

Test octopus API

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Inspired by

https://www.guylipman.com/octopus/api_guide.html

Test without authentication

```
# test
url <- "https://api.octopus.energy/v1/products"
message("Getting: ", url)

## Getting: https://api.octopus.energy/v1/products

resp <- httr::GET(url)

message("Status code: ", resp$status_code)

## Status code: 200

df <- jsonlite::parse_json(resp, simplifyVector = TRUE)

## No encoding supplied: defaulting to UTF-8.

head(df$results)

##               code direction
## 1  AFFECT-FIX-12M-22-03-25  IMPORT
## 2  AFFECT-OCC-VAR-21-10-01  IMPORT
## 3 AFFECT-SEG-FIX-12M-20-11-11 EXPORT
## 4      AFFECT-VAR-22-04-02  IMPORT
## 5           AGILE-18-02-21  IMPORT
## 6  AGILE-OUTGOING-19-05-13  EXPORT
##                               full_name
## 1           Affect 12M Fixed March 2022 v3
## 2 Affect Occupier Standard Tariff October 2021 v1
## 3 Affect Smart Export Guarantee November 2020 v1
```

```

## 4          Affect Standard Tariff April 2022 v1
## 5          Agile Octopus February 2018
## 6          Agile Outgoing Octopus May 2019
##          display_name
## 1          Affect 12M Fixed
## 2 Affect Occupier Standard Tariff
## 3    Affect Smart Export Guarantee
## 4          Affect Standard Tariff
## 5          Agile Octopus
## 6          Agile Outgoing Octopus
##
## 1                                                    This tariff features 100%
## 2 Affect Occupier Standard Tariff offers great value and 100% renewable electricity. As a variable t
## 3
## 4          Affect Standard Tariff offers great value and 100% renewable electricity. As a variable t
## 5
## 6
##    is_variable is_green is_tracker is_prepay is_business is_restricted term
## 1      FALSE      FALSE      FALSE      FALSE      FALSE      FALSE    12
## 2       TRUE      FALSE      FALSE      FALSE      FALSE      FALSE    NA
## 3      FALSE       TRUE      FALSE      FALSE      FALSE      FALSE    12
## 4       TRUE      FALSE      FALSE      FALSE      FALSE      FALSE    NA
## 5       TRUE       TRUE      FALSE      FALSE      FALSE      FALSE    12
## 6       TRUE       TRUE      FALSE      FALSE      FALSE      FALSE    12
##          available_from available_to
## 1    2022-03-25T00:00:00Z          NA
## 2 2021-10-01T00:00:00+01:00          NA
## 3    2020-11-11T17:00:00Z          NA
## 4    2022-03-05T00:00:00Z          NA
## 5    2017-01-01T00:00:00Z          NA
## 6    2018-01-01T00:00:00Z          NA
##
##                                                    links
## 1    https://api.octopus.energy/v1/products/AFFECT-FIX-12M-22-03-25/, GET, self
## 2    https://api.octopus.energy/v1/products/AFFECT-OCC-VAR-21-10-01/, GET, self
## 3 https://api.octopus.energy/v1/products/AFFECT-SEG-FIX-12M-20-11-11/, GET, self
## 4    https://api.octopus.energy/v1/products/AFFECT-VAR-22-04-02/, GET, self
## 5    https://api.octopus.energy/v1/products/AGILE-18-02-21/, GET, self
## 6    https://api.octopus.energy/v1/products/AGILE-OUTGOING-19-05-13/, GET, self
##          brand
## 1 AFFECT_ENERGY
## 2 AFFECT_ENERGY
## 3 AFFECT_ENERGY
## 4 AFFECT_ENERGY
## 5 OCTOPUS_ENERGY
## 6 OCTOPUS_ENERGY

