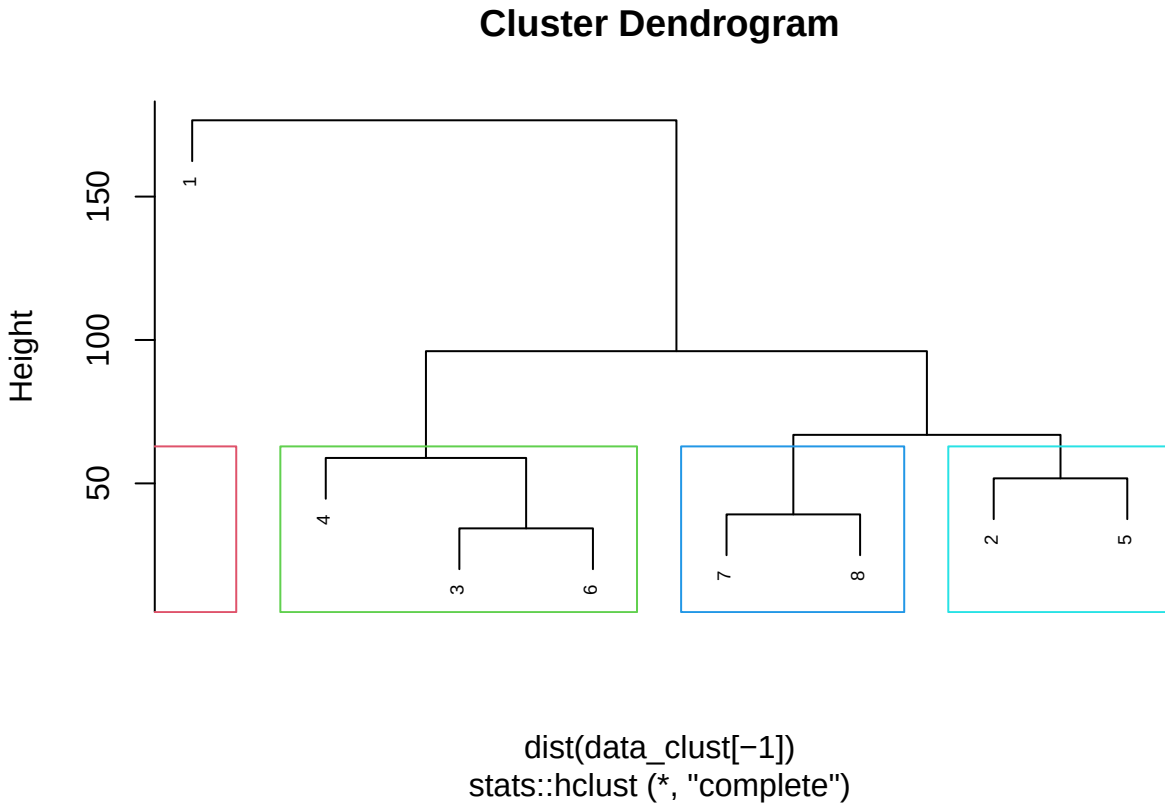
```
library(viridis)
```

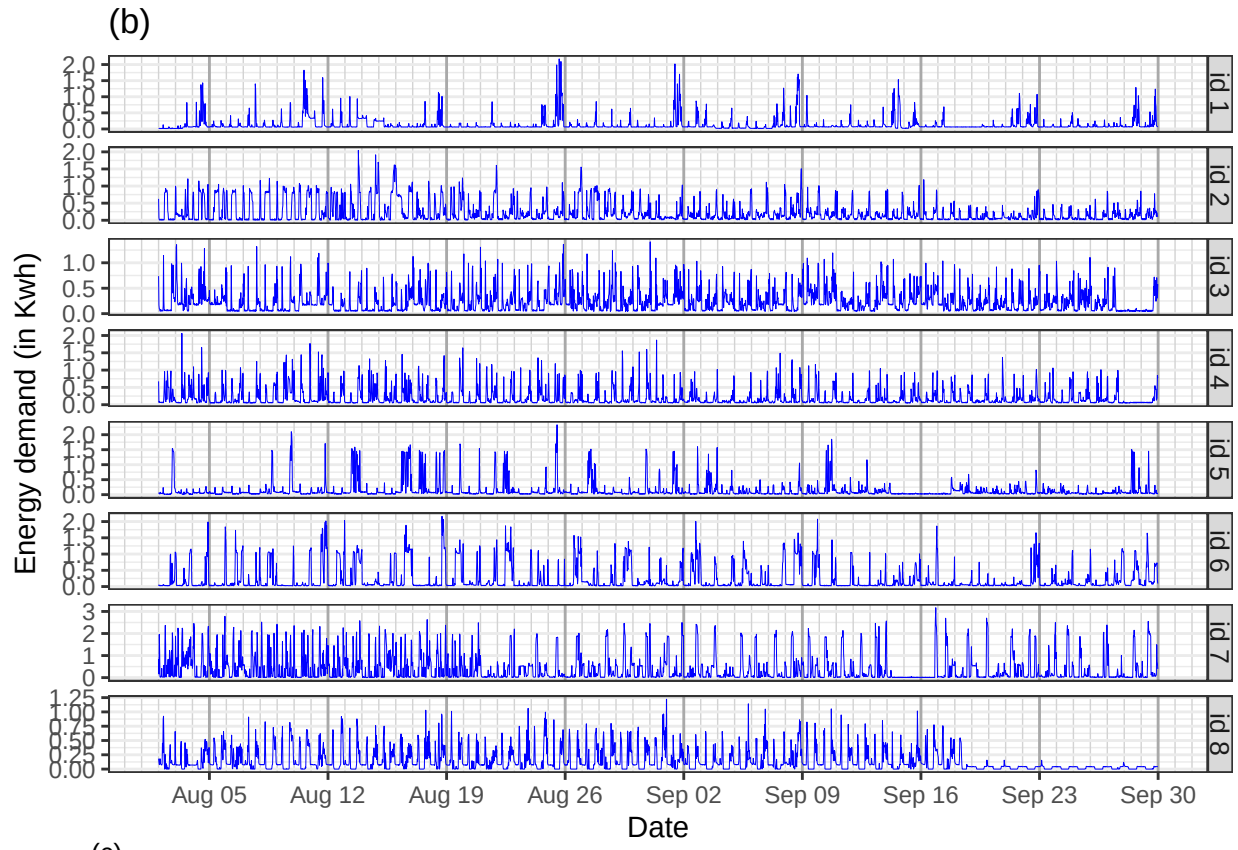
```
## Warning: package 'viridis' was built under R version 4.0.2
```

