

Supplementary Materials File S1

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This supplementary material contains the results of original Queries presented in Table 1 in the paper titled *Energy Sector Transformation Strategies: Literature Review*. The syntax of Query 1 is: (TITLE-ABS-KEY ("energy sector")) AND (transition AND strategies) and this query yielded with gave 2290 results. Following the methodology of a Systematic Literature Review (SLR), a subsequent citation analysis assessed the impact of individual publications on further research and scientific considerations. In Table S1 there are 10 most cited publications among results from Query 1.

Table S1. The 10 most cited publications result from Scopus Query no 1.

No.	Document title	Authors	Year	Source	Citations (20 Aug 2022)
1	A review of computer tools for analysing the integration of renewable energy into various energy systems (journal article)	Connolly, D., Lund, H., Mathiesen, B.V., Leahy, M.	2010	Applied Energy, 87(4), pp. 1059-1082	1127
2	Blockchain technology in the energy sector: A systematic review of challenges and opportunities	Andoni, M., Robu, V., Flynn, D., (...), McCallum, P., Peacock, A.	2019	Renewable and Sustainable Energy Reviews, 100, pp. 143-174	844
3	Catalytic reduction of CO ₂ by H ₂ for synthesis of CO, methanol and hydrocarbons: Challenges and opportunities	Porosoff, M.D., Yan, B., Chen, J.G.	2016	Energy and Environmental Science, 9(1), pp. 62-73	677
4	Climate benefits of changing diet	Stehfest, E., Bouwman, L., Van Vuuren, D.P., (...), Eickhout, B., Kabat, P.	2009	Climatic Change, 95(1-2), pp. 83-102	558
5	Nanoparticles and the environment	Biswas, P.	2005	Journal of the Air and Waste Management Association, 55(6), pp. 708-746	482
6	Design, demonstrations and sustainability impact assessments for plug-in hybrid electric vehicles	Bradley, T.H., Frank, A.A.	2009	Renewable and Sustainable Energy Reviews, 13(1), pp. 115-128	377
7	Carbon-Nanotube-Based Thermoelectric Materials and Devices	Blackburn, J.L., Ferguson, A.J., Cho, C., Grunlan, J.C.	2018	Advanced Materials, 30(11), 1704386	359
8	Greening Ammonia toward the Solar Ammonia Refinery	Wang, L., Xia, M., Wang, H., (...), Maravelias, C.T., Ozin, G.A.	2018	Joule, 2(6), pp. 1055-1074	346
9	Grassroots innovations in community energy: The role of intermediaries in niche development	Hargreaves, T., Hielscher, S., Seyfang, G., Smith, A.	2013	Global Environmental Change, 23(5), pp. 868-880	327

10	Energy storage in the energy transition context: A technology review	Gallo, A.B., Simões-Moreira, J.R., Costa, H.K.M., Santos, M.M., Moutinho dos Santos, E.	2016	Renewable and Sustainable Energy Reviews, 65, pp. 800-822	324
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Source: Authors' elaboration based on the Query 1 results.

The syntax of Query 2 is: ((TITLE-ABS-KEY ("energy sector")) AND (transformation AND strategies)) and this query yielded with gave 1400 results. In Table S2 there are 10 most cited publications among results from Query 2.

Table S2. The 10 most cited publications result from Scopus Query no 2.

No.	Document title	Authors	Year	Source	Citations (20 Aug 2022)
1	The contribution of biomass in the future global energy supply: A review of 17 studies	Berndes, G., Hoogwijk, M., Van Den Broek, R.	2003	Biomass and Bioenergy 25(1), pp. 1-28	858
2	Nanoparticles and the environment	Biswas, P.	2005	Journal of the Air and Waste Management Association, 55(6), pp. 708-746	482
3	Tilting at windmills? The environmental movement and the emergence of the U.S. wind energy sector	Sine, W.D., Lee, B.H.	2009	Administrative Science Quarterly 54(1), pp. 123-155	346
4	Energy storage in the energy transition context: A technology review	Gallo, A.B., Simões-Moreira, J.R., Costa, H.K.M., Santos, M.M., Moutinho dos Santos, E.	2016	Renewable and Sustainable Energy Reviews, 65, pp. 800-822	324