```

Tests with authentication

Basic info

```
url <- paste0("https://api.octopus.energy/v1/accounts/", apiParams$accountNo , "/")

resp <- httr::GET(url = url, authenticate(user = apiParams$key, password = ""))

df <- jsonlite::parse_json(resp, simplifyVector = TRUE)
```

```
## No encoding supplied: defaulting to UTF-8.
```

```
head(df$properties)
```

```
##           id           moved_in_at           moved_out_at
## 1 2325719 2020-10-15T00:00:00+01:00 2021-06-30T00:00:00+01:00
## 2 3045135 2021-06-21T00:00:00+01:00                        <NA>
##           address_line_1 address_line_2 address_line_3
## 1                    16 BUDBURY PLACE
## 2 2 WHITE HORSE MEWS WELL CLOSE SQUARE
##           town      county postcode
## 1 BRADFORD-ON-AVON WILTSHIRE BA15 1QF
## 2      FRAMLINGHAM           IP13 9DT
##
## 1 2000006198482, 1, 8549, L78C64517, 01, STANDARD, TRUE, E-1R-SUPER-GREEN-12M-20-09-22-H, E-1R-SUPER-
## 2 1050001805886, 1, 3283, 19L3027004, 1, STANDARD, TRUE, E-1R-SUPER-GREEN-12M-20-09-22-A, E-1R-LOY-
##
## 1 4256845702, 21655, G4A01559730801, G-1R-SUPER-GREEN-12M-20-09-22-H, G-1R-SUPER-GREEN-12M-20-09-22-H,
## 2                                     7825700304, 15129, E6S17944211961, NOT
```

```
head(df$properties$electricity_meter_points)
```

```
## [[1]]
##           mpan profile_class consumption_standard
## 1 2000006198482           1           8549
##           meters
## 1 L78C64517, 01, STANDARD, TRUE
##
## 1 E-1R-SUPER-GREEN-12M-20-09-22-H, E-1R-SUPER-GREEN-12M-20-09-22-H, 2020-11-01T00:00:00Z, 2020-11-21-
## is_export
## 1      FALSE
##
## [[2]]
##           mpan profile_class consumption_standard
## 1 1050001805886           1           3283
##           meters
## 1 19L3027004, 1, STANDARD, TRUE
##
## 1 E-1R-SUPER-GREEN-12M-20-09-22-A, E-1R-LOYAL-FIX-12M-21-10-07-A, 2021-07-01T00:00:00+01:00, 2021-11-
## is_export
## 1      FALSE
```

```
head(df$properties$gas_meter_points)
```

```
## [[1]]
##      mprn consumption_standard      meters
## 1 4256845702      21655 G4A01559730801
##
## 1 G-1R-SUPER-GREEN-12M-20-09-22-H, G-1R-SUPER-GREEN-12M-20-09-22-H, 2020-11-01T00:00:00Z, 2020-11-21
##
## [[2]]
##      mprn consumption_standard      meters
## 1 7825700304      15129 E6S17944211961, NOTINSTALLED
##
##      agreements
## 1 G-1R-LOYAL-FIX-12M-21-10-07-A, 2021-10-04T00:00:00+01:00, 2022-10-04T00:00:00+01:00
```

Elec Consumption

```
url <- paste0("https://api.octopus.energy/v1/electricity-meter-points/",
  apiParams$elec_mpan , "/",
  "meters/",
  apiParams$elec_serial, "/",
  "consumption/",
  "?period_from=2022-01-01T00:00Z",
  "&page_size=10000")
resp <- httr::GET(url = url, authenticate(user = apiParams$key, password = ""))
df <- jsonlite::parse_json(resp, simplifyVector = TRUE)
```

```
## No encoding supplied: defaulting to UTF-8.
```

