PRISMA 2020 Main Checklist

Topic	No.	Item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Title page—Includes "A Systematic Review"
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist	
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Section 1. Introduction—first two paragraphs.
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Section 1. Introduction—final paragraph (stated aim/scope of the review).
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Section 2.2—Eligibility criteria.
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Section 2.2—Information sources (databases: Web of Science, Scopus, IEEE Xplore; institutional sources: TSO/ENTSO-E/EU; search date: 10 September 2025).
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Section 2.3—Search strategy; Supplementary S2 (as-run queries and limits).
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Section 2.5—Title/abstract screening (single reviewer; automation-assisted regex); Figure 1 (flow); Supplementary S3 (rules).

Topic	No.	Item	Location where item is reported
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Section 2.4–2.5—Record management and screening decisions (bibliographic metadata only; no full-text data extraction).
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Not applicable—No outcome/effect data sought; descriptive mapping only (Section 2.5).
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	Sections 2.2 & 2.6—Bibliographic metadata (year, database, document type) and topic tags (DSR, congestion, intersection); handling of missing info described in Section 2.5; Supplementary S2 (as-run queries), S3 (screening rules).
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Not applicable—Stated in Section 2.5 (no full-text RoB planned).
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Not applicable—Descriptive mapping only (Section 2.5).
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item 5)).	Not applicable—No meta-analysis or statistical synthesis; descriptive mapping and trends only (Sections 2.5–2.6; Figure 2).

Topic	No.	Item	Location where item is reported
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Not applicable—No meta-analysis or statistical synthesis; descriptive mapping and trends only (Sections 2.5–2.6; Figure 2).
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Not applicable—No meta-analysis or statistical synthesis; descriptive mapping and trends only (Sections 2.5–2.6; Figure 2).
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Not applicable—No meta-analysis or statistical synthesis; descriptive mapping and trends only (Sections 2.5–2.6; Figure 2).
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	Not applicable—No meta-analysis or statistical synthesis; descriptive mapping and trends only (Sections 2.5–2.6; Figure 2).
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	Not applicable—No meta-analysis or statistical synthesis; descriptive mapping and trends only (Sections 2.5–2.6; Figure 2).
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Not applicable—No quantitative synthesis (Section 2.5).
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Not applicable—No quantitative synthesis (Section 2.5).
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Section 2.6—Counts; Figure 1 (PRISMA flow); Supplementary S2 (search log) and S3 (reasons/off-topic rules). Note: reports sought/assessed = 0 (no full-text stage).
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Not applicable—No separate full-text eligibility; exclusions occurred at title/abstract for off-topic per rules (Section 2.5; Supplementary S3).

Topic	No.	Item	Location where item is reported
Study characteristics	17	Cite each included study and present its characteristics.	Sections 2.2 & 2.6—Scope, document types, timeframe; Figure 2 (topic tags).
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Not applicable—No full-text RoB (Section 2.5).
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Not applicable—No per-study effect data extracted (Sections 2.2 & 2.5).
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Not applicable—No statistical synthesis/meta-analysis (Sections 2.5–2.6).
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	Not applicable—No statistical synthesis/meta-analysis (Sections 2.5–2.6).
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Not applicable—No statistical synthesis/meta-analysis (Sections 2.5–2.6).
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	Not applicable—No statistical synthesis/meta-analysis (Sections 2.5–2.6).
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Not applicable—No synthesis (Section 2.5).
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Not applicable—No synthesis (Section 2.5).
DISCUSSION			

Topic	No.	Item	Location where item is reported
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Discussion—Opening paragraph (overall interpretation).
	23b	Discuss any limitations of the evidence included in the review.	Discussion—Limitations of evidence (coverage; English-only; title/abstract screening only).
	23c	Discuss any limitations of the review processes used.	Discussion—Limitations of methods (single reviewer; automation aids); also Section 2.5 (statement).
	23d	Discuss implications of the results for practice, policy, and future research.	Discussion/Conclusions—Design implications; research agenda.
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	Section 2.1—PRISMA compliance statement; no protocol registered.
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Section 2.1—No protocol prepared.
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	Section 2.1—Not applicable (no registration/protocol; no amendments).
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Funding—Gunding/acknowledgments section.
Competing interests	26	Declare any competing interests of review authors.	Conflicts of Interest—Statement.
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	Section 2.7—Data/Materials availability; Supplementary Materials (S1–S3).

PRIMSA Abstract Checklist

Topic	No.	Item	Reported?
TITLE			
Title	1	Identify the report as a systematic review.	Yes
BACKGROUND			
Objectives	2	Provide an explicit statement of the main objective(s) or question(s) the review addresses.	Yes
METHODS			
Eligibility criteria	3	Specify the inclusion and exclusion criteria for the review.	Yes
Information sources	4	Specify the information sources (e.g. databases, registers) used to identify studies and the date when each was last searched.	Yes
Risk of bias	5	Specify the methods used to assess risk of bias in the included studies.	Yes
Synthesis of results	6	Specify the methods used to present and synthesize results.	Yes
RESULTS			
Included studies	7	Give the total number of included studies and participants and summarise relevant characteristics of studies.	No
Synthesis of results	8	Present results for main outcomes, preferably indicating the number of included studies and participants for each. If meta-analysis was done, report the summary estimate and confidence/credible interval. If comparing groups, indicate the direction of the effect (i.e. which group is favoured).	No
DISCUSSION			
Limitations of evidence	9	Provide a brief summary of the limitations of the evidence included in the review (e.g. study risk of bias, inconsistency and imprecision).	Yes
Interpretation	10	Provide a general interpretation of the results and important implications.	Yes
OTHER			
Funding	11	Specify the primary source of funding for the review.	Yes
Registration	12	Provide the register name and registration number.	Yes

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