RENEWABLE & SUSTAINABLE ENERGY REVIEWS

TABLE OF CONTENTS

- Description p.1
- Audience p.2
- Impact Factor p.2
- Abstracting and Indexing p.2
- Editorial Board p.2
- Guide for Authors p.5

DESCRIPTION

The mission of *Renewable and Sustainable Energy Reviews* is to communicate the most interesting and relevant critical thinking in renewable and sustainable energy in order to bring together the research community, the private sector and policy and decision makers. The aim of the journal is to share problems, solutions, novel ideas and technologies to support the transition to a low carbon future and achieve our global emissions targets as established by the United Nations Framework Convention on Climate Change.

*Renewable and Sustainable Energy Reviews* publishes review papers, original research, case studies and new technology analyses that have a significant review element, which may take the form of a critique, comparison, or analysis. The journal also publishes a new paper type, **Expert Insights**, which are commissioned mini-reviews from field leaders on topics of significant interest. Case studies will only be considered if they also demonstrate the applicability of the work to other regions and/or inform the broader field of renewable and sustainable energy. A bibliographic or literature review, without critical thinking is not considered suitable.

The journal considers articles on the following themes, **provided the link to renewable and sustainable energy is clear and thoroughly examined:**

**Energy resources** - bioresources (e.g. biomass, waste), fossil fuels (including natural gas), geothermal, hydrogen, hydropower, nuclear, marine and ocean energy, solar and wind

**Applications** - buildings, industry and transport

**Utilization** - batteries, conversion technologies, fuel cells, storage technologies, technical developments and technology scaling

**Environment** - atmosphere, climate issues, meteorology, mitigation technologies (e.g. carbon capture and storage (CCS), carbon capture and utilization (CCU), solar radiation management)

**Techno-socio-economic aspects** - health, industry, policy, political, regulatory, social (e.g. access, education, equality, equity)

**Systems** - carbon accounting, energy-food-water nexus, energy modelling, life cycle assessment (LCA), nutrient-energy-water (NEW) nexus, smart infrastructure
Sustainability - the United Nations Sustainability Development Goals (SDGs)

AUDIENCE
Scientists, researchers and consultants involved in all aspects of renewable energy.

IMPACT FACTOR
2017: 9.184 © Clarivate Analytics Journal Citation Reports 2018

ABSTRACTING AND INDEXING
Scopus
Science Citation Index Expanded
Web of Science
RePEc
Academic Search (EBSCO)
Compendex
Engineering Information Database EnCompass LIT (Elsevier)
Engineering Index Monthly
Science Citation Index Expanded
Arts & Humanities Search
Current Contents

EDITORIAL BOARD

Editor-in-Chief
Aoife M. Foley, Queen’s University Belfast, Belfast, Northern Ireland, UK

Associate Editors
Automotive Engineering Systems
Xiaosong Hu, Chongqing University, Chongqing, China

Bioenergy, Waste to Energy, Biomass
Abdul-Sattar Nizami, King Abdulaziz University, Jeddah, Saudi Arabia

Buildings and Built Environment
Taehoon Hong, Yonsei University, Seoul, The Republic of Korea

Energy Economics and Policy
Angelica Gianfreda, Free University of Bozen-Bolzano, Bruneck-Brunico, Italy

Materials
Martin Schiemann, Ruhr-Universität Bochum, Bochum, Germany

Policy, Economics, Biomass, Solar Thermal
Sotirios Karellas, National Technical University of Athens (NTUA), Zografou, Greece

Power Systems
S. Wang, Harbin Institute of Technology, Harbin, China

Solar PV, Solar Thermal, Solar Integration, Solar Materials, Solar Heating and Cooling
Yanjun Dai, Shanghai Jiao Tong University, Shanghai, China

Transport
Brian Caulfield, Trinity College Dublin, Dublin, Ireland

Wind Energy
Paul Leahy, University College Cork, Cork, Ireland
Editorial Board Members

Bioenergy
Lise Appels, KU Leuven, Sint-Katelijne-Waver, Belgium
Suani Teixeira Coelho, University of São Paulo, São Paulo, Brazil

Biomass
Shurong Wang, Zhejiang University, Zhejiang, China

Biomass and Solar
Abdul Ghani Olabi, University of the West of Scotland, Paisley, Scotland, UK

Buildings, Construction and Architecture
Jian Zuo, University of Adelaide, Adelaide, South Australia, Australia

