**R Style Guide: Historical Emissions Data System**

This overview outlines the naming conventions, syntax, and organizational structure of R code produced for the historical emissions data system. The guide is primarily derived from the style guides published by [Google](http://google-styleguide.googlecode.com/svn/trunk/Rguide.xml) and [Hadley Wickham](http://adv-r.had.co.nz/Style.html), with some stylistic changes and additional information. The two referenced guides contain further explanation and coding examples.

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**Naming**

File names:

* File names begin with a number identifying the order in which the file runs, followed by a period. Names end with the .R extension.
* Common words used in file names may be abbreviated as indicated in the table below.
* Underscores are used to separate words and abbreviations.

Function names:

* Function names describe how the function manipulates its inputs.
* Function names do not use underscores; they are typically written in lower camelCase.

Variable names:

* Variable names describe the data they represent.
* Variable names are generally kept lowercase, with underscores used to separate words.
* As with file names, common words used in variable names may be abbreviated as indicated in the following table.

|  |  |
| --- | --- |
| Abbreviation | Meaning |
| Bal | Balance |
| Comp | Composite |
| Ctry | Country |
| En, E | Energy |
| Fi | Intermediate fuel |
| Hist | Historical |
| Num | Number |
| Pop | Population |
| Prod | Product |
| R | Coded in R |
| Reg | Region |
| Rep | Repeat |
| Si | Intermediate sector |
| Spec | Specified |
| Stat | Statistics |
| Tot | Total |
| Yh | Historical years |

**Syntax**

Spacing:

* Single spaces are placed around all operators (excluding : , :: , etc.), around code in parentheses and square brackets, and after all commas.
* Extra spaces can be added in some areas to improve alignment of assignment operators.

Indentation:

* All indents will be made with four spaces. Tabs will not be used.

Line length:

* Line length is limited to 80 characters when possible.
* In some cases it may be appropriate to expand single lines into several shorter steps.

Curly brackets:

* Opening curly braces are never placed on a new line, while closing curly braces always go on a new line.
* Closing curly braces are always on a line by themselves, unless followed by else.

End-of-Line (EOL) Style:

* Through TortoiseSVN, EOL style for all files should be set to “Platform-dependent (native)”
* This is accomplished by going to the saved location of the file, right-clicking the file, selecting TotoiseSVN>Properties>New>EOL and choosing “Platform-dependent (native).”

**Organization**

Comments:

* Comments begin with a comment symbol (#) followed by a single space.
* Comments should be included throughout the code, describing the purpose of all major steps and noting all important information.
* Short comments can be placed after lines of code. The lines of code are followed by two spaces, a comment symbol, one more space, and then the comment.
* Comments describing functions should not be contained within the function definition. Instead, function descriptions should immediately precede the code for the function.

Sections:

* Code should be split into major sections by lines of dashes.
* Sections should be numbered and titled, and their purpose should be described in detail.