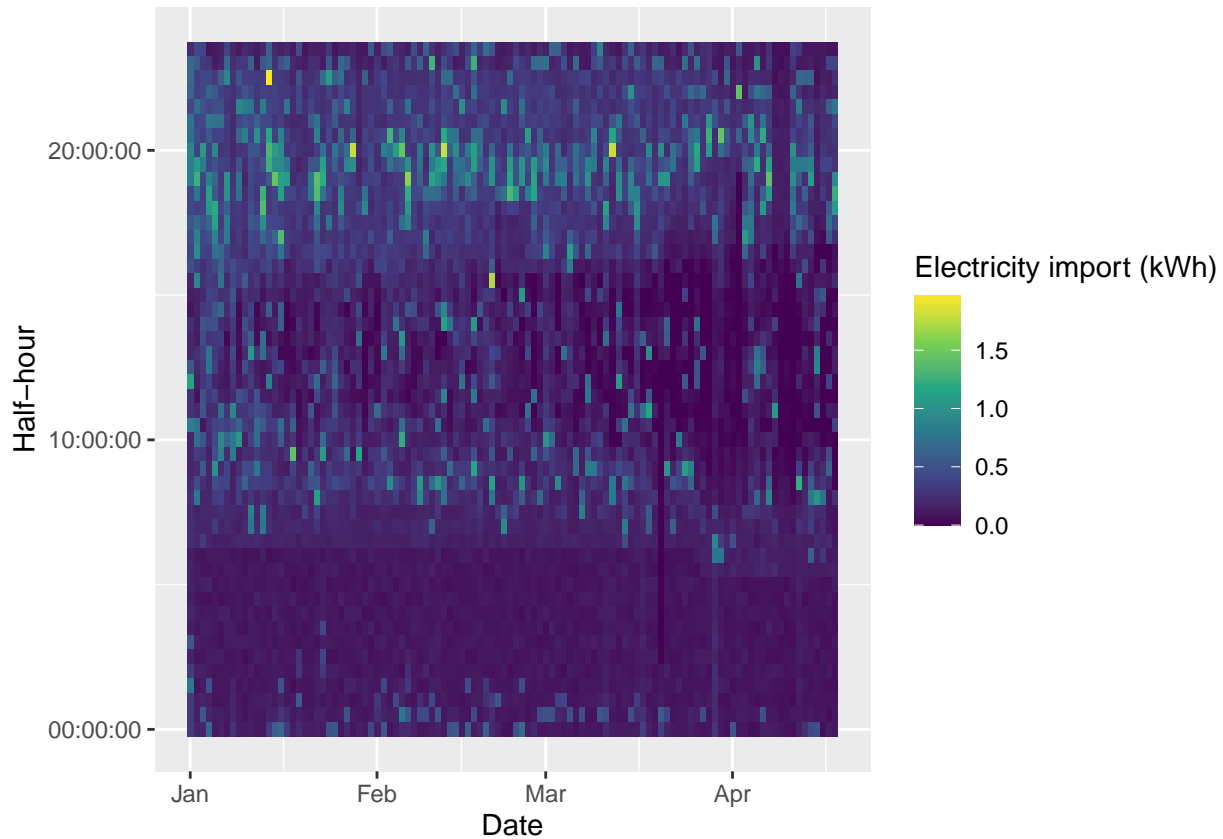
```
dt <- data.table::as.data.table(df$results)
dt[, dv_start := lubridate::as_datetime(interval_start)]
summary(dt)
```

```
##      consumption      interval_start      interval_end
## Min.      :0.0000      Length:5184      Length:5184
## 1st Qu.:0.0970      Class :character      Class :character
## Median :0.1660      Mode  :character      Mode  :character
## Mean      :0.2434
## 3rd Qu.:0.3050
## Max.      :1.9700
##      dv_start
## Min.      :2022-01-01 00:00:00
## 1st Qu.:2022-01-27 23:52:30
## Median :2022-02-23 23:45:00
## Mean      :2022-02-23 23:45:00
## 3rd Qu.:2022-03-22 23:37:30
## Max.      :2022-04-18 23:30:00
```

```
dt[, dv_hms := hms::as_hms(dv_start)]
dt[, dv_date := lubridate::as_date(dv_start)]

ggplot2::ggplot(dt, aes(x = dv_date, y = dv_hms, fill = consumption)) +
  geom_tile() +
```

```
scale_fill_viridis_c(name = "Electricity import (kWh)") +
labs(x = "Date",
     y = "Half-hour")
```



Gas Consumption

```
url <- paste0("https://api.octopus.energy/v1/gas-meter-points/",
              apiParams$gas_mpan , "/",
              "meters/",
              apiParams$gas_serial, "/",
              "consumption",
              "?period_from=2022-01-01T00:00Z",
              "&page_size=10000")
resp <- httr::GET(url = url, authenticate(user = apiParams$key, password = ""))
df <- jsonlite::parse_json(resp, simplifyVector = TRUE)
```

```
## No encoding supplied: defaulting to UTF-8.
```