Carbon Fluxes
John D Albertson, Cornell University, Ithaca, New York, USA

Energy Economics and Financing
Ilhan Ozturk, Cag University, Mersin, Turkey

Energy Modelling, Optimisation, Policy and Markets
Reinhard Haas
Denis Sidorov, Russian Academy of Sciences, Hunan University, Changsha, China

Heat Transfer
Qiuwang Wang, Xi’an Jiaotong University, Shaanxi, China

Hydrogen Energy
Faik Bilgili, Erciyes Universitesi, Kayseri, Turkey
Andreas W. Schäfer, University College London (UCL), London, England, UK

Infrastructure and Society
Lindsay C. Beever, Heriot-Watt University, Edinburgh, UK

Marine Energy
AbuBakr S. Bahaj, University of Southampton, Southampton City, UK
Barbara Zanuttigh, University of Bologna, Bologna, Italy

Materials
Chaoying Wan, University of Warwick, Warwick, England, UK

Ocean Atmosphere Interactions and Ocean Energy
António Franco de Oliveira Falcão, Universidade de Lisboa, Lisboa, Portugal
Kieran O'Driscoll, Queen's University Belfast, Belfast, Northern Ireland, UK
Wanan Sheng

Policy and Assessment
Douglas J. Arent, National Renewable Energy Laboratory (NREL), Golden, Colorado, USA
Mark F. Jentsch, Bauhaus-Universität Weimar, Weimar, Germany
Noam Lior, University of Pennsylvania, Philadelphia, Pennsylvania, USA

Renewable Energy Infrastructure
Leyla Ozgener, Celal Bayar University, Manisa, Turkey

Renewable Energy Integration
Gareth Harrison, Edinburgh, Scotland, UK

Resource Assessment and Solar
David Renne, Dave Renné Renewables, Boulder, Colorado, USA

Smart Cities
Diana Reckien, University of Twente, Enschede, Netherlands

Smart Grids and Power Systems
Liana Cipcigan
Qinglai Guo, Tsinghua University, Beijing, China
George Kariniotakis, MINES ParisTech, Sophia Antipolis Cedex, France
Solar Thermal  
Brian Norton, Dublin Institute of Technology, Dublin, Ireland

Stochastic Optimisation in Energy Systems  
Antonino Marvuglia, Luxembourg Institute of Science and Technology (LIST), Belvaux, Luxembourg

Transport Electrification  
Xiaosong Hu, Chongqing University, Chongqing, China

Water, Hydraulics and Hydropower  
Li He, Tianjin University, Tianjin, China

Wind  
Robert W. Thresher, National Renewable Energy Laboratory (NREL), Golden, Colorado, USA
GUIDE FOR AUTHORS

INTRODUCTION

The mission of Renewable and Sustainable Energy Reviews is to communicate the most interesting and relevant critical thinking in renewable and sustainable energy in order to bring together the research community, the private sector and policy and decision makers. The aim of the journal is to share problems, solutions, novel ideas and technologies to support the transition to a low carbon future and achieve our global emissions targets as established by the United Nations Framework Convention on Climate Change.

The journal considers articles on the following themes, provided the link to renewable and sustainable energy is clear and thoroughly examined: Applications - buildings, industry and transport Energy resources - bioresources (e.g. biomass, waste), fossil fuels (including natural gas), geothermal, hydrogen, hydropower, nuclear, marine and ocean energy, materials, solar and wind Environment - atmosphere, climate issues, meteorology, mitigation technologies (e.g. carbon capture and storage (CCS), carbon capture and utilization (CCU), solar radiation management) Education - informing society including policy makers and decision-makers and teaching undergraduates and postgraduates on matters relating to renewable and sustainable energy Systems - carbon accounting, energy-food-water nexus, energy modelling, life cycle assessment (LCA), nutrient-energy-water (NEW) nexus, smart infrastructure including smart cities Sustainability - the United Nations Sustainability Development Goals (SDGs) Techno-socio-economic aspects - health, industry, markets, policy, political, regulatory, social (e.g. access, education, equality, equity) Utilization - batteries, conversion technologies, fuel cells, storage

