Package ‘r2dii.plot’

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Title  Visualize the Climate Scenario Alignment of a Financial Portfolio

Version  0.1.0

Description  Create plots to visualize the alignment of a corporate lending portfolio to climate change scenarios based on climate indicators (production and emission intensities) across key climate relevant sectors of the 'PACTA' methodology (Paris Agreement Capital Transition Assessment; <https://www.transitionmonitor.com/pacta-for-banks-2020/methodology-and-supporting-materials/>). Financial institutions use 'PACTA' to study how their capital allocation decisions align with climate change mitigation goals.

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URL  https://github.com/2DegreesInvesting/r2dii.plot

BugReports  https://github.com/2DegreesInvesting/r2dii.plot/issues

Depends  R (>= 3.4)

Imports  dplyr, forcats, ggplot2, ggrepel, glue, lubridate, magrittr, r2dii.data, rlang, scales

Suggests  covr, r2dii.analysis, r2dii.match, rmarkdown, spelling, testthat (>= 3.0.0)

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**market_share**

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**Description**  
Dataset imitating the output of `r2dii.analysis::target_market_share()`.

**Usage**  
```r
market_share
```

**Format**  
An object of class `spec_tbl_df` (inherits from `tbl_df, tbl, data.frame`) with 1170 rows and 8 columns.

**See Also**  
`r2dii.analysis::target_market_share()`.

Other datasets: `sda`

**Examples**  
```r
market_share
```
plot_emission_intensity
Create an emission intensity plot

Description
Create an emission intensity plot

Usage
plot_emission_intensity(data)

Arguments
data
A data frame. Requirements:
• The structure must be like sda.
• The column sector must have a single value (e.g. "cement").
• (Optional) If present, the column label is used for data labels.

Value
An object of class "ggplot".

See Also
sda.

Examples
# 'data' must meet documented "Requirements"
data <- subset(sda, sector == "cement")
plot_emission_intensity(data)

plot_techmix
Create a techmix plot

Description
Create a techmix plot

Usage
plot_techmix(data)
Arguments

data  A data frame. Requirements:
  • The structure must be like `market_share`.
  • The following columns must have a single value: sector, region, scenario_source.
  • The column `metric` must have a portfolio (e.g. "projected"), a benchmark (e.g. "corporate_economy"), and a single scenario (e.g. "target_sds").
  • (Optional) If present, the column `label` is used for data labels.
  • (Optional) If present, the column `label_tech` is used for technology labels.

Value

An object of class "ggplot".

See Also

`market_share`.

Examples

```r
# `data` must meet documented "Requirements"
data <- subset(
  market_share,
  scenario_source == "demo_2020" &
  sector == "power" &
  region == "global" &
  metric %in% c("projected", "corporate_economy", "target_sds")
)

plot_techmix(data)
```

plot_trajectory  Create a trajectory plot

Description

Create a trajectory plot

Usage

`plot_trajectory(data)`

Arguments

data  A data frame. Requirements:
  • The structure must be like `market_share`.
  • The following columns must have a single value: sector, technology, region, scenario_source.
  • (Optional) If present, the column `label` is used for data labels.
**qplot_emission_intensity**

**Value**
An object of class "ggplot".

**See Also**
market_share.

**Examples**
```r
# 'data' must meet documented "Requirements"
data <- subset(
  market_share,
  sector == "power" &
  technology == "renewables" &
  region == "global" &
  scenario_source == "demo_2020"
)

plot_trajectory(data)
```

---

**Description**
Create a quick emission intensity plot

Compared to `plot_emission_intensity()` this function:

- is restricted to plotting future as 5 years from the start year,
- outputs formatted labels, based on emission metric column,
- outputs a title,
- outputs formatted axis labels.

**Usage**
```r
qplot_emission_intensity(data)
```

**Arguments**
- `data` A data frame. Requirements:
  - The structure must be like sda.
  - The column sector must have a single value (e.g. "cement").
  - (Optional) If present, the column label is used for data labels.

**Value**
An object of class "ggplot".
qplot_techmix

See Also

plot_emission_intensity

Examples

# `data` must meet documented "Requirements"
data <- subset(sda, sector == "cement")
qplot_emission_intensity(data)

qplot_techmix

Create a quick techmix plot

Description

Compared to `plot_techmix()` this function:

- is restricted to plotting future as 5 years from the start year,
- outputs pretty bar labels, based on metric column,
- outputs pretty legend labels, based on technology column,
- outputs a title.

Usage

qplot_techmix(data)

Arguments

data A data frame. Requirements:

- The structure must be like `market_share`.
- The following columns must have a single value: `sector`, `region`, `scenario_source`.
- The column `metric` must have a portfolio (e.g. "projected"), a benchmark (e.g. "corporate_economy"), and a single scenario (e.g. "target_sds").
- (Optional) If present, the column `label` is used for data labels.
- (Optional) If present, the column `label_tech` is used for technology labels.

Value

An object of class "ggplot".

See Also

plot_techmix
qplot_trajectory

Examples

# 'data' must meet documented "Requirements"
data <- subset(
  market_share,
  sector == "power" &
  region == "global" &
  scenario_source == "demo_2020" &
  metric %in% c("projected", "corporate_economy", "target_sds")
)
qplot_techmix(data)

qplot_trajectory(data)

Description

Compared to plot_trajectory() this function:
  • is restricted to plotting only 5 years from the start year,
  • outputs pretty legend labels, based on the column holding metrics,
  • outputs a title,
  • outputs a subtitle,
  • outputs informative axis labels in sentence case.

Usage

qplot_trajectory(data)

Arguments

data A data frame. Requirements:
  • The structure must be like market_share.
  • The following columns must have a single value: sector, technology, region, scenario_source.
  • (Optional) If present, the column label is used for data labels.

Value

An object of class "ggplot".

See Also

plot_trajectory
Examples

```r
# 'data' must meet documented "Requirements"
data <- subset(
  market_share,
  sector == "power" &
  technology == "renewables_cap" &
  region == "global" &
  scenario_source == "demo_2020"
)
qplot_trajectory(data)
```

---

`sda`  
*An example of an sda-like dataset*

## Description

Dataset imitating the output of `r2dii.analysis::target_sda()`.

## Usage

`sda`

## Format

An object of class `spec_tbl_df` (inherits from `tbl_df`, `tbl`, `data.frame`) with 208 rows and 4 columns.

## Source

[https://github.com/2DegreesInvesting/r2dii.plot/issues/55](https://github.com/2DegreesInvesting/r2dii.plot/issues/55).

## See Also

- `r2dii.analysis::target_sda()`
- Other datasets: `market_share`

## Examples

`sda`
theme_2dii

Complete theme

**Description**

A ggplot theme which can be applied to all graphs to appear according to 2DII plotting aesthetics.

**Usage**

```r
theme_2dii(
  base_size = 12,
  base_family = "Helvetica",
  base_line_size = base_size/22,
  base_rect_size = base_size/22
)
```

**Arguments**

- `base_size` base font size, given in pts.
- `base_family` base font family
- `base_line_size` base size for line elements
- `base_rect_size` base size for rect elements

**Value**

An object of class "theme". "gg".

**See Also**

`ggplot2::theme_classic`

**Examples**

```r
library(ggplot2, warn.conflicts = FALSE)

ggplot(mtcars) +
  geom_histogram(aes(mpg), bins = 10) +
  theme_2dii()
```
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