5	Energy poverty: An overview	González-Eguino, M.	2015	Renewable and Sustainable Energy Reviews, 47, 4168, pp. 377-385	282
6	The impact of social norms on entrepreneurial action: Evidence from the environmental entrepreneurship context	Meek, W.R., Pacheco, D.F., York, J.G.	2010	Journal of Business Venturing, 25(5), pp. 493-509	271
7	A grassroots sustainable energy niche? Reflections on community energy in the UK	Seyfang, G., Hielscher, S., Hargreaves, T., Martiskainen, M., Smith, A.	2014	Environmental Innovation and Societal Transitions, 13, pp. 21-44	243
8	Photocatalytic production of hydrogen from biomass-derived feedstocks	Puga, A.V.	2016	Coordination Chemistry Reviews 315, pp. 1-66	239
9	Implementing transition management as policy reforms: A case study of the Dutch energy sector	Kern, F., Howlett, M.	2009	Communication Patterns of Engineers, pp. 1-263	228
10	Rural energy in developing countries: A challenge for economic development	Barnes, D.F., Floor, W.M.	1996	Annual Review of Energy and the Environment, 21(1), pp. 497-530	208

Source: Authors' elaboration based on the Query 2 results.

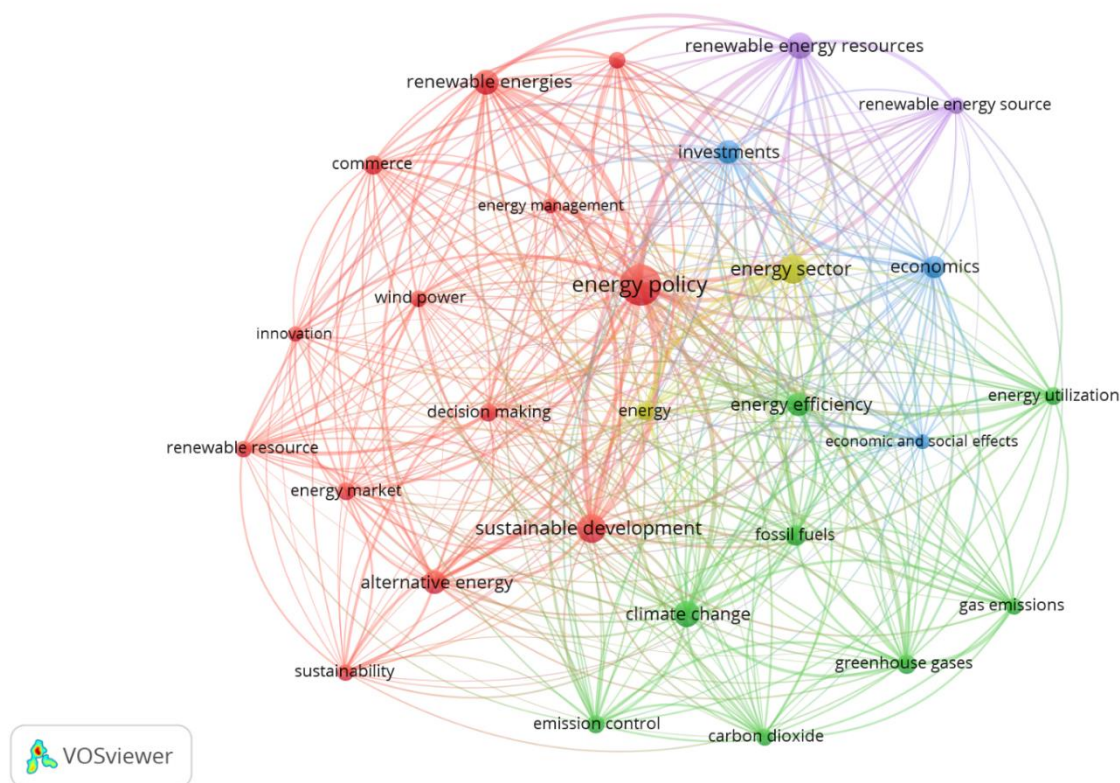


Figure S1. Bibliometric map of indexed keywords co-occurrence results from Scopus based on Query 2. Source: Authors' elaboration performed in VOSviewer (version 1.6.18).