Types of Paper

Renewable and Sustainable Energy Reviews publishes 'Addendum,' 'Editorials,' 'Full-length articles' (i.e. complete report on original research), 'Retractions/Corrigendum' and 'Review articles.' The journal also publishes two specific article types, 'Expert Insights', a mini-review and 'Cutting Edge', a concise research article. These articles are by invitation only from the Editor in Chief to field leaders on topics of significant interest. Special issue articles are also by invitation only and authors of papers submitted to a Special Issue must state clearly in their cover letter the article type (i.e. either a 'Review article' or 'Full-length article'). Case studies and new technology analyses must have a significant review element, which may take the form of a critique, comparison, or analysis. Case studies will only be considered if they also demonstrate the applicability of the work to other regions and/or inform the broader field of renewable and sustainable energy. A case study will be classified as a 'Full-length article'. A bibliographic or literature review, without critical thinking is not considered suitable. If an author selects an incorrect article type, their paper can be rejected by the journal at any stage of consideration for publication.

Authors are responsible for selecting the correct article type when submitting their paper. Authors are also advised to state in their cover letter and the 'RSER Author Checklist' to be submitted with all new articles effective November 2018. It is important that the correct article type is selected as it feeds through the review and publishing process to the final article published and the article type assigned to the article for indexing. Note that the journal no longer accepts two part articles (i.e. two separate submissions).

Paper Lengths - As a guide, 'Full-length articles' should be between 4000 and 8000 words (excluding title, author names and affiliations, keywords, abbreviations, table/figure captions, acknowledgements and references) and 'Review articles' should be up to 10,000 words (excluding title, author names and affiliations, keywords, abbreviations, table/figure captions, acknowledgements and references). Authors must state the number of words in their manuscript at submission stage underneath the abstract as a 'word count.' Case studies as 'Full-length articles' should also be between 4000 and 8000 words (excluding title, author names and affiliations, keywords, abbreviations, table/figure captions, acknowledgements and references). Expert Insights as mini-review article should be about 4,000 (excluding title, author names and affiliations, keywords, abbreviations, table/figure captions, acknowledgements and references). Cutting Edge as concise research articles should be about 4,000 (excluding title, author names and affiliations, keywords, abbreviations, table/figure captions, acknowledgements and references). Any departure from the above word counts are by
prior agreement with the Editor in Chief in advance only of making a submission. Word counts for Retractions/Corrigendum, Addendum and Editorials are at the discretion of the Editor in Chief, again by prior agreement.

**RSER Author Checklist**

Use the Checklist [here](www.elsevier.com/locate/rser), to check if you have prepared your paper correctly. The GFA 'RSER Author Checklist' must be submitted along with the Cover Letter. All papers must be in accordance with the GFA, if not they will automatically be rejected. Check the relevant section in this GFA for more details.

For further information, visit our Support Center.

**BEFORE YOU BEGIN**

**Ethics in publishing**

Please see our information pages on Ethics in publishing and Ethical guidelines for journal publication.

**Declaration of interest**

All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential competing interests include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Authors must disclose any interests in two places: 1. A summary declaration of interest statement in the title page file (if double-blind) or the manuscript file (if single-blind). If there are no interests to declare then please state this: 'Declarations of interest: none'. This summary statement will be ultimately published if the article is accepted.

2. Detailed disclosures as part of a separate Declaration of Interest form, which forms part of the journal's official records. It is important for potential interests to be declared in both places and that the information matches. More information.

**Submission declaration and verification**

Submission of an article implies that the work described has not been published previously (except in the form of an abstract, a published lecture or academic thesis, see 'Multiple, redundant or concurrent publication' for more information), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify originality, your article may be checked by the originality detection service Crossref Similarity Check.

**Preprints**

Please note that preprints can be shared anywhere at any time, in line with Elsevier's sharing policy. Sharing your preprints e.g. on a preprint server will not count as prior publication (see 'Multiple, redundant or concurrent publication' for more information).

**Use of inclusive language**

Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Articles should make no assumptions about the beliefs or commitments of any reader, should contain nothing which might imply that one individual is superior to another on the grounds of race, sex, culture or any other characteristic, and should use inclusive language throughout. Authors should ensure that writing is free from bias, for instance by using 'he or she', 'his/her' instead of 'he' or 'his', and by making use of job titles that are free of stereotyping (e.g. 'chairperson' instead of 'chairman' and 'flight attendant' instead of 'stewardess').

