

## Supplementary Material

This supplementary material contains data used to produce figures in the article.

**Table S1: Thesaurus for all searches.** A thesaurus file, in .csv format and containing the exact data below, was imported into the VOSviewer software for each search. This informed the software of keywords with duplicate meanings and allowed them to be displayed as one node.

Label	Replace by
australia	
barriers	
bim	
building materials	
buildings	
built environment	
c&d waste	construction and demolition waste
c&dw	construction and demolition waste
cdw	construction and demolition waste
china	
circular economy	
compressive strength	
concrete	
construction	
construction & demolition waste	construction and demolition waste
construction and demolition	
construction and demolition (c&d) waste	construction and demolition waste
construction and demolition waste (c&dw)	construction and demolition waste
construction and demolition waste (cdw)	construction and demolition waste
construction and demolition waste management	
construction and demolition wastes	construction and demolition waste
construction industry	
construction materials	
construction waste	
construction waste management	
deconstruction	
demolition	
demolition waste	
environment	
Land fill	Landfill
environmental impacts	environmental impact
generation	
heavy metals	
hong kong	
industrial ecology	
life cycle	life cycle assessment
lca	life cycle assessment
life cycle analysis	life cycle assessment
life cycle assessment (lca)	life cycle assessment
machine learning	
management	
Building information modeling (bim)	Building information modeling
material flow analysis (mfa)	material flow analysis
municipal solid waste	
quantification	
recovery	
recycle	
aggregates	aggregate
recycled aggregate concrete	recycled aggregate

recycled aggregates	recycled aggregate
recycled concrete	recycled aggregate
recycled concrete aggregate	recycled aggregate
recycling	
resource efficiency	
resource recovery	
reuse	
reverse logistics	
review	
solid waste	
solid waste management	
sustainability	
sustainable construction	
sustainable development	
system dynamics	
urban mining	
waste	
waste generation rate	
Concrete recycling	recycled aggregate
waste management & disposal	waste management
waste disposal facility	waste disposal facilities
waste minimization	waste minimisation
waste recycling	
waste reduction	
recycled aggregate concrete (rca)	recycled aggregate
recycled aggregate concrete (rac)	recycled aggregate

**Table S2: Data for Figure 1A.** Quantity of publications per year from the search of ‘construction AND demolition AND waste AND management’ on the Scopus database. Data collected on the 13th of March 2023.

Publication year	Quantity of publications
1966	1
1969	1
1976	3
1979	1
1980	1
1984	2
1988	2
1990	2
1991	1
1992	3
1993	3
1994	4
1995	2
1996	6
1997	7
1998	4
1999	5
2000	7
2001	12
2002	7
2003	31
2004	34
2005	29
2006	28
2007	45
2008	42

2009	46
2010	48
2011	66
2012	41
2013	69
2014	69
2015	52
2016	76
2017	85
2018	107
2019	153
2020	201
2021	196
2022	279
2023	50

**Table S3: Data for Figure 1B.** Data behind the overlay visualisation for the publication countries over time. Data collected from the Scopus search and sorted with the VOSviewer software.

<b>Node Title (Country)</b>	<b>Node size (Number of publications found per country)</b>	<b>Node colour (Average Publication year)</b>	<b>Number of lines to the node (Level of corelation the publications have with one another)</b>
China	299	2019	31
United States	174	2011	32
Australia	161	2018	24
Spain	145	2016	24
India	128	2019	20
United Kingdom	123	2014	37
Hong Kong	121	2015	18
Brazil	100	2016	12
Italy	89	2018	28
Portugal	66	2017	23
Germany	54	2013	17
Malaysia	53	2018	16
Canada	49	2016	16
Japan	43	2017	10
Netherlands	37	2014	16
France	35	2018	23
Iran	29	2017	8
South Korea	28	2017	5
Romania	24	2017	3
Sweden	24	2015	8
Belgium	23	2016	10
Denmark	22	2015	9
Egypt	21	2020	12
Greece	20	2014	10
Poland	20	2020	13
Austria	19	2017	14
South Africa	19	2017	4
Switzerland	19	2015	21
Turkey	18	2018	3
Russian Federation	17	2019	8
Thailand	16	2016	7
Finland	15	2018	9
Saudi Arabia	15	2021	12

Taiwan	15	2015	4
Colombia	14	2018	6
Lebanon	14	2017	3
Norway	14	2016	8
Czech Republic	13	2021	12
Viet Nam	13	2020	10
Ireland	12	2013	14
Pakistan	11	2018	8
Argentina	10	2018	5
Chile	10	2018	6
Nigeria	10	2017	6
Sri Lanka	10	2018	2
New Zealand	9	2019	1
Mexico	8	2017	5
United Arab Emirates	8	2020	11
Serbia	7	2017	6
Singapore	7	2017	14
Iraq	6	2019	5
Cyprus	5	2013	3
Kazakhstan	5	2020	3
Luxembourg	5	2018	1
Qatar	5	2020	2

**Table S4: Data for Figures 1C and 1D.** Data behind the visualisation of the co-occurrence between keywords (Figure 1C) and for the overlay visualisation of keyword occurrence over time (Figure 1D). Data collected from the Scopus search and sorted with the VOSviewer software.