The syntax of Query 3 is: (TITLE-ABS-KEY ("energy sector")) AND (transition AND transformation AND strategy) and this query yielded with gave 830 results. In Table S3 there are 10 most cited publications among results from Query 3.

Table S3. The 10 most cited publications result from Scopus Query no 3.

No.	Document title	Authors	Year	Source	Citations (20 Aug 2022)
1	Nanoparticles and the environment	Biswas, P.	2005	Journal of the Air and Waste Management Association, 55(6), pp. 708-746	482
2	Energy storage in the energy transition context: A technology review	Gallo, A.B., Simões-Moreira, J.R., Costa, H.K.M., Santos, M.M., Moutinho dos Santos, E.	2016	Renewable and Sustainable Energy Reviews, 65, pp. 800-822	324
3	The impact of social norms on entrepreneurial action: Evidence from the environmental entrepreneurship context	Meek, W.R., Pacheco, D.F., York, J.G.	2010	Journal of Business Venturing 25(5), pp. 493-509	271
4	A grassroots sustainable energy niche? Reflections on community energy in the UK	Seyfang, G., Hielscher, S., Hargreaves, T., Martiskainen, M., Smith, A.	2014	Environmental Innovation and Societal Transitions, 13, pp. 21-44	243
5	Implementing transition management as policy reforms: A case study of the Dutch energy sector	Kern, F., Howlett, M.	2009	Communication Patterns of Engineers, pp. 1-263	228
6	Rural energy in developing countries: A challenge for economic development	Barnes, D.F., Floor, W.M.	1996	Annual Review of Energy and the Environment, 21(1), pp. 497-530	208
7	Evaluation of a proposal for reliable low-cost grid power with 100% wind, water, and solar	Clack, C.T.M., Qvist, S.A., Apt, J., (...), Weyant, J.P., Whitacre, J.F.	2017	Proceedings of the National Academy of Sciences of the United States of America, 114(26), pp. 6722-6727	178
8	Internet of things (IoT) and the energy sector	Motlagh, N.H., Mohammadrezaei, M., Hunt, J., Zakeri, B.	2020	Energies 13(2),494	172

9	Full energy system transition towards 100% renewable energy in Germany in 2050	Hansen, K., Mathiesen, B.V., Skov, I.R.	2019	Renewable and Sustainable Energy Reviews, 102, pp. 1-13	170
10	The Local Sources of Market Formation: Explaining Regional Growth Differentials in German Photovoltaic Markets	Dewald, U., Truffer, B.	2012	European Planning Studies 20(3), pp. 397-420	141

Source: Authors' elaboration based on the Query 3 results.

The syntax of Query 6 is: TITLE-ABS-KEY ("energy sector")) AND (transformation AND transition AND strategy) AND (LIMIT-TO (SUBJAREA, "BUSI") OR LIMIT-TO (SUBJAREA, "DECI")) and this query yielded with gave 134 results. In Table S4 there are 10 most cited publications among results from Query 6.

Table S4. The 10 most cited publications result from Scopus Query no 6.

No.	Document title	Authors	Year	Source	Citations (20 Aug 2022)
1	The impact of social norms on entrepreneurial action: Evidence from the environmental entrepreneurship context	Meek, W.R., Pacheco, D.F., York, J.G.	2010	Journal of Business Venturing 25(5), pp. 493-509	271
2	Making the energy transition in rural East Africa: Is leapfrogging an alternative?	Murphy, J.T.	2001	Technological Forecasting and Social Change, 68(2), pp. 173-193	116
3	Energy democracy: Germany's energiewende to renewables (Book)	Morris, C., Jungjohann, A.	2016	Energy Democracy: Germany's Energiewende to Renewables pp. 1-437	98
4	Technological learning in the energy sector: Lessons for policy, industry and science (Book)	Junginger, M., van Sark, W., Faaij, A.	2010	Technological Learning in the Energy Sector: Lessons for Policy, Industry and Science	92
5	The three roles of business models in societal transitions: New linkages between business model and transition research	Bidmon, C.M., Knab, S.F.	2018	Journal of Cleaner Production, 178, pp. 903-916	84
6	Blockchain and the future of energy	Brilliantova, V., Thurner, T.W.	2019	Technology in Society, 57, pp. 38-45	83

