



TECHNISCHE
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Report Template

My Lecture

January 1 2020

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1 Introduction

Very well prepared tutorial is available <http://latex.tugraz.at/start>¹.

Example citations are *Masterplan 2030*² from APG and *Regulation of Natural Monopolies: Working Paper*³ from Joskow. Extended footnote citation can be made by⁴. In this document citation is managed by Biber, how to adjust your editor can be found at <http://tex.stackexchange.com/questions/154751/biblatex-with-biber-configuring-my-editor-to-avoid-undefined-citations>⁵. For TeXStudio⁶ it works by⁷

In the current release (2.6 branch), TeXstudio's build process ('Build & View') by default runs pdfLaTeX but not a bibliography tool, which you need to do separately. There is also a need to change the settings to run Biber rather than BibTeX for creating a bibliography. Thus the steps required are as follows:

1. In the TeXstudio preferences ('Preferences ...' on the Mac or 'Options → Configure TeXstudio' on Windows)⁸, choose the Build tab and alter the 'Default Bibliography' to 'Biber'. Save and close the preferences.

¹Quaritsch u. a., 2015.

²APG, 11.2013.

³Joskow, 2005.

⁴For further information see at Joskow, 2005, page 17.

⁵stack exchange inc, 2015.

⁶Can be found at <http://texstudio.sourceforge.net/> Zander u. a., 2015

⁷stack exchange inc, 2015.

⁸For versions up from 2.8 in chose the tab 'Optionen' → 'Erzeugen'.

2. Run 'Build & View' from the 'Tools' menu (or press the two green arrows icon), which will create a PDF but with the bibliography not completed
3. Run 'Bibliography' from the 'Tools' menu.
4. Run 'Build & View' again: the bibliography will appear in the PDF.

It is possible to set up TeXstudio in alternative ways to achieve the same effect. The key is that you have to ensure that the is a sequence

1. \LaTeX
2. Biber
3. \LaTeX

which can be done 'by hand' (as I have) or can be automated in various ways. Note that the same general idea applies whatever editor is used: this is a feature of LaTeX and not of the editor.

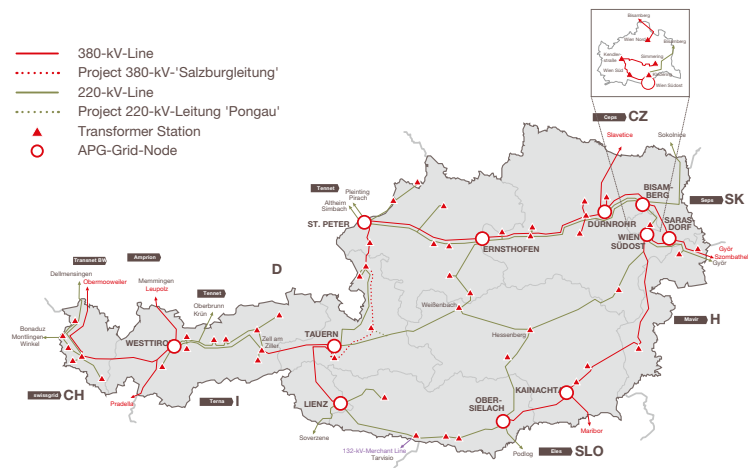


Abbildung 1: APG power grid and border transmission lines based on „Masterplan 2030“, APG, 11.2013

Figures can be inserted as PDF (see Figure 1) or drawn/saved via Inkscape⁹ (see Figure 2). To embed an Inkscape drawing inside a \LaTeX document draw it and save it as PDF. After a window pops up you have to confirm the entry 'PDF + LATEX: ...' and save the PDF. If you look in the figure's folder you will find a '.pdf_tex' and '.pdf' file. Now you just have to embed the '.pdf_tex' file in your \LaTeX code/file.

⁹For further information/download see at <https://inkscape.org/en/download/> Inkscape, 20152

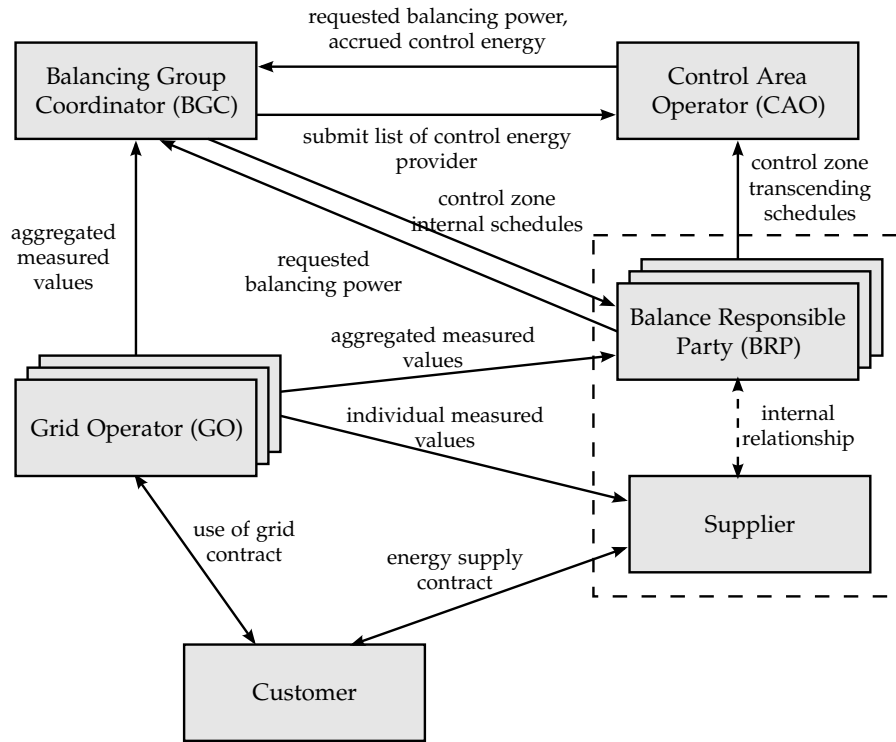


Abbildung 2: Communication and data flows between market participants.

If mathematical formulas, equations, etc. are used in the work, consider following points:

- Formulas are components of sentences and must be a part of these. For example: According to Einstein (1905), the 'rest energy' of a physical system with mass m

$$E_0 = mc^2, \quad (1)$$

is calculated with the speed of light $c = 299\,792\,458\text{ m/s}$.

- For ease of readability formulas are written in a separate paragraph and numbered consecutively. By numbering, it is possible to refer to formulas (eg. see equation 1).
- Variables are italicized, while units are to be written in plain text form (eg. $c = 299\,792\,458\text{ m/s}$).
- Linear Algebra: vectors are shown in the form (lowercase and boldface)

$$\mathbf{x} = [x_1, x_2, \dots, x_N]^T \quad (2)$$

and matrices in the form of (capital letters and bold font)

$$\mathbf{X} = \begin{bmatrix} x_1 & 0 & \dots & 0 \\ 0 & x_2 & \dots & 0 \\ \vdots & \vdots & \ddots & \\ 0 & 0 & & x_N \end{bmatrix}. \quad (3)$$

- An optimization problem's standard form can be written as

$$\min_{\mathbf{x}} f(\mathbf{x}) \quad (4a)$$

$$\text{s.t. } g_i(\mathbf{x}) = b_i, \quad i = 1, \dots, p \quad (4b)$$

$$h_i(\mathbf{x}) \leq 0, \quad i = 1, \dots, q. \quad (4c)$$

2 My Section 1

2.1 My Subsection 1

2.2 My Subsection 2

2.3 My Subsection 3

3 My Section 2