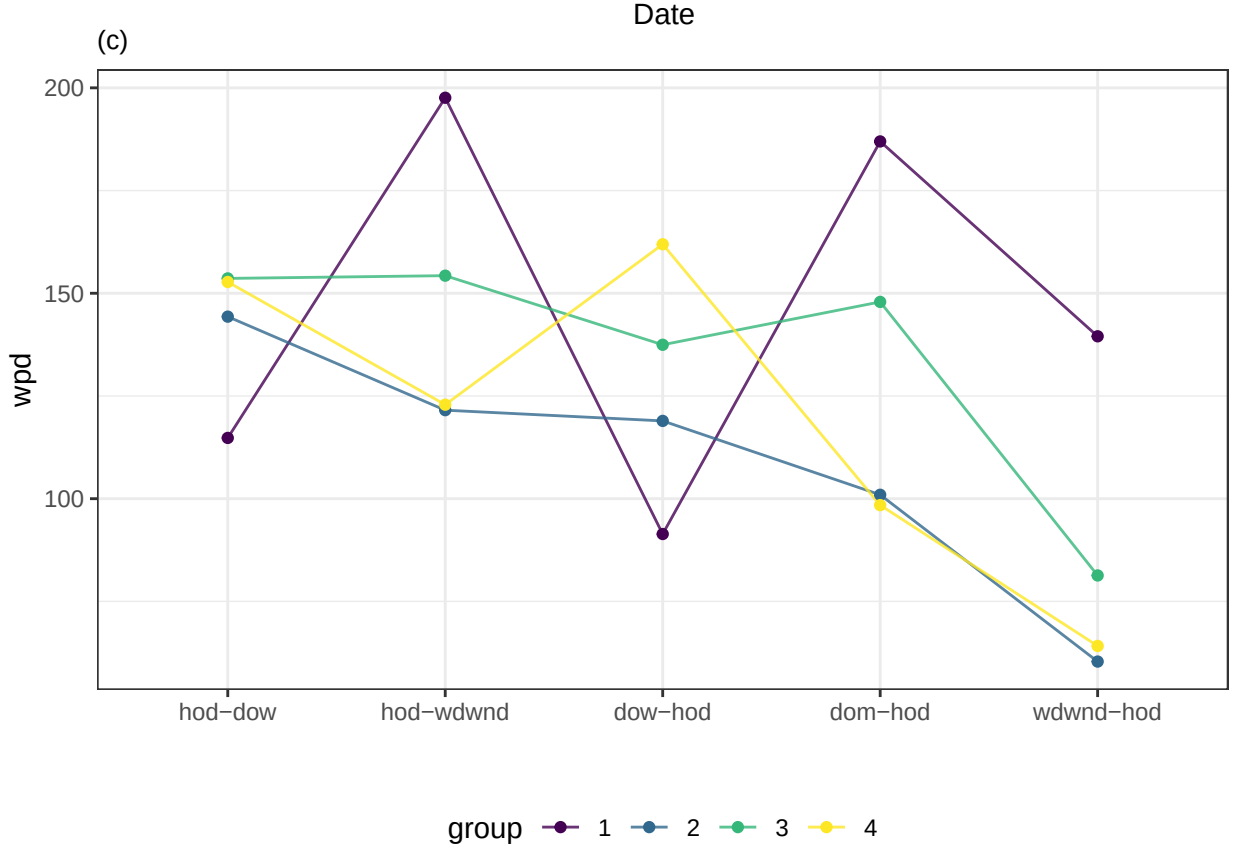
```
## Loading required package: viridisLite
```

