國立臺灣大學
National Taiwan University

節電專案分析需求

國立臺灣大學共同教育中心

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套件包應該有甚麼？

1. 電力資料來源
   A. http://www.ettoday.net/news/20121115/127708.htm?feature=88&tab_id=90
   B. http://140.112.166.97/power/index.aspx
2. 分析項目例子
   A. 取出每日溫度資料，http://lishi.tianqi.com/taibei/201101.html
   B. 「能源使用密度」（energy use intensity, EUI）
   C. 繪製出歷年比較圖

建立 Function 於 Github 上的專案

1. 建立自己的 Package
2. Fork 其他人已經建好的 Package
   A. https://github.com/pecu/powerInfo
3. 多觀摩大神們的作品
   A. https://github.com/tidyverse/modelr
   B. https://github.com/tidyverse?language=r

新增氣溫下載 Function

```
getwather <- function(fromYear, toYear)
{
  ◦ http://lishi.tianqi.com/taibei/201101.html
 ...
  wather = Temp[-c(1:2),c(1:3)]
  names(wather) = c("date", "high", "low")
  return(wather)
 }
```

C:/Users/pecu6/Desktop/powerInfo - master - RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function | Addins | powerInfo

dataLoad.R | plots.R | PowerTest.Rmd | wather

Knit | Insert | Run

```
22 ```{r wether}
23 library(knitr)
24 wather = getwather("2016","2016")
25 kable(wather)
26 ```
```

date	high	low
2016-01-01	16	0
2016-01-02	17	0
2016-01-03	19	0
2016-01-04	19	0
2016-01-05	19	0
2016-01-06	16	0
2016-01-07	15	0
2016-01-08	14	0
2016-01-09	14	0
2016-01-10	16	0
2016-01-11	16	0
2016-01-12	14	0
2016-01-13	12	0
2016-01-14	12	0

9:18 | Chunk 1: power | R Markdown

Console

Environment | History | Import Dat | Global Environment

Data

Values

Files | Plots | Package | New Folder | De | powerIndex

Name

..
.Rbuildignore
DESCRIPTION
man
NAMESPACE
powerIndex....
R

新增台大電力監控下載 Function

loadPower <- function(building, dateFrom, dateTo)

{

- 參考德昌的電力爬蟲程式
- https://github.com/joe188032/powercrawl

}

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File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function | Addins | powerInfo

dataLoad.R | plots.R | power | buildingsPower | PowerTest.Rmd

Knit | Insert | Run

```
output: html_document
---


```{r power}
#library(devtools)
#install_github("pecu/powerInfo/powerIndex")
library(xml2)
library(powerIndex)
library(knitr)
data = loadPower("01I_P1_02", "2016/12/1", "2016/12/1
23:00:00")
kable(data)

```
```

16:1 | Chunk 1: power | R Markdown

Console C:/Users/pecu6/Desktop/powerInfo/

>

新增電力使用圖 Function

plotPower <- function(buildingsPower)

