Computational-Based Approaches to Critical Infrastructure Research

Transparent, Deterministic, and Scalable Research Automation

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Why automate literature reviews?

THE PROJECT

- Web-based tool for systematic reviews
- Modular design: Each stage implemented as a standalone module
- Makes research into CI (and yours) streamlined, transparent, repeatable, and quick.

Part 1

Stage One- Gathering Grey Literature

Stage One- Grey Literature Results

	A	B	C
1	Title	Link	Snippet
2	our environmental sustainability stra	https://haveyoursay.tamworth.nsw.gov.au/download_file/3(	Energy sustainability, transitioning towards utilising energy generated by renewable resources as an
3	FY21 Sustainability Report	https://landcom.nsw.gov.au/assets/Publications/Annual-Su	energy resilience. The outcome of the project will be a blueprint for councils on how to encourage en
4	The nexus between emissions reduc	https://www.centraljo.nsw.gov.au/content/uploads/29-CNS	Lachlan Shire Council Energy Sustainability Plan. The Lachlan Shire Council Energy Sustainability Pla
5	Promoting the long-term interests of	https://www.parliament.nsw.gov.au/lcdocs/other/19217/Au	local energy resilience. Figure 3: Focusing on the three dimensions of resilience. Energy network res
6	Sustainable Healthcare Framework -	https://mnclhd.health.nsw.gov.au/wp-content/uploads/MN	Investigate electrification, renewable energy, and energy resilience opportunities across the MNCLH
7	Illawarra Shoalhaven Regional Energ	https://isjo.nsw.gov.au/wp-content/uploads/2024/07/ISJO_	Facilitate regional energy resilience projects. Engage with DNSP and other stakeholders to develop p
8	WESTERN SYDNEY ENERGY PROGRA	https://www.bmcc.nsw.gov.au/sites/default/files/docs/WSE	energy resilience. Reduction in. GHG emissions. Building new technical skills. Civic leadership. Cont
9	Draft Network Infrastructure Strateg	https://www.energyco.nsw.gov.au/sites/default/files/2022-	This provides ample opportunities to both increase NSW's own energy resilience and share renewabl
10	Regional Resilience Integrated Planr	https://isjo.nsw.gov.au/wp-content/uploads/2024/08/2240(	and additionally across leadership and governance. It also reveals ... energy resilience such as solar
11	Resourcing Strategy - Lachlan Shire (	https://www.lachlan.nsw.gov.au/files/assets/public/v/1/cou	ENERGY SUSTAINABILITY. An Energy Sustainability Plan (the Energy Plan) was adopted by Council in
12	Resourcing Strategy - Lachlan Shire (	https://www.lachlan.nsw.gov.au/files/assets/public/v/1/cou	An Energy Sustainability Plan (the Energy Plan) was adopted by Council in ... Council employed a Gov
13	Energetics Report - Distributed ener	https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0003/13	â€¢ Require limited administration or day-to-day decision-making input. â€¢ Improve energy resilien
14	Essential Energy - Half Year Report -	https://www.parliament.nsw.gov.au/tp/files/188578/Essent	The Essential Energy Sustainability Strategy guides the business in generating positive value for all st
15	waterloo south - esd study	https://www.cityofsydney.nsw.gov.au/-/media/corporate/fil	energy independence, energy resilience, and the public perception of the Estate's sustainability crec
16	The energy transition: Decarbonisati	https://www.parliament.nsw.gov.au/researchpapers/Docur	Administers energy sustainability schemes Â· Office of Energy and ... Governance, operating and reg
17	Net Zero Wollongong Climate Chang	https://www.wollongong.nsw.gov.au/__data/assets/pdf_file/	The purpose of the Plan was to establish the appropriate governance structures, ... climate and ener
18	Report to the Minister - IPART - NSW	https://www.ipart.nsw.gov.au/sites/default/files/cm9_docu	... energy resilience and plan for a net zero future.35 The. Infrastructure Planner will prepare future e