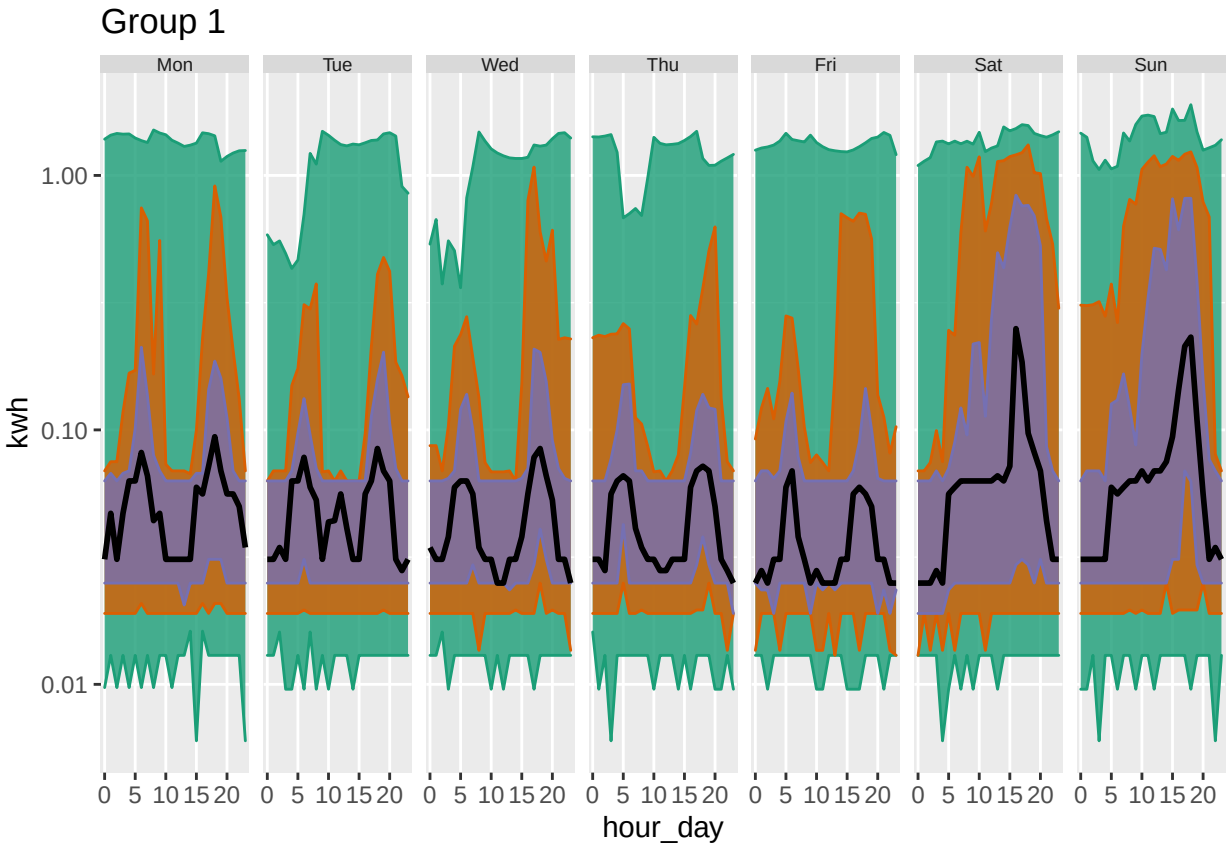
```
##
## Attaching package: 'viridis'
```