7	Community energy and social entrepreneurship: Addressing purpose, organization and embeddedness of renewable energy projects	Becker, S., Kunze, C., Vancea, M..	2017	Journal of Cleaner Production, 147, pp. 25-36	82
8	Creating the innovation ecosystem for renewable energy via social entrepreneurship: Insights from India	Surie, G..	2017	Technological Forecasting and Social Change, 121, pp. 184-195	76
9	China, oil and global politics (Book)	Andrews-Speed, P., Dannreuther, R.	2011	China, Oil and Global Politics, pp. 1-233	65
10	Incumbents' diversification and cross-sectorial energy industry dynamics	Steen, M., Weaver, T.	2012	Research Policy, 46(6), pp. 1071-1086	59

Source: Authors' elaboration based on the Query 6 results.

The syntax of Query 9 is: (TITLE-ABS-KEY ("energy sector")) AND ("transformation strategy") and this query yielded with gave 23 results. In Table S4 there are 10 most cited publications among results from Query 9.

Table S5. The 10 most cited publications result from Scopus Query no 9.

No.	Document title	Authors	Year	Source	Citations (20 Aug 2022)
1	Digitization, Digital Twins, Blockchain, and Industry 4.0 as Elements of Management Process in Enterprises in the Energy Sector	Borowski, P.F.	2021	Energies, 14(7),1885	53
2	The Polish power industry in energy transformation process	Gawlik, L.	2018	Mineral Economics 31(1-2), pp. 229-237	31
3	Artificial intelligence in oil and gas upstream: Trends, challenges, and scenarios for the future	Koroteev, D., Tekic, Z.	2021	Energy and AI, 3,100041	28
4	Transformation of energy balances with dominant coal consumption in European economies and Turkey in the years 1990-2017	Jonek-Kowalska, I.	2019	Oeconomia Copernicana, 10(4), pp. 627-647	26

5	A top-down spatially resolved electrical load model	Robinius, M., Stein, F.T., Schwane, A., Stolten, D.	2005	Energies, 10(3),361	17
6	Artificial Intelligence and emerging digital technologies in the energy sector	Lyu, W., Liu, J.	2021	Applied Energy, 303,117615	15
7	Australian economic models of greenhouse abatement	Diesendorf, M.	1998	Environmental Science and Policy 1(1), pp. 1-12	11
8	Carbon capture, storage and use: Technical, economic, environmental and societal perspectives (Book)	Kuckshinrichs, W., Hake, J.-F.	2015	Carbon Capture, Storage and Use: Technical, Economic, Environmental and Societal Perspectives pp. 1-347	10
9	Coal phase out, energy efficiency, and electricity imports: Key elements to realize the energy transformation	Kost, C., Palzer, A., Sterchele, P., (...), Hartmann, N., Henning, H.-M.	2019	Applied Physics Reviews 6(1),011308	7
10	Soft skills, hard skills: What matters most? Evidence from job postings	Lyu, W., Liu, J.	2021	Applied Energy, 300,117307	4

Source: Authors' elaboration based on the Query 1 results.

The syntax of Query 10 is: (TITLE-ABS-KEY ("energy sector strategies")) and this query yielded with gave 15 results. In Table S4 there are 6 the most cited publications among results from Query 10. The rest of results citation number was equal 0, unbaling the construction of the 10-element ranking.

Table S6. The most cited 6 publications result from Scopus Query no 10.

No.	Document title	Authors	Year	Source	Citations (20 Aug 2022)
1	Renewable energy investment by the World Bank	Martinot, E.	2001	Applied Energy, 87(4), pp. 1059-1082	52