Stage One- Gathering Academic Literature

PubMed

WEB OF SCIENCE

Google Scholar

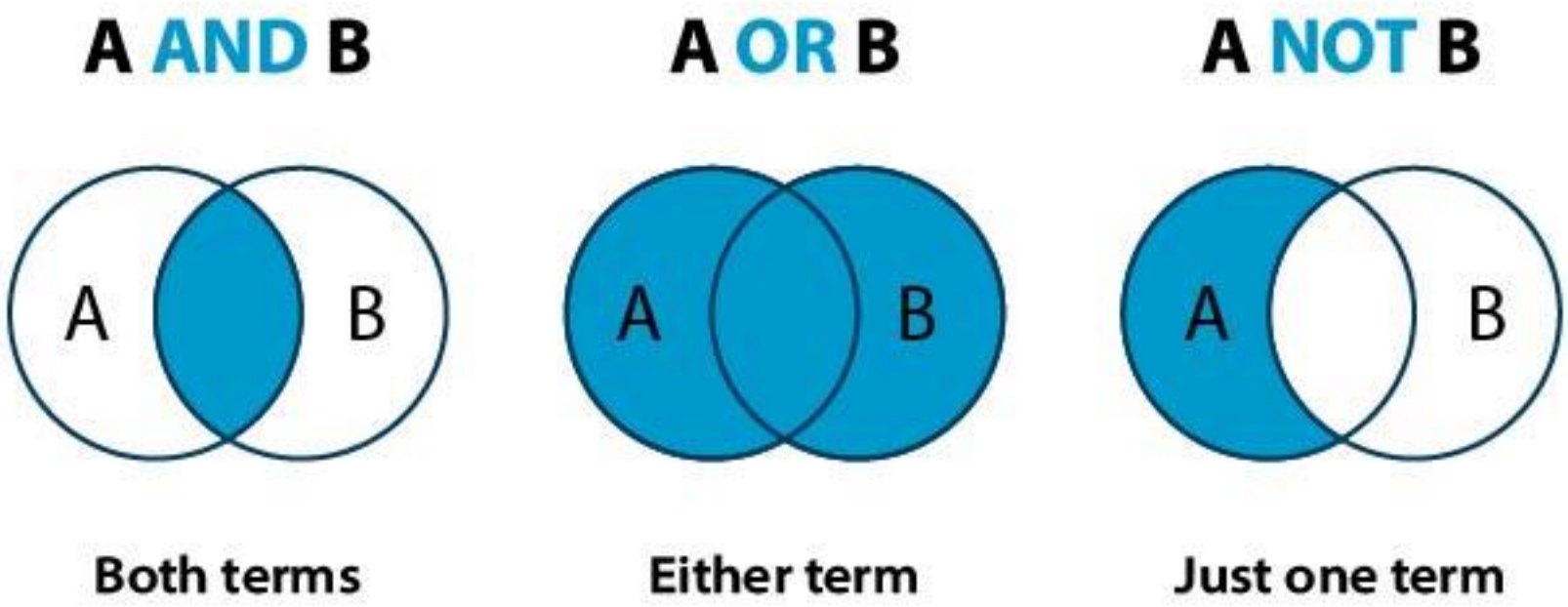
Scopus

Stage One- Academic Literature Results

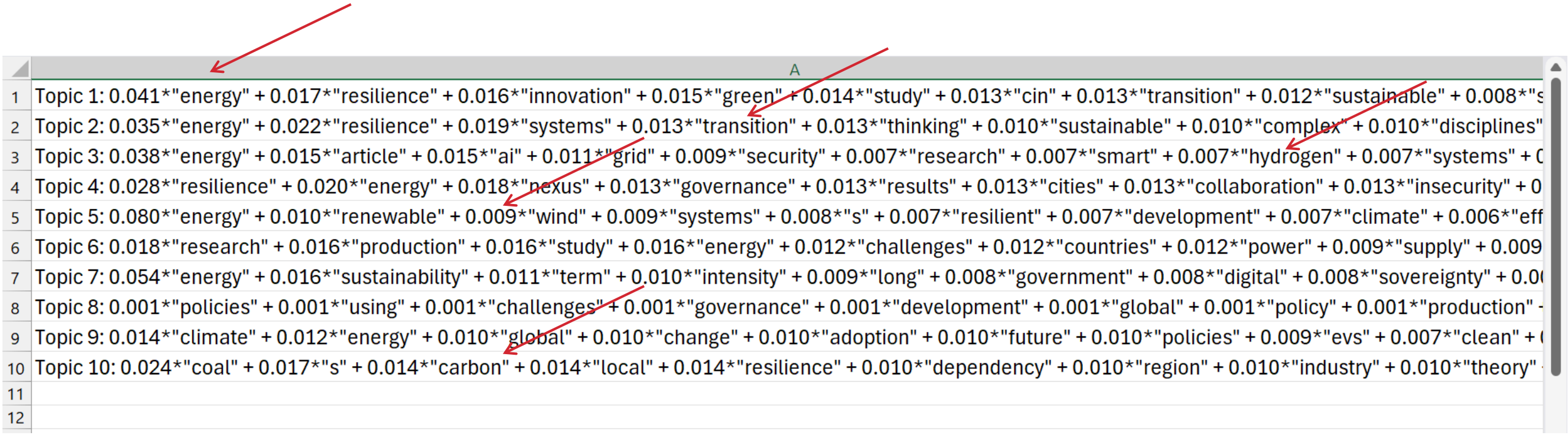
	A	B	C	D	E	
1	title	authors	source	year	doi	abstract
2	Machine learning framework	Louati A.	Scopus	2025	10.1016/j.sftr.2024.1	As urban areas expand, cities face increasing challenges
3	Comparing the efficiency of u	Coutinho F.M., de Andrade M	Scopus	2025	10.1016/j.tranpol.20	Analyzing efficiency is vital for public transport, given its s
4	Hydrogen-powered future: Ca	Roque B.A.C., Cavalcanti M.I	Scopus	2025	10.1016/j.gr.2025.01	Hydrogen, particularly in renewable forms like green hydr
5	Constructal thermodynamics	Mavromatidis L.	Scopus	2025	10.1016/j.biosystem	This paper explores the intersections of constructal therr
6	From vulnerability to resilien	Mirkova I., PadrÃ³n-Fumero N	Scopus	2025	10.1016/j.erss.2025.	Achieving a just transition is essential for addressing the
7	Analysis of household food se	Gebre A.A., Deshmukh M.S.	Scopus	2025	10.1016/j.jafr.2025.1	Ensuring food security is one of the paramount challenge
8	Recycled and upcycled mate	Milad A.	Scopus	2025	10.1016/j.clwas.202	This paper explores the increasingly popular practice of i