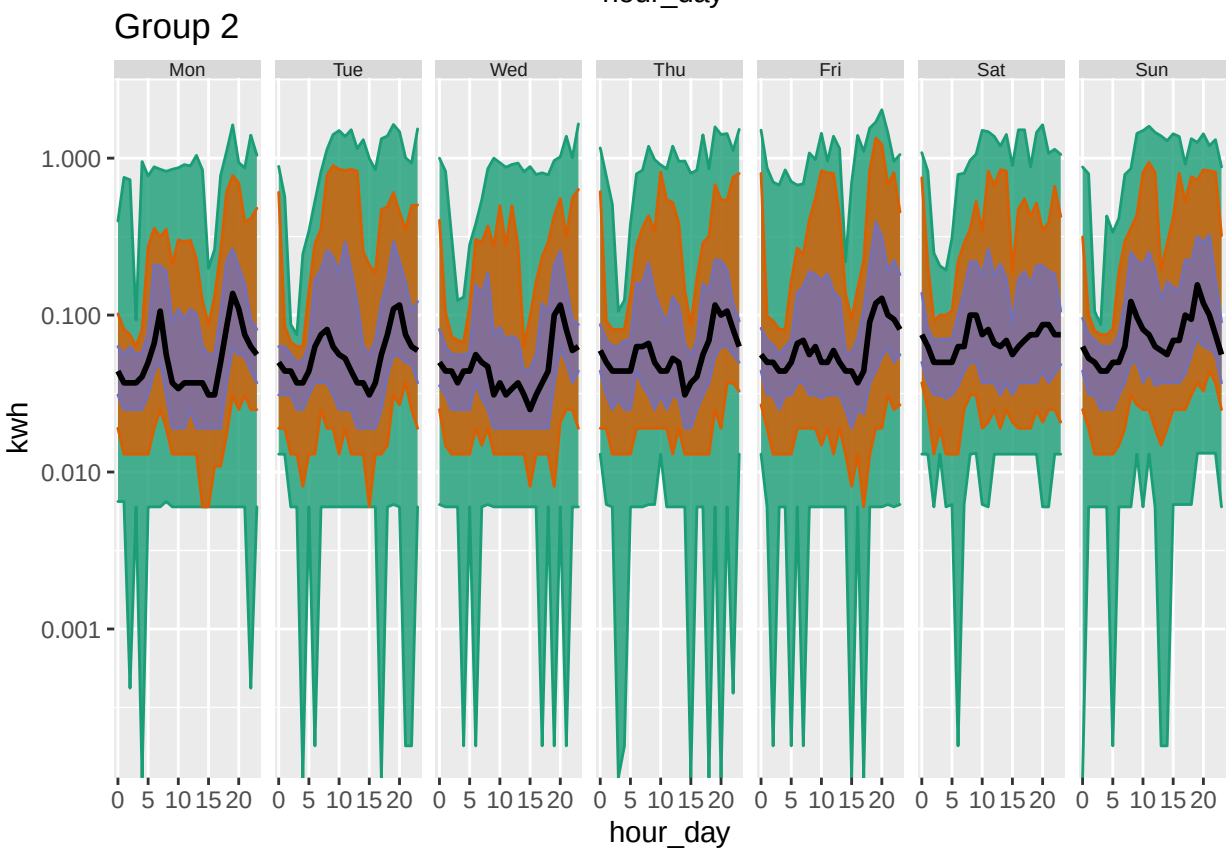
```
## The following object is masked from 'package:scales':
##
##     viridis_pal
```