**Changes to Authorship**

Authors are expected to consider carefully the list and order of authors before submitting their manuscript and provide the definitive list of authors at the time of the original submission. Any addition, deletion or rearrangement of author names in the authorship list should be made only before the manuscript has been accepted and only if approved by the Editor-in-Chief. To request a change, the Editor must receive the following from the corresponding author: (a) the reason for the change in author list and (b) written confirmation (e-mail, letter) from all authors that they agree with the addition, removal or rearrangement. In the case of addition or removal of authors, this includes confirmation from the author being added or removed.
Only in exceptional circumstances will the Editor-in-Chief consider the addition, deletion or rearrangement of authors after the manuscript has been accepted. While the Editor considers the request, publication of the manuscript will be suspended. If the manuscript has already been published in an online issue, any requests approved by the Editor-in-Chief will result in a corrigendum.

**Article transfer service**
This journal is part of our Article Transfer Service. This means that if the Editor feels your article is more suitable in one of our other participating journals, then you may be asked to consider transferring the article to one of those. If you agree, your article will be transferred automatically on your behalf with no need to reformat. Please note that your article will be reviewed again by the new journal. [More information.]

**Copyright**
Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' ([see more information](#) on this). An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations. If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has [preprinted forms](#) for use by authors in these cases.

For gold open access articles: Upon acceptance of an article, authors will be asked to complete an 'Exclusive License Agreement' ([more information](#)). Permitted third party reuse of gold open access articles is determined by the author's choice of [user license](#).

**Author rights**
As an author you (or your employer or institution) have certain rights to reuse your work. [More information.]

Elsevier supports responsible sharing
Find out how you can share your research published in Elsevier journals.

**Role of the funding source**
You are requested to identify who provided financial support for the conduct of the research and/or preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the article for publication. If the funding source(s) had no such involvement then this should be stated.

Funding body agreements and policies
Elsevier has established a number of agreements with funding bodies which allow authors to comply with their funder's open access policies. Some funding bodies will reimburse the author for the gold open access publication fee. Details of existing agreements are available online.

**Open access**
This journal offers authors a choice in publishing their research:

**Subscription**
- Articles are made available to subscribers as well as developing countries and patient groups through our universal access programs.
- No open access publication fee payable by authors.
- The Author is entitled to post the accepted manuscript in their institution’s repository and make this public after an embargo period (known as green Open Access). The published journal article cannot be shared publicly, for example on ResearchGate or Academia.edu, to ensure the sustainability of peer-reviewed research in journal publications. The embargo period for this journal can be found below.

**Gold open access**
- Articles are freely available to both subscribers and the wider public with permitted reuse.
- A gold open access publication fee is payable by authors or on their behalf, e.g. by their research funder or institution.
Regardless of how you choose to publish your article, the journal will apply the same peer review criteria and acceptance standards.

For gold open access articles, permitted third party (re)use is defined by the following Creative Commons user licenses:

**Creative Commons Attribution (CC BY)**
Let others distribute and copy the article, create extracts, abstracts, and other revised versions, adaptations or derivative works of or from an article (such as a translation), include in a collective work (such as an anthology), text or data mine the article, even for commercial purposes, as long as they credit the author(s), do not represent the author as endorsing their adaptation of the article, and do not modify the article in such a way as to damage the author's honor or reputation.

**Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)**
For non-commercial purposes, lets others distribute and copy the article, and to include in a collective work (such as an anthology), as long as they credit the author(s) and provided they do not alter or modify the article.

The gold open access publication fee for this journal is **USD 3750**, excluding taxes. Learn more about Elsevier's pricing policy: [https://www.elsevier.com/openaccesspricing](https://www.elsevier.com/openaccesspricing).

**Green open access**
Authors can share their research in a variety of different ways and Elsevier has a number of green open access options available. We recommend authors see our [open access page](https://www.elsevier.com/openaccess) for further information. Authors can also self-archive their manuscripts immediately and enable public access from their institution's repository after an embargo period. This is the version that has been accepted for publication and which typically includes author-incorporated changes suggested during submission, peer review and in editor-author communications. Embargo period: For subscription articles, an appropriate amount of time is needed for journals to deliver value to subscribing customers before an article becomes freely available to the public. This is the embargo period and it begins from the date the article is formally published online in its final and fully citable form. [Find out more.](https://www.elsevier.com/openaccess)

This journal has an embargo period of 24 months.