2	Biofuel: Policy, standardization and recommendation for sustainable future energy supply	Masjuki, H.H., Kalam, M.A., Mofijur, M., Shahabuddin, M.	2013	Energy Procedia, 42, pp. 577-586	31
3	Policies for a Sustainable Biomass Energy Sector in Malawi: Enhancing Energy and Food Security Simultaneously	Schuenemann, F., Msangi, S., Zeller, M.	2018	World Development, 103, pp. 14-26	19
4	Synthesis and nano-engineering of MXenes for energy conversion and storage applications: Recent advances and perspectives	Najam, T., Shah, S.S.A., Peng, L., (...), Zhao, M.-Q., Tsiakaras, P.	2022	Coordination Chemistry Reviews 454,214339	12
5	Access to electricity for all and the role of decentralized solar power in sub-Saharan Africa.	Ulsrud, K	2020	Norsk Geografisk Tidsskrift 74(1), pp. 54-63	9
6	Does location matter? Investigating the spatial and socio-economic drivers of residential energy use in Dar es Salaam	Luo, C., Posen, I.D., MacLean, H.L.	2021	Environmental Research Letters, 16(2),024041	2

Source: Authors' elaboration based on the Query 10 results.

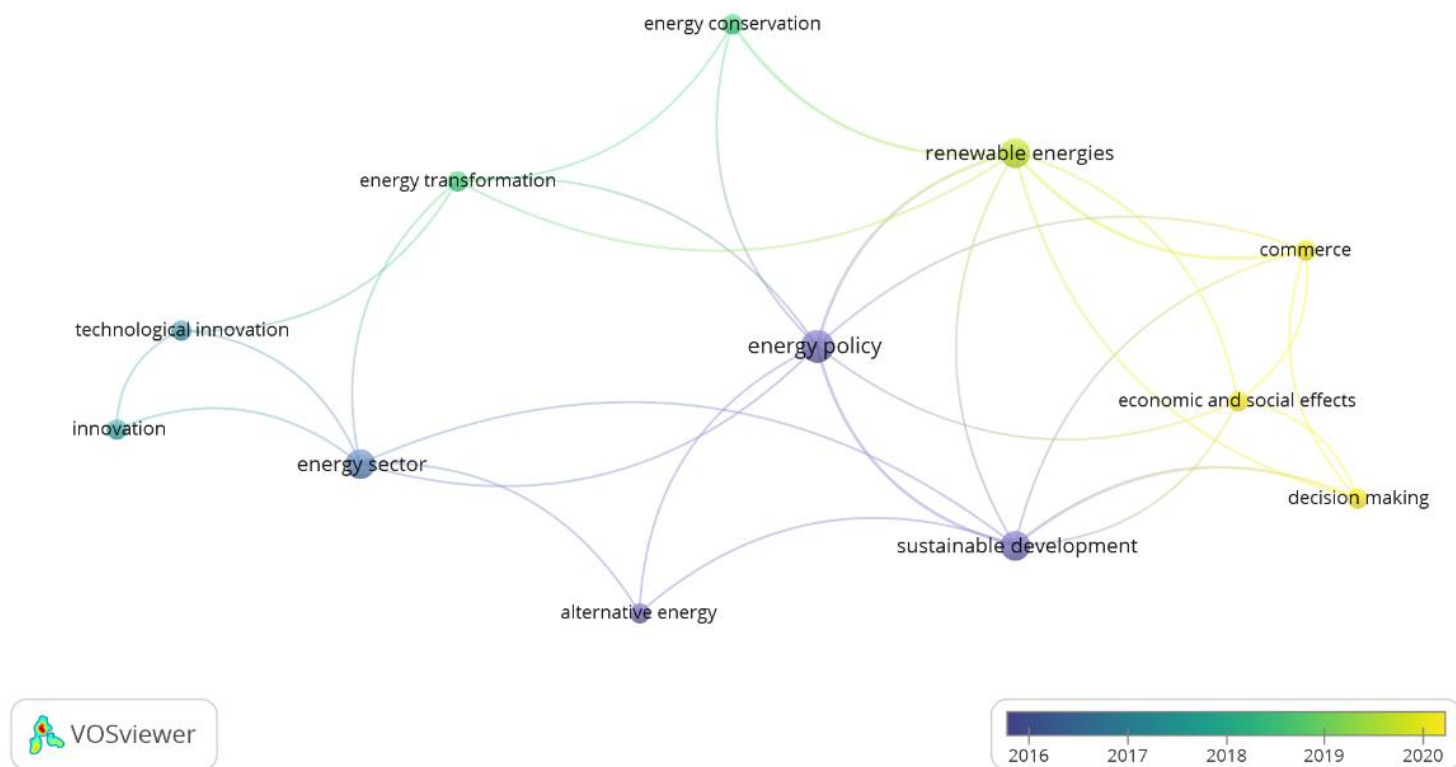


Figure S2. Bibliometric map overlay visualization of index keywords co-occurrence results from Scopus based on Query 18. Counting method: full counting. Minimum keywords co-occurrence is 10. Source: Authors' elaboration performed in VOSviewer (version 1.6.18).