9	Climate challenges for susta	Othman M.E.F., Sidek L.M., E	Scopus	2025	10.1016/j.rser.2024.	Hydropower remains a crucial renewable energy source,
10	Thermal hazards in urban spa	Gupta A., De B., Das S., Mukl	Scopus	2025	10.1016/j.uclim.202	Thermal hazards are a growing concern for cities through
11	Evaluating challenges and po	Solangi Y.A., Alyamani R., Alr	Scopus	2025	10.1016/j.jenvman.2	Saudi Arabia is one of the largest greenhouse gas (GHG)
12	Examining the nexus of clean	Khurshid A., Khan K., Cifuent	Scopus	2025	10.1016/j.renene.20	This study examines the relationship between the progre
13	Harnessing visible light for su	Islam A., Teo S.H., Islam M.T.	Scopus	2025	10.1016/j.rser.2024.	Sustainable energy sources frequently demonstrate grea
14	Review of the Lao People's De	Keomeesay P., Liu N., Nie Y.,	Scopus	2025	10.1016/j.enconman	The Lao People's Democratic Republic (Lao P.D.R) gets r
15	Framework to select robust e	Shu L., Hong T., Sun K., Zhao	Scopus	2025	10.1016/j.enbuild.20	Residential building energy retrofits are essential for enh
16	Improving sustainable develc	Liu Q., Chen R., Gao Q., Yue '	Scopus	2025	10.1016/j.enconman	The sustainable development of the new energy industry