<b>Node Title (Keyword)</b>	<b>Node size (Number of times the keyword occurs across all publications)</b>	<b>Number of lines to the node (Level of corelation the keywords have with one another)</b>	<b>Figure 1C node colour (Cluster – Keywords with similar subjects)</b>	<b>Figure 1D node colour (Average Publication year)</b>
Construction and demolition waste	554	48	1 (Red)	2017
Waste management	300	40	4 (Yellow)	2017
Life cycle assessment	130	30	4	2018
Recycled aggregate	120	19	3 (Green)	2017
Environmental impact	39	14	2	2016
Material flow analysis	35	12	2	2017
Waste minimisation	27	10	1	2015
Aggregate	17	6	2	2015
Building information modeling	16	7	1	2019
Disposal	9	7	3	2014
Fly ash	9	3	3	2016
Leaching	9	7	2	2013
Selective demolition	9	6	1	2017
Urbanization	9	6	2	2018
Carbon emission	8	3	2	2018
Environmental assessment	8	5	3	2018
Material recovery	8	5	1	2017
Mechanical properties	8	6	3	2019
Risk assessment	8	5	2	2013
Strength	8	5	3	2012

Urban metabolism	8	3	2	2020
Waste disposal	8	4	1	2014
Water absorption	8	4	3	2019
Construction and demolition debris	7	3	2	2010
Construction demolition waste	7	3	4	2020
Demolition waste management	7	5	1	2020
Design	7	6	1	2017
Developing countries	7	2	4	2021
Environmental management	7	3	3	2015
Green building	7	1	4	2020
Gypsum	7	2	2	2018
Incineration	7	6	1	2017
Landfilling	7	6	1	2019
Renovation	7	6	1	2011
Waste composition	7	4	1	2018
Zero waste	7	4	1	2019
Cement	6	6	2	2018
Composting	6	5	3	2013
Copper	6	5	3	2005
Cost-benefit analysis	6	5	1	2016
Embodied energy	6	6	3	2016
Environmental impact assessment	6	4	1	2019
Environmental sustainability	6	4	3	2021
Illegal dumping	6	1	4	2019
Landfills	6	3	3	2011
Life-cycle assessment	6	4	2	2019
Recycled concrete aggregates	6	5	4	2016
Recycled materials	6	5	4	2014
Resource management	6	3	2	2015
Separation	6	3	1	2012
Strategies	6	6	1	2019
Sustainable waste management	6	4	1	2020
Urban planning	6	6	2	2015
Waste generation	6	2	4	2011
Waste quantification	6	4	1	2018
Wood waste	6	3	3	2016

**Table S5: Data for Figure 2A.** Quantity of publications per year from the search ‘Life Cycle assessment OR embodied energy OR carbon footprint OR green building OR living building challenge AND construction AND demolition.’ Data collected on the 6th of April 2023.

Publication year	Quantity of publications
1995	2
1996	1
1997	1
1998	3
1999	1
2000	6
2001	4

2002	4
2003	9
2004	4
2005	7
2006	12
2007	16
2008	15
2009	13
2010	26
2011	30
2012	25
2013	43
2014	51
2015	33
2016	57
2017	51
2018	69
2019	99
2020	102
2021	116
2022	158
2023	50

**Table S6: Data for Figure 2B.** Data behind the overlay visualisation for the publication countries over time. Data collected from the Scopus search and sorted with the VOSviewer software.