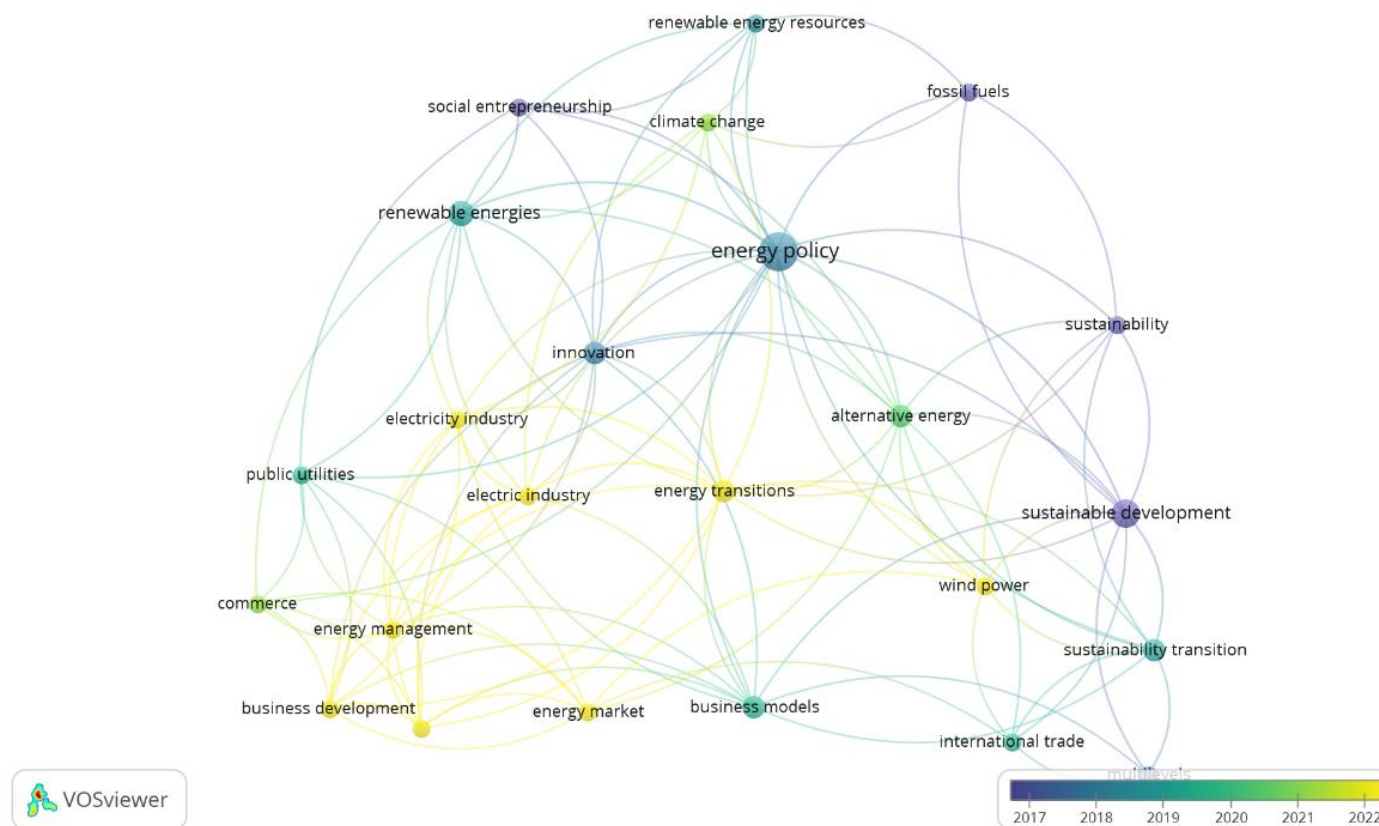


Figure S3. Bibliometric map overlay visualization of index keywords co-occurrence results from Scopus based on Query 19. Counting method: full counting. Minimum keywords co-occurrence is 2. Source: Authors' elaboration performed in VOSviewer (version 1.6.18).