Stage Two: Consolidation & Deduplication

Stage Three: Screening



Stage Four: Thematic Scaffolding



	A
1	Topic 1: 0.041*"energy" + 0.017*"resilience" + 0.016*"innovation" + 0.015*"green" + 0.014*"study" + 0.013*"cin" + 0.013*"transition" + 0.012*"sustainable" + 0.008*"s
2	Topic 2: 0.035*"energy" + 0.022*"resilience" + 0.019*"systems" + 0.013*"transition" + 0.013*"thinking" + 0.010*"sustainable" + 0.010*"complex" + 0.010*"disciplines"
3	Topic 3: 0.038*"energy" + 0.015*"article" + 0.015*"ai" + 0.011*"grid" + 0.009*"security" + 0.007*"research" + 0.007*"smart" + 0.007*"hydrogen" + 0.007*"systems" + 0
4	Topic 4: 0.028*"resilience" + 0.020*"energy" + 0.018*"nexus" + 0.013*"governance" + 0.013*"results" + 0.013*"cities" + 0.013*"collaboration" + 0.013*"insecurity" + 0
5	Topic 5: 0.080*"energy" + 0.010*"renewable" + 0.009*"wind" + 0.009*"systems" + 0.008*"s" + 0.007*"resilient" + 0.007*"development" + 0.007*"climate" + 0.006*"eff
6	Topic 6: 0.018*"research" + 0.016*"production" + 0.016*"study" + 0.016*"energy" + 0.012*"challenges" + 0.012*"countries" + 0.012*"power" + 0.009*"supply" + 0.009
7	Topic 7: 0.054*"energy" + 0.016*"sustainability" + 0.011*"term" + 0.010*"intensity" + 0.009*"long" + 0.008*"government" + 0.008*"digital" + 0.008*"sovereignty" + 0.0
8	Topic 8: 0.001*"policies" + 0.001*"using" + 0.001*"challenges" + 0.001*"governance" + 0.001*"development" + 0.001*"global" + 0.001*"policy" + 0.001*"production" -
9	Topic 9: 0.014*"climate" + 0.012*"energy" + 0.010*"global" + 0.010*"change" + 0.010*"adoption" + 0.010*"future" + 0.010*"policies" + 0.009*"evs" + 0.007*"clean" + (
10	Topic 10: 0.024*"coal" + 0.017*"s" + 0.014*"carbon" + 0.014*"local" + 0.014*"resilience" + 0.010*"dependency" + 0.010*"region" + 0.010*"industry" + 0.010*"theory"
11	
12	

So, you then go and do the academic thing and read.

Part 2

Stage One: Data Cleaning

Stage Two: Data Extraction

	A	B	C
1	Renewable_Energy	Energy_Transition	Governance
2	furthermore, hydrogen, being a multifunctional and environmentally sustainable energy carrier, exhibits potential for a wide range of applications, including the operation of transportation systems and storage of energy for intermittent renewable sources .	at this juncture of the worlds energy system, sustainability and resilience are gaining prominence as key considerations in the pursuit of a more reliable and environmentally friendly energy future .	this study investigates the utilisation of a range of ai techniques ml, dl, and optimisation algorithms to govern the dynamic interaction among energy supply, demand, and storage in the context of smart grids.
3	we can improve energy efficiency, guarantee grid stability, and tackle the complex challenges associated with the transition to sustainable energy sources by leveraging the power of ai.	by conducting a comprehensive investigation into these interconnected fields, this study enhances the shared comprehension of the trajectory towards an energy future that is sustainable, resilient, and environmentally conscious.	access controls and authentication: stringent access restrictions and effective authentication procedures can be used to govern the individuals authorised to view critical energy usage data.
	despite an urgent call for alleviating the consequences of climate change, curtailing the release of greenhouse gases, and shifting towards sustainable energy sources, the worldwide energy environment	the seamless integration of ai technologies with hess expedites the transition to a sustainable and resilient energy future while simultaneously improving the	the existence of diverse standards and regulations that govern the integration of hydrogen energy and smart grids can pose a significant challenge to the development

