Package ‘intensegRid’

October 13, 2022

Type Package
Title R Wrapper for the Carbon Intensity API
Version 0.1.1
Author Kasia Kulma <katarzyna.kulma@gmail.com>
Maintainer Kasia Kulma <katarzyna.kulma@gmail.com>
Description Electricity is not made equal and it vary in its carbon footprint (or carbon intensity) depending on its source. This package enables to access and query data provided by the Carbon Intensity API (<https://carbonintensity.org.uk/>). National Grid’s Carbon Intensity API provides an indicative trend of regional carbon intensity of the electricity system in Great Britain.
License CC0
Encoding UTF-8
LazyData TRUE
URL https://github.com/KKulma/intensegRid,
https://kkulma.github.io/intensegRid/articles/intro-to-carbon-intensity.html
BugReports https://github.com/KKulma/intensegRid/issues
RoxygenNote 7.1.1
Depends R (>= 2.10)
Imports dplyr, httr, jsonlite, lubridate, magrittr, tidyr, tibble, rlang, purrr
Suggests utils, knitr, rmarkdown, testthat (>= 2.1.0), covr, vcr
VignetteBuilder knitr
NeedsCompilation no
Repository CRAN
Date/Publication 2021-05-01 06:10:03 UTC
### R topics documented:

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>clean_colnames</td>
<td>Tidy up intensity results column names</td>
</tr>
<tr>
<td>get_british_ci</td>
<td>Fetch British carbon intensity data for specified time period</td>
</tr>
</tbody>
</table>

#### clean_colnames

_Tidy up intensity results column names_

**Description**

Tidy up intensity results column names

**Usage**

```r
clean_colnames(result)
```

**Arguments**

- **result**
  - a data frame with raw results from Carbon Intensity API

**Value**

- data frame

#### get_british_ci

_Fetch British carbon intensity data for specified time period_

**Description**

Fetch British carbon intensity data for specified time period

**Usage**

```r
get_british_ci(start = NULL, end = NULL)
```
**get_data**

Retrieves raw data from the Carbon Intensity API.

**Description**

Retrieve raw data from Carbon Intensity API.

**Usage**

```r
get_data(call)
```

**Arguments**

- `call` character API URL

**Value**

- `tibble`
**get_factors**

*Get Carbon Intensity factors for each fuel type*

**Description**
Get Carbon Intensity factors for each fuel type

**Usage**

```r
get_factors()
```

**Value**
a tibble

**Examples**

```r
get_factors()
```

**get_mix**

*Get generation mix for current half hour*

**Description**
Get generation mix for current half hour

**Usage**

```r
get_mix(start = NULL, end = NULL)
```

**Arguments**

- `start` character A start date of the intensity data
- `end` character An end date of the intensity data

**Value**

tibble

**Examples**

```r
## Not run:
start <- "2019-04-01"
end <- "2019-04-07"
get_mix(start, end)
geet_mix()
## End(Not run)
```
get_national_ci

Get Carbon Intensity data for current half hour for a specified GB Region

Description

Get Carbon Intensity data for current half hour for a specified GB Region

Usage

get_national_ci(start = NULL, end = NULL, region = NULL)

Arguments

start character A start date of the intensity
end character An end date of the intensity data
region character The name of the GB region, one of 'England', 'Scotland' or 'Wales'

Value

a tibble

Examples

## Not run:
get_national_ci()
get_national_ci(region = 'England')
get_national_ci(region = 'Scotland')
get_national_ci(region = 'Wales')
get_national_ci(start = '2019-01-01', end = '2019-01-02')

## End(Not run)

get_postcode_ci

Get Carbon Intensity for specified postcode.

Description

Get Carbon Intensity for specified postcode.

Usage

get_postcode_ci(postcode, start = NULL, end = NULL)
get_regional_ci

Arguments

- **postcode** character Outward postcode i.e. RG41 or SW1 or TF8. Do not include full postcode, outward postcode only
- **start** character A start date of the intensity data
- **end** character An end date of the intensity data

Value
tibble

Examples

```r
## Not run:
get_postcode_ci(postcode = 'EN2')
get_postcode_ci(postcode = 'EN2', start = '2019-01-01', end = '2019-01-02')
## End(Not run)
```

---

get_regional_ci Get Carbon Intensity data between specified datetimes for specified region

Description

Get Carbon Intensity data between specified datetimes for specified region

Usage

```r
get_regional_ci(region_id, start = NULL, end = NULL)
```

Arguments

- **region_id** numeric Region ID in the UK region. See list of Region IDs in regions_lookup
- **start** character A start date of the intensity data
- **end** character An end date of the intensity data

Value
tibble

Examples

```r
## Not run:
get_regional_ci(13)
get_regional_ci(13, start = '2019-01-02', end = '2019-01-03')
## End(Not run)
```
### get_stats

*Get Carbon Intensity statistics between from and to dates*

**Description**

Get Carbon Intensity statistics between from and to dates

**Usage**

```r
get_stats(start, end, block = NULL)
```

**Arguments**

- **start**: character A start date of the stats data. The maximum date range is limited to 30 days.
- **end**: character An end date of the stats data. The maximum date range is limited to 30 days.
- **block**: numeric Block length in hours i.e. a block length of 2 hrs over a 24 hr period returns 12 items with the average, max, min for each 2 hr block

**Value**

tibble

**Examples**

```r
## Not run:
start <- "2019-04-01"
end <- "2019-05-01"
get_stats(start, end)
get_stats(start, end, block = 2)

## End(Not run)
```

### regions_lookup

*regions_lookup*

**Description**

A lookup table of region_ids and corresponding GB regions

**Usage**

```r
regions_lookup
```
Format

A data frame with 17 rows and 2 variables:

- **Region ID**: region ID to be used in intensegRid package
- **Shortname**: corresponding GB region

Source

[https://carbon-intensity.github.io/api-definitions/#region-list](https://carbon-intensity.github.io/api-definitions/#region-list)
Index

* datasets
  regions_lookup, 7

  clean_colnames, 2
  get_british_ci, 2
  get_data, 3
  get_factors, 4
  get_mix, 4
  get_national_ci, 5
  get_postcode_ci, 5
  get_regional_ci, 6
  get_stats, 7

  regions_lookup, 7