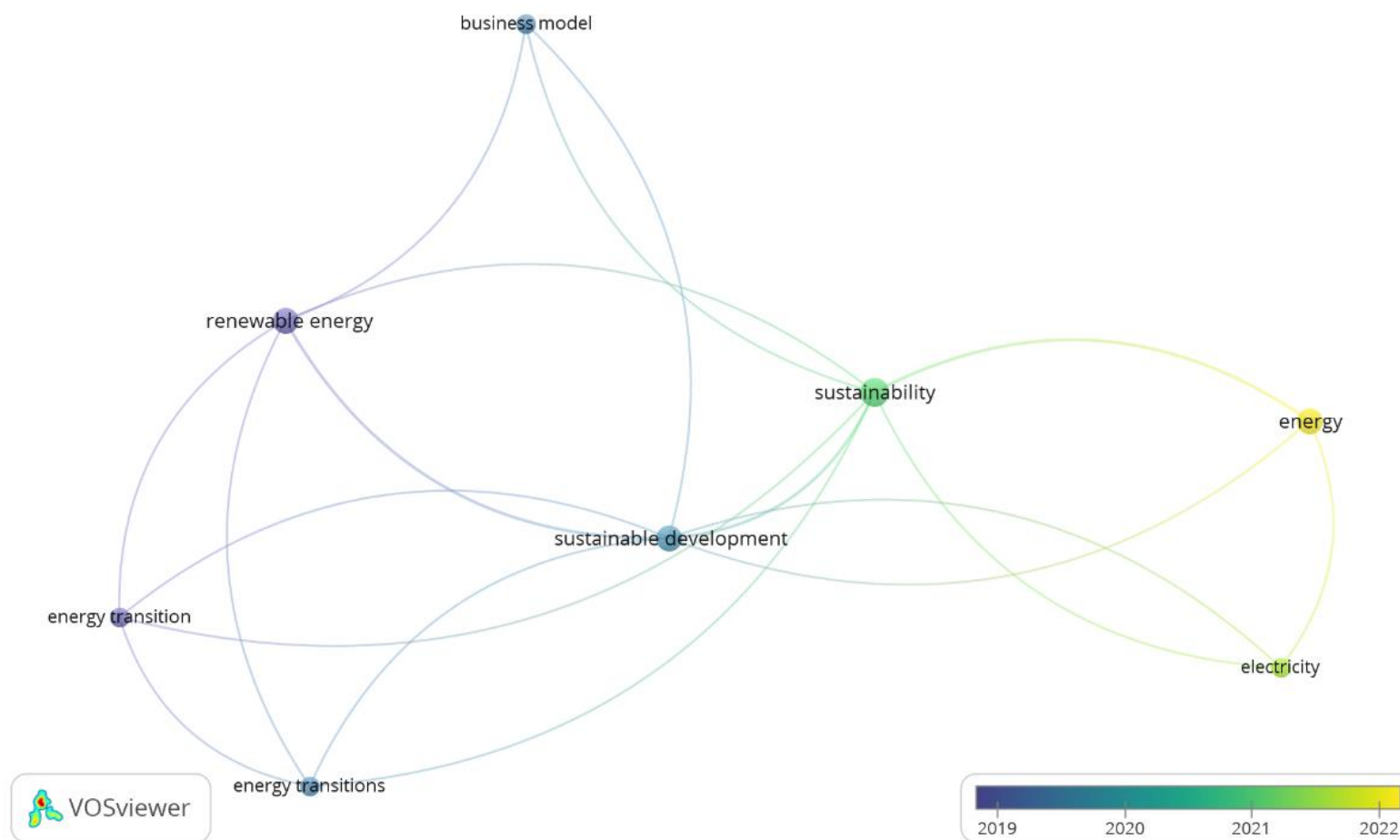


Figure S4. Bibliometric map overlay visualization of index keywords co-occurrence results from Scopus based on Query 20. Counting method: full counting. Minimum keywords co-occurrence is 10. Source: Authors' elaboration performed in VOSviewer (version 1.6.18).