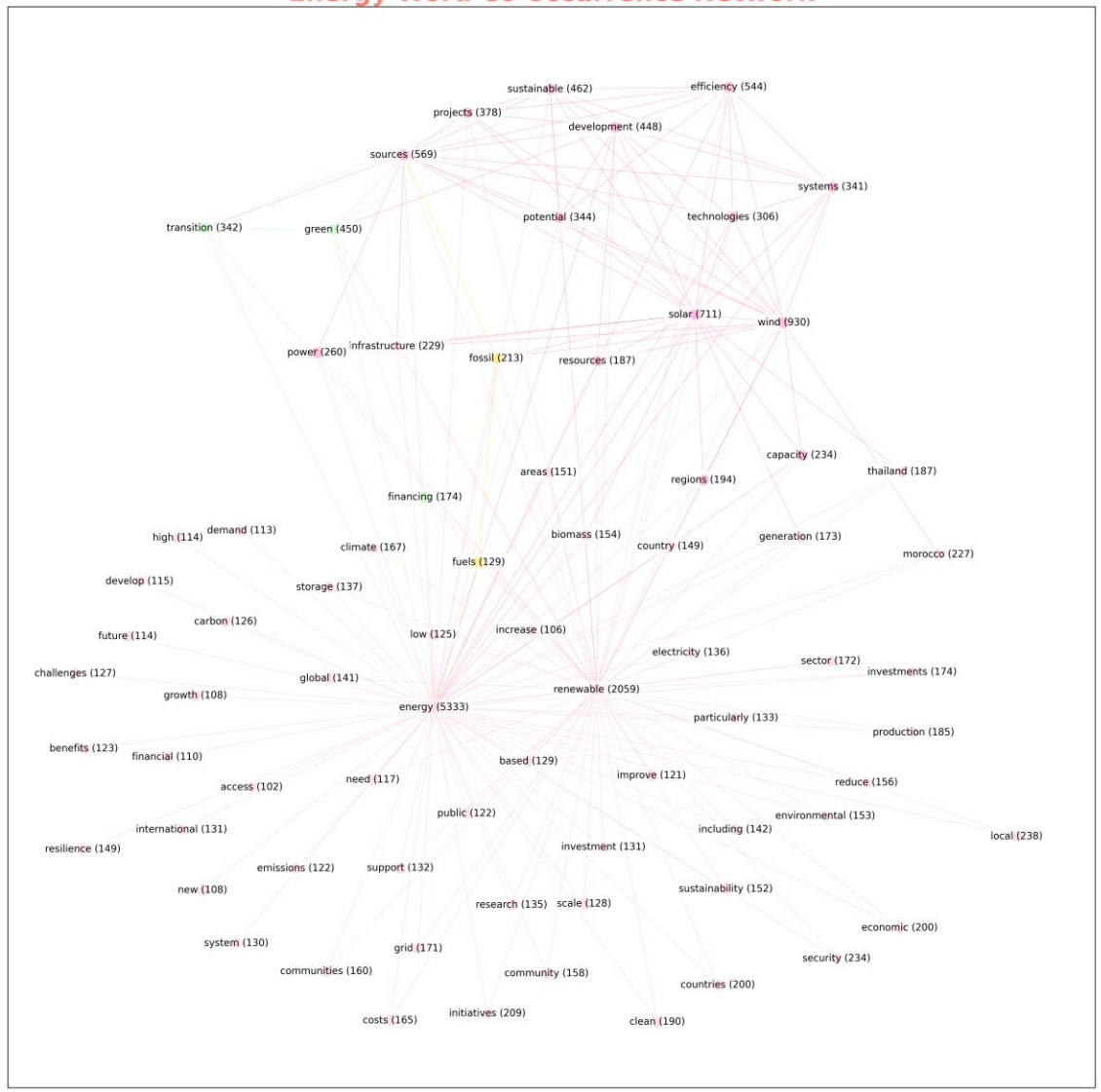
(1)_A comprehensive review of A

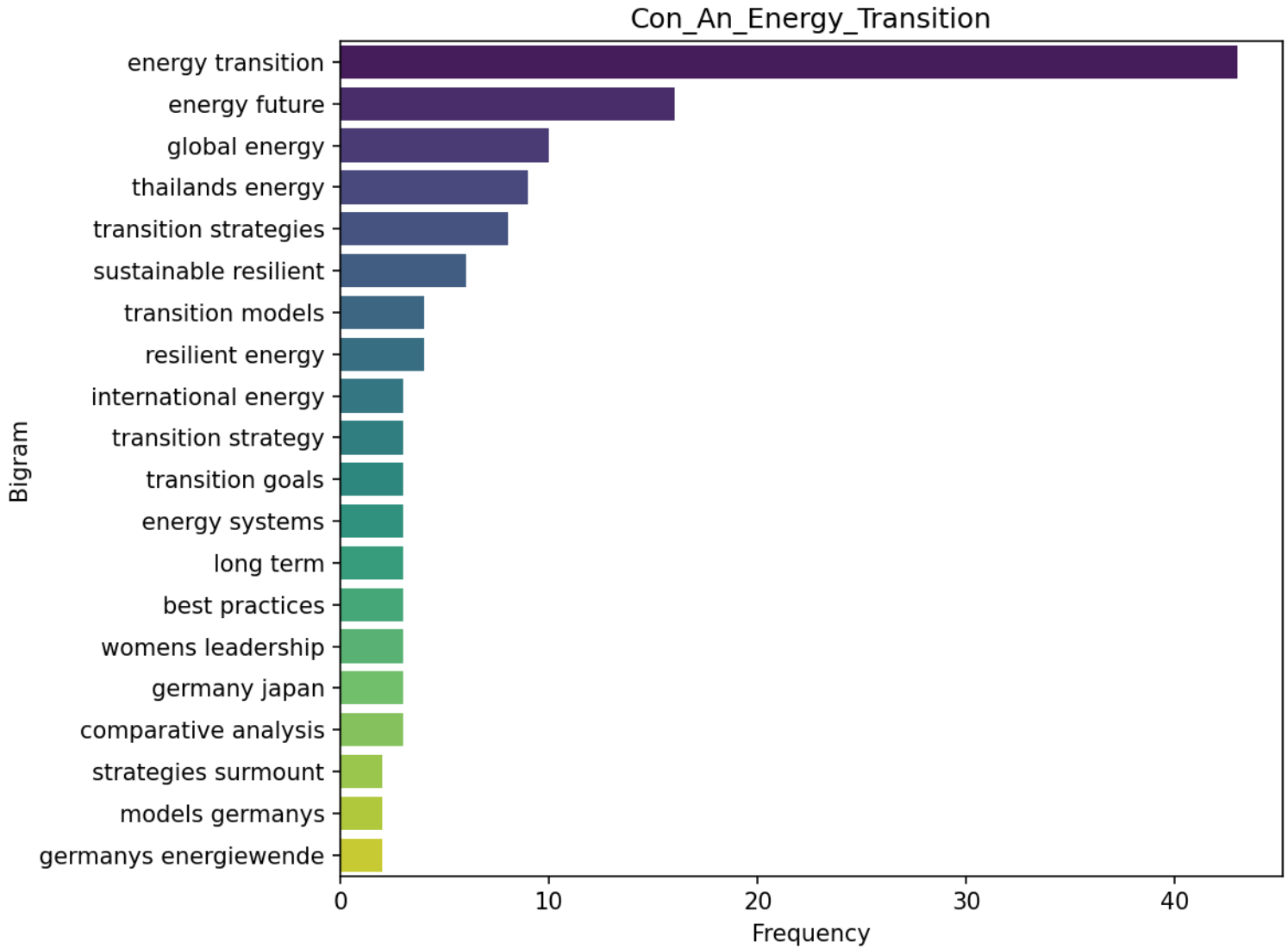
Stage Three: Content Analysis

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Phrase	POS	Count	Contexts											
2	context	NN	4	illustrates the conceptual framework for analyzing the sustain ability of the metal ore mining industry: the primary objective of this s											
3	development	NN	6	as a result, this paper evaluates the influence of governance effectiveness on the development of rec in mercosur economies. (5) |											
4	study	NN	5	based on this finding, the discussion presents an examination of the individual conditions in relation to the theoretical expectations											
5	resilience	NN	11	as the few nexus has been argued to increase resource security and decrease unintended consequences , scholars have noted the											
6	energy	NN	11	all of them form part of a rich constellation of the renewed paradigm of the commons for their ability to govern sustainably and demo											
7	governance	NN	34	a transition to be made shifting towards resilience thinking and modes of governance that are both adaptive and ecosystemic . (20)											
8	food	NN	4	as energy is a prerequisite to secure a large number of basic goods, ranging nowadays from education to political participation and											
9	impact	NN	8	first, in terms of energy supply, digital government significantly improves electricity supply in cities, whereas its impact on natural g											
10	collaboration	NN	5	finally, similar to horizontal coordination, cities with an environment of vertical coordination share responsibilities across different											
11	government	NN	39	amidst the economic reconstruction of ukraine, both the government and enterprises must factor in the eu governments resolution											
12	however	RB	11	however, by early , the government has curtailed inflation, maintaining it at , . (12) | however, considerable gaps still exist; particula											
13	social	JJ	11	addressing these challenges paves the way for future discourses on evolving strategies to integrate environmental, social, and gove											

Stage Four: Data Visualization

Energy Word Co-occurrence Network




Con_An_Energy_Transition
energy transition
energy future
global energy
thailands energy
transition strategies
sustainable resilient
transition models
resilient energy
international energy
transition strategy
transition goals
energy systems
long term
best practices
womens leadership
germany japan
comparative analysis
strategies surmount
models germanys
germanys energiewende
Bigram
0
10
20
30
40
Frequency

Thank you