**Elsevier Researcher Academy**
[Researcher Academy](https://www.elsevier.com/researcher-academy) is a free e-learning platform designed to support early and mid-career researchers throughout their research journey. The "Learn" environment at Researcher Academy offers several interactive modules, webinars, downloadable guides and resources to guide you through the process of writing for research and going through peer review. Feel free to use these free resources to improve your submission and navigate the publication process with ease.

**Language (usage and editing services)**
Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the [English Language Editing service](http://webshop.elsevier.com/languageservices/languageediting/) available from Elsevier's WebShop.

**Submission**
Submission of papers proceeds fully online via [http://ees.elsevier.com/rser](http://ees.elsevier.com/rser) You will be guided stepwise through the creation and uploading of the various files. The system automatically converts source files to a single Adobe Acrobat PDF version of the article, which is used in the peer-review process. Please note that even though manuscript source files are converted to PDF at submission for the review process, these source files are needed for further processing after acceptance. Correspondence takes place online only via email.

**Submission language:** English [Link to the Oxford English Dictionary](http://dictionary.oed.com/entrance.dtl)

**Corresponding author:** Clearly indicate who is responsible for correspondence at all stages of refereeing and publication, including post-publication. Ensure that your email address, telephone number (with country and area code) and full postal address are provided.

**Co-author:** Full postal addresses must be given for all co-authors. Please consult a recent journal paper for style if possible.

**Original material:** Submission of an article implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, without the written consent of the Publisher.

**Editor's requirements:** No special requirements for this journal.

**Referees**
Please submit the names and institutional e-mail addresses of several potential referees. For more details, visit our Support site. Note that the editor retains the sole right to decide whether or not the suggested reviewers are used.

**Additional Information**
Detailed instructions on manuscript preparation and artwork instructions can be found below. The editor reserves the right to return manuscripts that do not conform to the instructions for manuscript preparation and artwork instruction, as well as paper that do not fit the scope of the journal, prior to refereeing.

**PREPARATION**

**Peer review**
This journal operates a single blind review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. More information on types of peer review.

**Use of word processing software**
It is important that the file be saved in the native format of the word processor used. The text should be in single-column format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the word processor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier). Note that source files of figures, tables and text graphics will be required whether or not you embed your figures in the text. See also the section on Electronic artwork.

To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

**Article structure**

**Subdivision - numbered sections**
Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to 'the text'. Any subsection may be given a brief heading. Each heading should appear on its own separate line. **Line Numbering:** RSER journal is automatic line numbering feature enabled, therefore authors are requested to submit their source files without line numbers.

**Introduction**
State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.
Material and methods
Provide sufficient details to allow the work to be reproduced by an independent researcher. Methods that are already published should be summarized, and indicated by a reference. If quoting directly from a previously published method, use quotation marks and also cite the source. Any modifications to existing methods should also be described.

Theory/calculation
A Theory section should extend, not repeat, the background to the article already dealt with in the Introduction and lay the foundation for further work. In contrast, a Calculation section represents a practical development from a theoretical basis.

Results
Results should be clear and concise.

Discussion
This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

Conclusions
The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

Data Availability
Authors are encouraged to include a 'Data Availability' section in their manuscript which is visible in all reading formats and may refer to data hosted in any repository. It should be placed before the references to provide readers with information about where they can obtain the research data required to reproduce the work reported in the manuscript, and typically consists of a simple sentence giving the URL(s) of and citation(s) to the dataset(s). Full information can be found here.

Appendices
If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Essential title page information
• Title. Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
• Author names and affiliations. Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lowercase superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.
• Corresponding author. Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about Methodology and Materials. Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.
• Present/permanent address. If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

Highlights
Highlights are mandatory for this journal. They consist of a short collection of bullet points that convey the core findings of the article and should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point). You can view example Highlights on our information site.

Abstract
A concise and factual abstract is required, we recommend a maximum of 250 words with no abbreviations or acronyms. The abstract should state briefly the purpose of the research, the principal results and major conclusions/key findings and state any next steps. An abstract is often presented
separately from the article, so it must be able to stand alone. For this reason, references should not be used in the abstract. Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself. Avoid unnecessary use of abbreviations.

**KEYWORDS**
Immediately after the abstract, provide a minimum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, ‘and’, ‘of’). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

**Abbreviations**
Provide a list of abbreviations, units and nomenclature underneath the keywords in the manuscript.

**Acknowledgements**
Collate acknowledgements in a separate section at the end of the article before the references. Do not include any acknowledgements on the title page, as a footnote to the title or otherwise. List in the acknowledgements of any individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

**Formatting of funding sources**
List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, please include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

**Units**
Follow internationally accepted rules and conventions: use the international system of units (SI). If other units are mentioned, please give their equivalent in SI.