{

- 延續 ggplot2 的繪圖程式
- https://github.com/tidyverse/ggplot2

}

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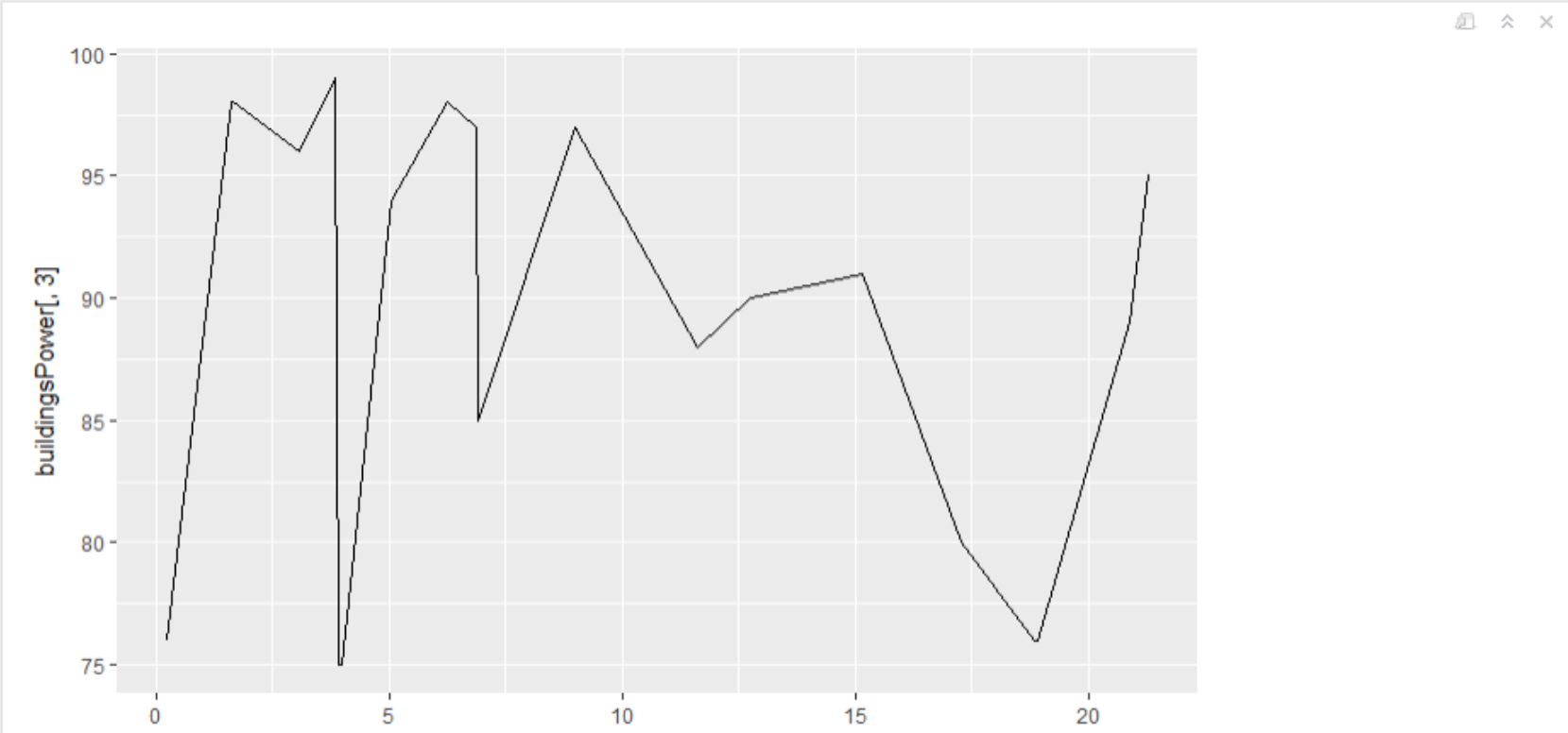
File Edit Code View Plots Session Build Debug Profile Tools Help

dataLoad.R | plots.R | PowerTest.Rmd | wather

Knit | Insert | Run

```
17
18 ```{r plot}
19 plotPower(data[,c(1,2,5)])
20 ```
```



9:18 Chunk 1: power | R Markdown

Console

Environment | History | Git

Import Dataset | Global Environment

Data

d... 24 ob...

p... 24 ob...

p... 0 obs...

Values

b... "01A ...

Files | Plots | Packages | Help | Viewe

New Folder | Delete | Rename

powerInfo > powerIndex

Name

..