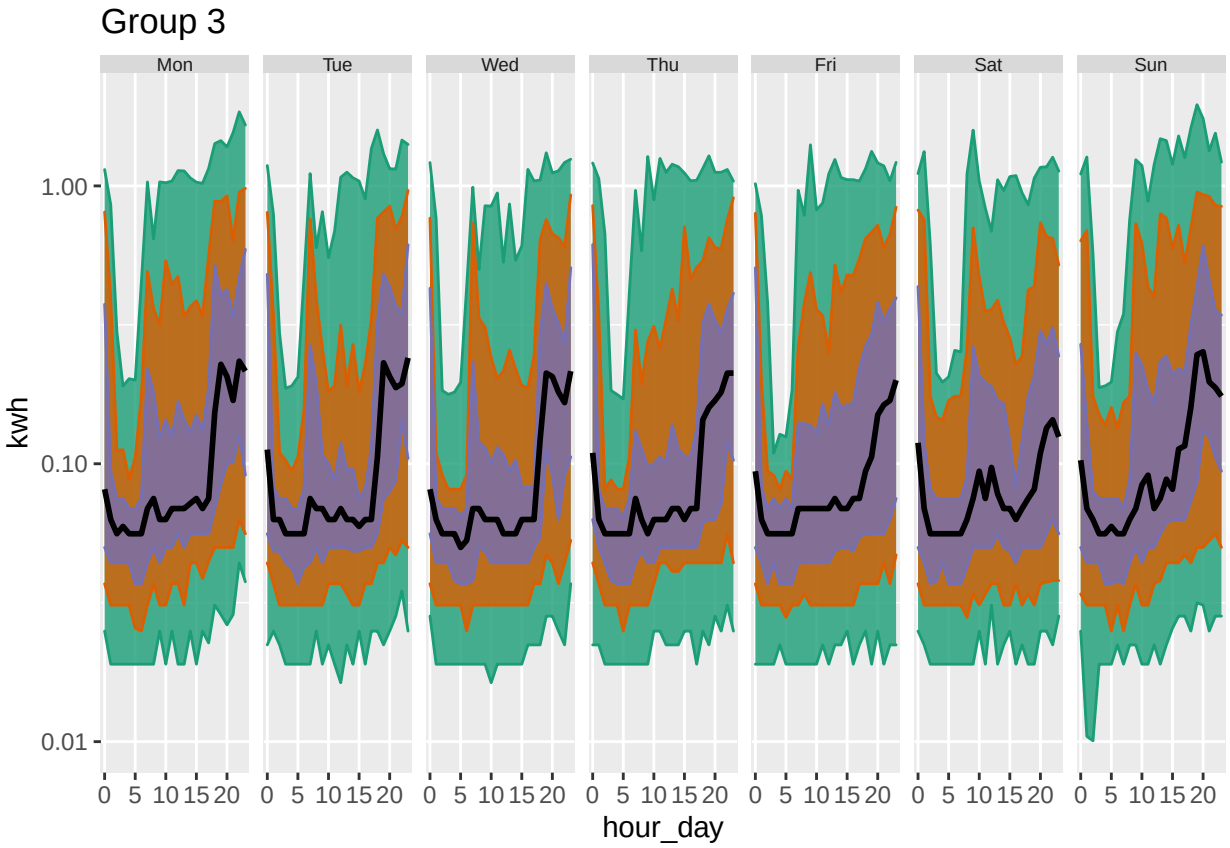


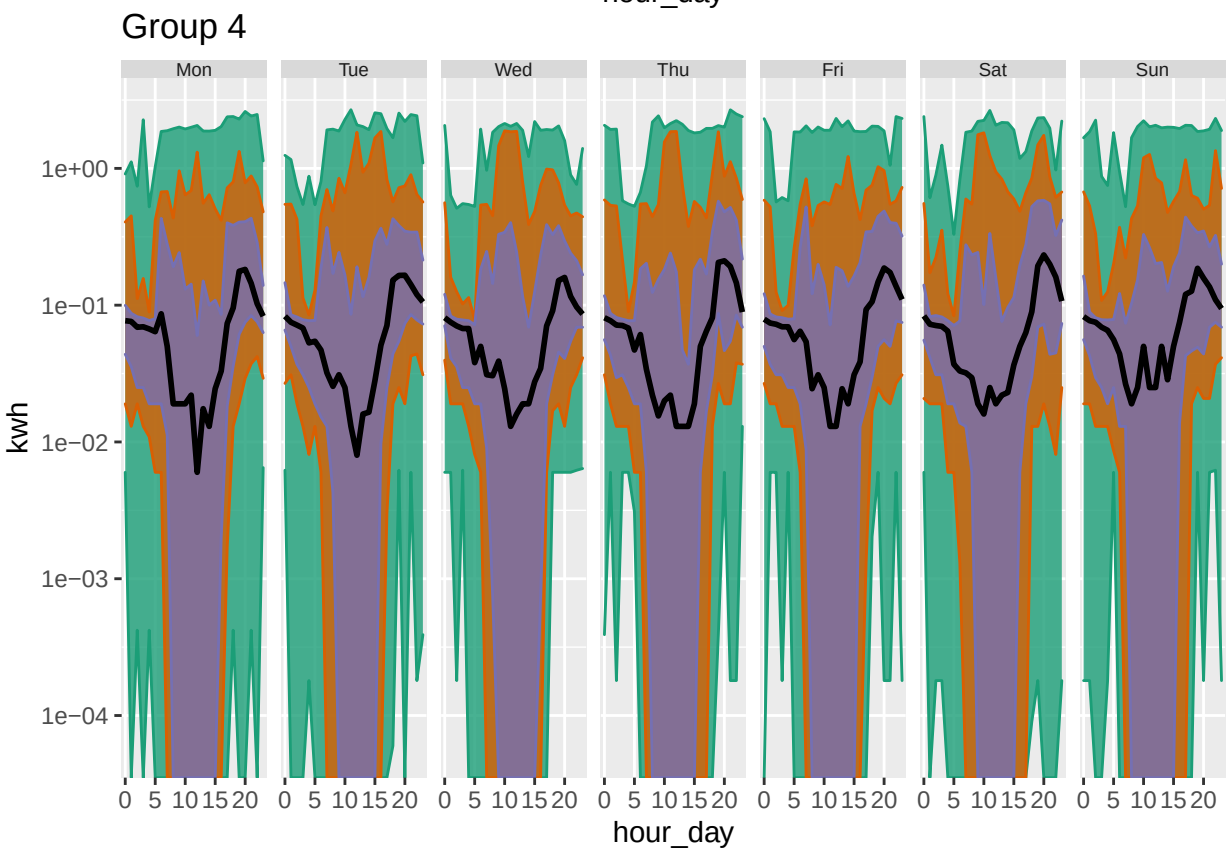

(b)
Energy demand (in Kwh)
id 1
id 2
id 3
id 4
id 5
id 6
id 7
id 8
Aug 05
Aug 12
Aug 19
Aug 26
Sep 02
Sep 09
Sep 16
Sep 23
Sep 30
Date


(c)
wpd
200
150
100
hod−dow
hod−wdwnd
dow−hod
dom−hod
wdwnd−hod
group
1
2
3
4


Group 1
Mon
Tue
Wed
Thu
Fri
Sat
Sun
1.00
0.10
0.01
kwh
0 5 10 15 20
hour_day


Group 2
Mon
Tue
Wed
Thu
Fri
Sat
Sun
1.000
0.100
0.010
0.001
kwh
0 5 10 15 20
hour_day


Group 3
Mon
Tue
Wed
Thu
Fri
Sat
Sun
1.00
0.10
0.01
kwh
0 5 10 15 20
hour_day


Group 4
Mon
Tue
Wed
Thu
Fri
Sat
Sun
1e+00
1e−01
1e−02
1e−03
1e−04
kwh
0 5 10 15 20
hour_day