**Math formulae**
Please submit math equations as editable text and not as images. Present simple formulae in line with normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

**Footnotes**
Footnotes should be used very sparingly. Number them consecutively throughout the article. Many word processors can build footnotes into the text, and this feature may be used. Otherwise, please indicate the position of footnotes in the text and list the footnotes themselves separately at the end of the article. Do not include footnotes in the List of References.

**Artwork**

**Electronic Artwork**

**General points**
- Make sure you use uniform lettering and sizing of your original artwork.
- Embed the used fonts if the application provides that option.
- Embed the artwork in the main body of the manuscript where it is referred to in the text.
- Aim to use the following fonts in your illustrations: Arial, Courier, Times New Roman, Symbol, or use fonts that look similar.
- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Provide captions to illustrations separately.
• Size the illustrations close to the desired dimensions of the published version.
• Submit each illustration as a separate file.
A detailed guide on electronic artwork is available.

You are urged to visit this site; some excerpts from the detailed information are given here.

Formats
If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is' in the native document format.
Regardless of the application used other than Microsoft Office, when your electronic artwork is finalized, please 'Save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):
EPS (or PDF): Vector drawings, embed all used fonts.
TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.
TIFF (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.
TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale), keep to a minimum of 500 dpi.

Please do not:
• Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); these typically have a low number of pixels and limited set of colors;
• Supply files that are too low in resolution;
• Submit graphics that are disproportionately large for the content.

Color artwork
Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF), or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) regardless of whether or not these illustrations are reproduced in color in the printed version. For color reproduction in print, you will receive information regarding the costs from Elsevier after receipt of your accepted article. Please indicate your preference for color: in print or online only. Further information on the preparation of electronic artwork.

Figure captions
Ensure that each illustration has a caption. Supply captions separately, not attached to the figure. A caption should comprise a brief title (not on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

Tables
Please submit tables as editable text and not as images. Tables must be placed next to the relevant text in the main body of the manuscript. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

References
Citation in text
Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Web references
As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.
Data references
This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

References in a special issue
Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

Reference management software
Most Elsevier journals have their reference template available in many of the most popular reference management software products. These include all products that support Citation Style Language styles, such as Mendeley. Using citation plug-ins from these products, authors only need to select the appropriate journal template when preparing their article, after which citations and bibliographies will be automatically formatted in the journal’s style. If no template is yet available for this journal, please follow the format of the sample references and citations as shown in this Guide. If you use reference management software, please ensure that you remove all field codes before submitting the electronic manuscript. More information on how to remove field codes from different reference management software.

Users of Mendeley Desktop can easily install the reference style for this journal by clicking the following link:
http://open.mendeley.com/use-citation-style/renewable-and-sustainable-energy-reviews
When preparing your manuscript, you will then be able to select this style using the Mendeley plug-ins for Microsoft Word or LibreOffice.

Reference Style
Text: Indicate references by number(s) in square brackets in line with the text. The actual authors can be referred to, but the reference number(s) must always be given. If this style is not used a manuscript will be desk rejected.

List: Number the references (numbers in square brackets) in the list in the order in which they appear in the text.
Examples:
Reference to a journal publication:
Reference to a book:
Reference to a chapter in an edited book:
Reference to a website:
Reference to a dataset:
[5] Oguro M, Imahiro S, Saito S, Nakashizuka T. Mortality data for Japanese oak wilt disease and surrounding forest compositions, Mendeley Data, v1; 2015. https://doi.org/10.17632/xwj98nb39r.1. Note shortened form for last page number. e.g., 51–9, and that for more than 6 authors the first 6 should be listed followed by ‘et al.’ For further details you are referred to ‘Uniform Requirements for Manuscripts submitted to Biomedical Journals’ (J Am Med Assoc 1997;277:927–34) (see also Samples of Formatted References).

Journal abbreviations source
Journal names should be abbreviated according to the List of Title Word Abbreviations.

Video
Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include links to these within the body of the article. This can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. All submitted files should be properly labeled so that they directly
relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the file in one of our recommended file formats with a preferred maximum size of 150 MB per file, 1 GB in total. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including ScienceDirect. Please supply 'stills' with your files: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our video instruction pages. Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.

