Manuscript Preparation Guidelines

To ensure accuracy and avoid production delays, please prepare your manuscript carefully, referring to the Checklists 1 and 2 below as you assemble the final package of materials for submission. Please contact us at info@transformer-technology.com with any questions about this process.

General Guidelines

All text elements included in the manuscript should be in **Microsoft Word 97–2004 format**.
This means that the file extension must be **.doc**. Please do not submit files with the extension **.docx**.

Checklist 1 – The manuscript should include:

- Title
- Name of author(s)
- Brief summary: 1-2 sentence description of the article
- Subheadings and spacing between paragraphs
- Conclusion
- References (if any) – listed in the order they are cited in the text
- 3-4 punchlines to be used as highlighted quotes to attract reader's attention. These can also be important sentences from the text. **Write them in larger bold font and highlight them in yellow.** (Please see example below).
- Author's headshot and short biography

The article should be some 2,500 words long.

1. **All tables** used in the article must be cited in the text and numbered in the order they appear in the text.
2. **All figures** (photos, graphs, schemes or drawings, infographics, etc.) used in the article should be cited in the text and numbered in the order they appear in the text. They should also have captions.
3. **References** in the text must be numbered starting from [1] onwards, placed in square brackets [ ] and cited in the References list in the order they appear in the text.
4. **The lead picture** for the article should be placed at the top of the article.
5. **The lead paragraph** is introduction to your article and should contain all the major information
6. Please write in **bold** any important parts of the text. If anything in the text has to be highlighted, show it by writing that part in larger font, or in bold.

Checklist 2 – The final manuscript should be submitted as a complete package, containing:

1. The **manuscript** in a doc. Microsoft Word file
2. All **tables** (if used in the article) created in Excel and sent in separated Excel files
3. All **figures** (graphs, photos, pictures, drawings, etc.) and **the lead picture** sent in separate image files, as described in the Graphics Preparation Guide.
4. **Author's headshot** sent in a separate image file

Please note that only the graphic material that is prepared and sent according to the Graphics Preparation Guide will be used in print design. Graphic material which does not satisfy the print requirements will have to be removed from the final design of the article.

A SIMPLIFIED EXAMPLE:

Eco-Efficient Transformers: Sustainable Energy for All

By Mark Jackson

Brief summary:
This report guides policymakers on how to promote energy-efficient distribution transformers and large power transformers in their national markets.

The transformer's performance has major impacts on electricity use given the non-stop operation of the equipment over its 25-year service life. Better performance translates to reduced load on the electricity system, lower electricity bills, and greater reliability. **Payback periods vary with the equipment and electricity costs and can be as short as one year or as long as six years or more.**

Using more efficient transformers can save nearly 5 per cent of global electricity consumption. Although most transformers have efficiency levels greater than 98 per cent, a life-cycle assessment study conducted for the European Commission (EC) found that the energy consumed during a transformer's service life is the dominant factor contributing to the environmental impacts over its life cycle. Therefore, it is important to consider cost-effective measures that could reduce losses in the transformer and alleviate these environmental impacts.

Improving energy efficiency is the fastest, cheapest and cleanest way to get reliable power to more people.

Table 1 presents a projection of world electricity demand and the proportion of losses attributable to all electric power transformers around the world. It also shows the amount of energy and carbon dioxide (CO_2) savings that would result from all countries adopting new or updating existing minimum energy performance standards (MEPS) for transformers starting in 2020.

DESCRIPTION	Units	2020	2025	2030	2035	2040
World electricity consumption	TWh/yr	24,222	27,516	30,875	34,100	37,352
Baseline electricity loss by transformers	TWh/yr	1,181	1,306	1,462	1,643	1,845
% of world electricity use	%	4.88	4.75	4.73	4.82	4.94
Annual savings from MEPS in 2020	TWh/yr	18	113	218	325	426
Annual savings from BAT in 2020	TWh/yr	34	209	400	595	776
Cumulative savings from MEPS in 2020	TWh	18	390	1,267	2,678	4,610
Cumulative savings from BAT in 2020	TWh	34	718	2,331	4,918	8,444

Table 1. Electricity and CO_2 savings potential of all electric power transformers globally

The vast majority of countries have yet to take such action. At the time of this printing, the ten countries with the largest markets for transformers are (in descending order) [1]: China, the United States (US), Russia, Japan, India, Brazil, Canada, Thailand, UK, and Saudi Arabia. Those that do not have policies to promote energy-efficient transformers are shown in blue in Figure 1.

Figure 1. Countries without efficiency programmes for distribution transformers

Policymakers are encouraged to use this guide in concert with the "Policy Fundamentals Guide" and other resources available at www.xyz.org to develop and implement a national efficient transformers strategy. The guidance is meant to be flexible rather than prescriptive.

A well-designed set of policies can help transform developing markets by enabling them to leapfrog past out-dated technologies to superior, cost-effective alternatives.

Each country should consider and make decisions based on its specific priorities and circumstances. This process should involve all relevant authorities and stakeholders in jointly determining priorities and the most appropriate pathways to achieve them. It can be applied to large power and distribution transformers in both utility networks as well as those used in commercial and industrial applications.

References

[1] S. James, *The Global Markets for Transformers 2015 to 2025*, Your Reports, 2016

Biography

Mark Jackson is a senior development manager at XYZ with 20 years of experience in the transformer design and manufacturing. He obtained his PhD in electrical engineering from XYZ University. He is a member of XYZ committees and author of many conference papers and journal articles.