Package 'intensegRid'

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Type Package

Title R Wrapper for the Carbon Intensity API

Version 0.1.2

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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.

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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 7.2.1

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

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R **topics documented:**

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clean_colnames	*Tidy up intensity results column names*

Description

Tidy up intensity results column names

Usage

```
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

```
get_british_ci(start = NULL, end = NULL)
```

Arguments

start	character A start date of the intesity.
end	character An end date of the intesity data. The maximum date range is limited to 14 days.

Value

a data.frame with 1/2-hourly carbon intensity data for specified time period

Examples

```
## Not run:
get_british_ci()
get_british_ci(start = '2019-01-01', end = '2019-01-02')

## End(Not run)
```

---

get_data   *Retrieve raw data from Carbon Intensity API*

Description

Retrieve raw data from Carbon Intensity API

Usage

```
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

```
get_factors()
```

Value

a tibble

Examples

```
get_factors()
```

---

get_mix   *Get generation mix for current half hour*

Description

Get generation mix for current half hour

Usage

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

Arguments

start	character A start date of the intesity data
end	character An end date of the intesity data

Value

tibble

Examples

```
## Not run:
start <- "2019-04-01"
end <- "2019-04-07"
get_mix(start, end)
get_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 intesity
end	character An end date of the intesity 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)
```

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 intesity data
end	character An end date of the intesity data

Value

tibble

Examples

```
## 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

```
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 intesity data
end	character An end date of the intesity data

Value

a tibble

Examples

```
## 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

```
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

```
## 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

```
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>

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