**Data visualization**

Include interactive data visualizations in your publication and let your readers interact and engage more closely with your research. Follow the instructions here to find out about available data visualization options and how to include them with your article.

**Supplementary material**

Supplementary material such as applications, images and sound clips, can be published with your article to enhance it. Submitted supplementary items are published exactly as they are received (Excel or PowerPoint files will appear as such online). Please submit your material together with the article and supply a concise, descriptive caption for each supplementary file. If you wish to make changes to supplementary material during any stage of the process, please make sure to provide an updated file. Do not annotate any corrections on a previous version. Please switch off the 'Track Changes' option in Microsoft Office files as these will appear in the published version.

**Research data**

This journal encourages and enables you to share data that supports your research publication where appropriate, and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings. To facilitate reproducibility and data reuse, this journal also encourages you to share your software, code, models, algorithms, protocols, methods and other useful materials related to the project.

Below are a number of ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. If you are sharing data in one of these ways, you are encouraged to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the research data page.

**Data linking**

If you have made your research data available in a data repository, you can link your article directly to the dataset. Elsevier collaborates with a number of repositories to link articles on ScienceDirect with relevant repositories, giving readers access to underlying data that gives them a better understanding of the research described.

There are different ways to link your datasets to your article. When available, you can directly link your dataset to your article by providing the relevant information in the submission system. For more information, visit the database linking page.

For supported data repositories a repository banner will automatically appear next to your published article on ScienceDirect.

In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).

**Mendeley Data**

This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to Mendeley Data. The datasets will be listed and directly accessible to readers next to your published article online.

For more information, visit the Mendeley Data for journals page.
To maximise the visibility of your data, authors are invited to add a citation to their datasets by including a data reference in their Reference List as per the 'Data References' instructions elsewhere on this page.

Data in Brief
You have the option of converting any or all parts of your supplementary or additional raw data into one or multiple data articles, a new kind of article that houses and describes your data. Data articles ensure that your data is actively reviewed, curated, formatted, indexed, given a DOI and publicly available to all upon publication. You are encouraged to submit your article for Data in Brief as an additional item directly alongside the revised version of your manuscript. If your research article is accepted, your data article will automatically be transferred over to Data in Brief where it will be editorially reviewed and published in the open access data journal, Data in Brief. Please note an open access fee of 500 USD is payable for publication in Data in Brief. Full details can be found on the Data in Brief website. Please use this template to write your Data in Brief.

MethodsX
You have the option of converting relevant protocols and methods into one or multiple MethodsX articles, a new kind of article that describes the details of customized research methods. Many researchers spend a significant amount of time on developing methods to fit their specific needs or setting, but often without getting credit for this part of their work. MethodsX, an open access journal, now publishes this information in order to make it searchable, peer reviewed, citable and reproducible. Authors are encouraged to submit their MethodsX article as an additional item directly alongside the revised version of their manuscript. If your research article is accepted, your methods article will automatically be transferred over to MethodsX where it will be editorially reviewed. Please note an open access fee is payable for publication in MethodsX. Full details can be found on the MethodsX website. Please use this template to prepare your MethodsX article.

Data statement
To foster transparency, we encourage you to state the availability of your data in your submission. This may be a requirement of your funding body or institution. If your data is unavailable to access or unsuitable to post, you will have the opportunity to indicate why during the submission process, for example by stating that the research data is confidential. The statement will appear with your published article on ScienceDirect. For more information, visit the Data Statement page.

AFTER ACCEPTANCE

Online proof correction
Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors.
If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.
We will do everything possible to get your article published quickly and accurately. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. It is important to ensure that all corrections are sent back to us in one communication. Please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.

Offprints
The corresponding author will, at no cost, receive a customized Share Link providing 50 days free access to the final published version of the article on ScienceDirect. The Share Link can be used for sharing the article via any communication channel, including email and social media. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. Both corresponding and co-authors may order offprints at any time via Elsevier’s Webshop. Corresponding authors who have published their article gold open access do not receive a Share Link as their final published version of the article is available open access on ScienceDirect and can be shared through the article DOI link.
AUTHOR INQUIRIES
Visit the Elsevier Support Center to find the answers you need. Here you will find everything from Frequently Asked Questions to ways to get in touch. You can also check the status of your submitted article or find out when your accepted article will be published.

© Copyright 2018 Elsevier | https://www.elsevier.com