.Rbuildignore

DESCRIPTION

man

NAMESPACE

powerIndex.Rproj

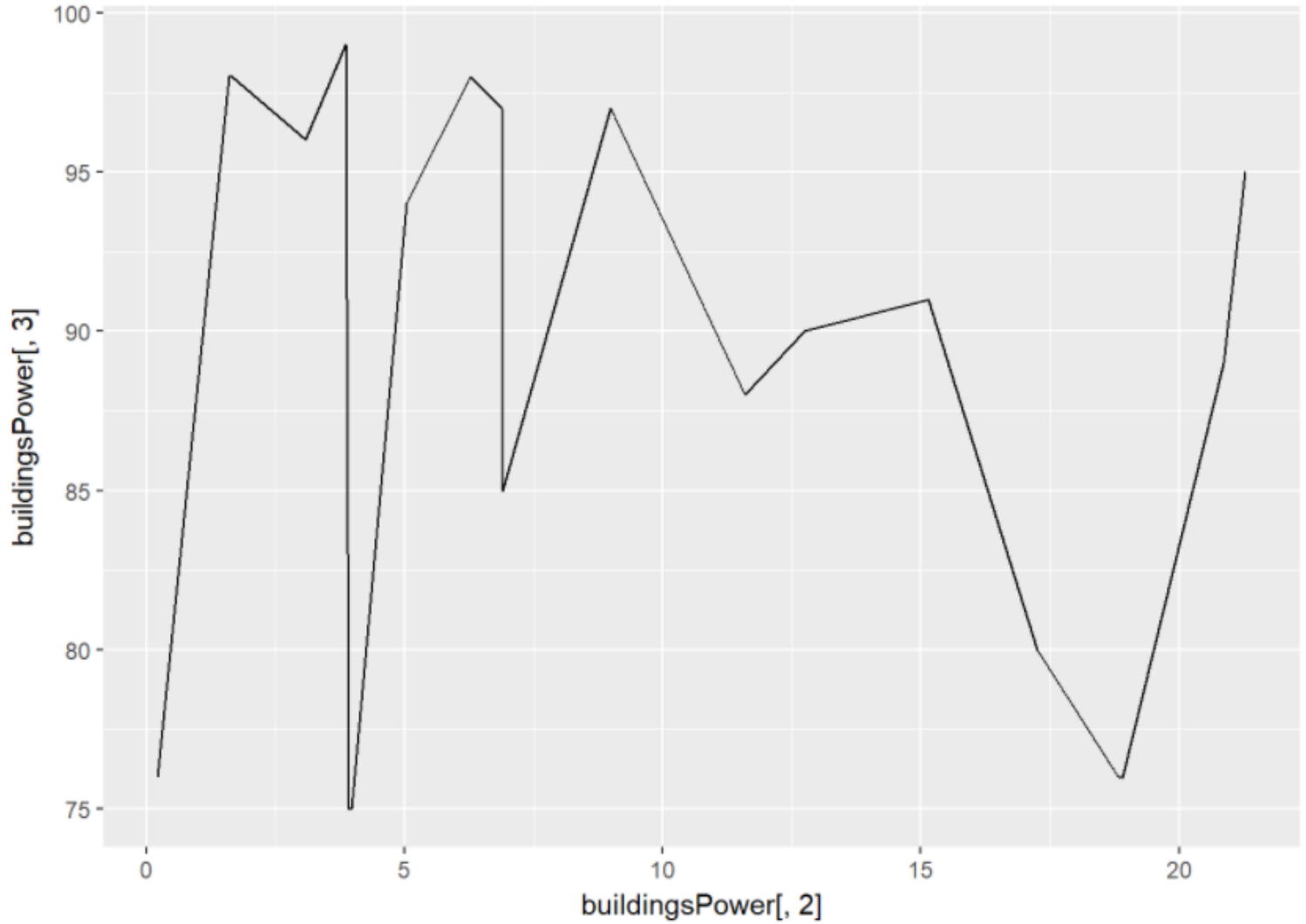
R

使用現成的 powerIndex 套件包

1. 套用 powerIndex 套件包
2. 用 Rmarkdown 製作一份電力使用報告

PowerTest.html

file:///C:/Users/pecu6/Desktop/PowerTest.html




```
library(knitr)
wather = getwather("2016","2016")
```

持續增加 Functions

列出所有可能需要進行分析的項目，並持續產出 FUNCTION