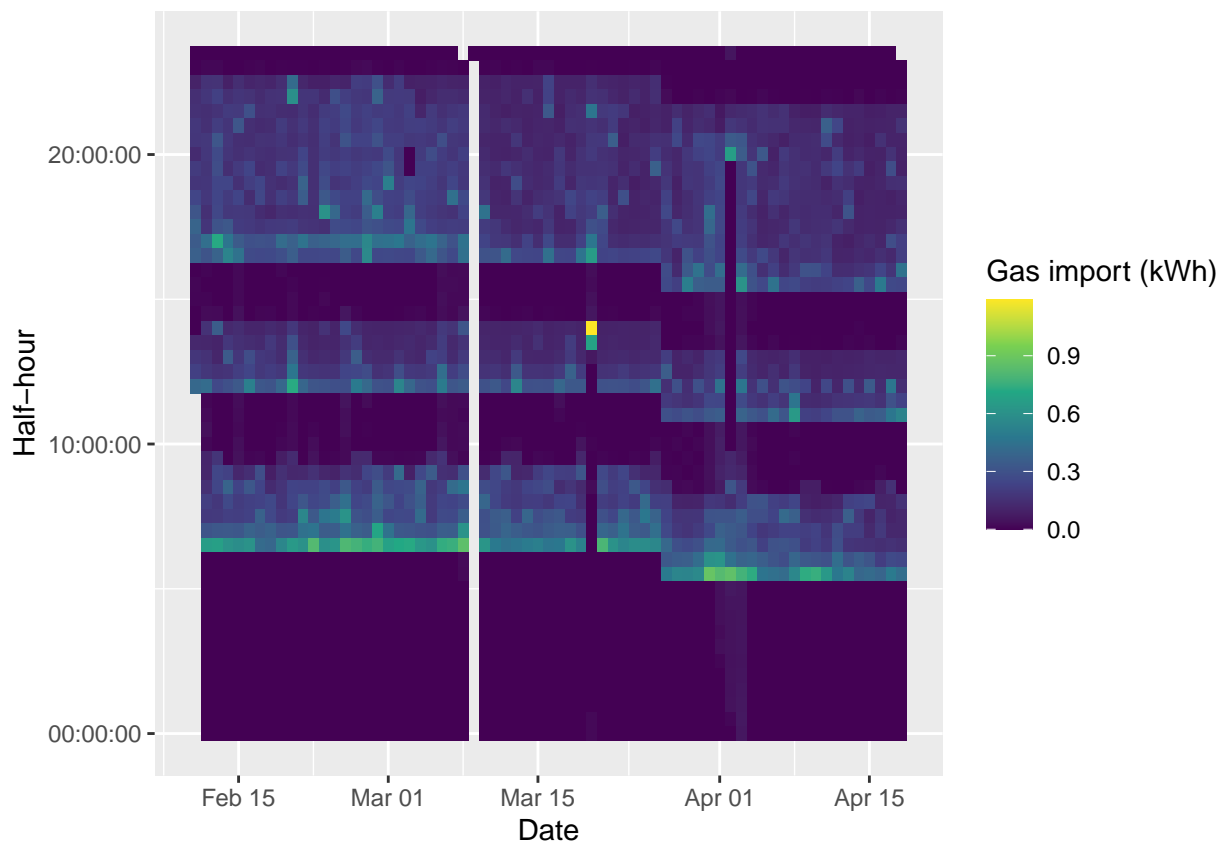
```
dt <- data.table::as.data.table(df$results)
dt[, dv_start := lubridate::as_datetime(interval_start)]
summary(dt)
```

```
##   consumption   interval_start   interval_end
```

```
## Min.      :0.0000   Length:3143      Length:3143
## 1st Qu.:0.0000   Class :character  Class :character
## Median :0.0810   Mode  :character  Mode  :character
## Mean      :0.1157
## 3rd Qu.:0.1895
## Max.      :1.1910
##      dv_start
## Min.      :2022-02-11 12:00:00
## 1st Qu.:2022-02-27 20:45:00
## Median :2022-03-17 05:30:00
## Mean      :2022-03-16 20:09:40
## 3rd Qu.:2022-04-02 14:15:00
## Max.      :2022-04-18 23:00:00
```

```
dt[, dv_hms := hms::as_hms(dv_start)]
dt[, dv_date := lubridate::as_date(dv_start)]

ggplot2::ggplot(dt, aes(x = dv_date, y = dv_hms, fill = consumption)) +
  geom_tile() +
  scale_fill_viridis_c(name = "Gas import (kWh)") +
  labs(x = "Date",
       y = "Half-hour")
```



The end