Package ‘intensegRid’

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Type Package
Title R Wrapper for the Carbon Intensity API
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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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https://kkulma.github.io/intensegRid/articles/intro-to-carbon-intensity.html
BugReports https://github.com/KKulma/intensegRid/issues
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get_british_ci

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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

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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)
### get_data

**Arguments**

- **start** character A start date of the intensity.
- **end** character An end date of the intensity 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**

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

---

**get_data**  
Retrieves raw data from 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

Description
Get Carbon Intensity factors for each fuel type

Usage
get_factors()

Value
a tibble

Examples
get_factors()

get_mix

Description
Get generation mix for current half hour

Usage
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
## 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 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 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
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**

```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

**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
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