<b>Node Title (Country)</b>	<b>Node size (Number of publications found per country)</b>	<b>Node colour (Average Publication year)</b>	<b>Number of lines to the node (Level of corelation the publications have with one another)</b>
China	155	2018	21
United states	119	2014	23
Italy	98	2018	17
Australia	79	2018	16
India	69	2020	11
Spain	69	2018	15
United Kingdom	57	2017	19
Germany	37	2017	12
Brazil	34	2019	15
Canada	33	2016	7
Portugal	30	2019	7
France	27	2017	13
Hong Kong	26	2016	4
Turkey	25	2020	3
Netherlands	22	2016	12
Switzerland	22	2019	10
Belgium	21	2018	8
Malaysia	20	2020	11
Denmark	18	2018	8
Poland	18	2019	5
Czech Republic	17	2019	5
Japan	17	2014	7
Finland	16	2018	6
South Korea	16	2016	5
Sweden	15	2014	7
Iran	14	2020	7

Thailand	14	2017	7
Romania	13	2018	7
Egypt	12	2019	5
Greece	11	2017	4
Russian federation	11	2020	5
Saudi Arabia	11	2021	9
Austria	10	2020	4
Colombia	10	2020	3

**Table S7: Data for Figures 2C and 2D.** Data behind the visualisation of the co-occurrence between keywords (Figure 2C) and for the overlay visualisation of keyword occurrence over time (Figure 2D). Data collected from the Scopus search and sorted with the VOSviewer software.

<b>Node Title (Keyword)</b>	<b>Node size (Number of times the keyword occurs across all publications)</b>	<b>Number of lines to the node (Level of corelation the keywords have with one another)</b>	<b>Figure 2C node colour (Cluster – Keywords with similar subjects)</b>	<b>Figure 2D node colour (Average Publication year)</b>
Life cycle assessment	599	27	1 (Red)	2017
Environmental impact	338	27	1	2016
Construction and demolition waste	293	27	2 (Green)	2019
Waste management	188	27	2	2018
Recycled aggregate	120	24	3 (Blue)	2019
Carbon footprint	118	26	1	2019
Carbon dioxide	108	27	1	2017
Energy utilization	100	27	1	2016
Concrete aggregates	97	25	3	2019
Aggregate	86	26	3	2018
Building material	86	27	2	2018
Greenhouse gases	86	27	1	2018
Global warming	85	27	1	2017
Building	82	27	1	2017
Concretes	80	27	3	2017
Waste disposal	79	27	2	2016
Environmental management	77	26	3	2017
Landfill	73	27	2	2016
Energy efficiency	68	26	1	2017
Environmental impact assessment	65	26	2	2015
Architectural design	61	26	1	2018
Building industry	56	27	2	2018
Housing	56	24	1	2016
Carbon	54	27	1	2019
Carbon emission	50	25	1	2018
Embodied energy	50	25	1	2016
Decision making	49	25	2	2018
Gas emissions	49	27	1	2018

**Table S8: Data for Figure 3A.** Quantity of publications per year from the search of ‘Reuse OR recycle OR reclaim OR (salvaged AND material) OR upcycle AND construction AND demolition’ on the Scopus database. Data collected on the 29th May 2023.

<b>Publication year</b>	<b>Quantity of publications</b>
1976	1
1977	0
1978	0
1979	1
1980	0
1981	0
1982	0
1983	0
1984	1
1985	0
1986	0
1987	0
1988	0
1989	0
1990	1
1991	1
1992	0
1993	1
1994	1
1995	1
1996	5
1997	3
1998	5
1999	2
2000	5
2001	16
2002	4
2003	12
2004	19
2005	13
2006	17
2007	26
2008	28
2009	16
2010	28
2011	32
2012	34
2013	33
2014	51
2015	31
2016	41
2017	57
2018	79
2019	93
2020	95
2021	119
2022	150
2023	59



**Table S9: Data for Figure 3B.** Data behind the overlay visualisation for the publication countries over time. Data collected from the Scopus search and sorted with the VOSviewer software.

<b>Node Title (Country)</b>	<b>Node size (Number of publications found per country)</b>	<b>Node colour (Average Publication year)</b>	<b>Number of lines to the node (Level of corelation the publications have with one another)</b>
China	122	2018	18
United States	109	2013	18
India	99	2020	14
United Kingdom	91	2015	27
Italy	75	2018	19
Spain	72	2016	12
Australia	71	2016	18
Brazil	53	2017	15
Germany	43	2017	11
Netherlands	41	2014	15
Japan	40	2013	5
Portugal	35	2016	14
Canada	32	2015	7
Hong Kong	31	2015	5
France	24	2018	18
Malaysia	22	2019	7
Belgium	17	2018	5
Denmark	17	2019	6
Thailand	16	2018	10
Turkey	15	2016	7
Poland	14	2020	12
Switzerland	14	2019	12
Romania	13	2018	3
Sweden	13	2018	10
Greece	12	2015	1
Czech Republic	11	2020	8
Finland	11	2016	8
Russian Federation	11	2020	5
South Africa	11	2019	3
Viet Nam	11	2021	8
Austria	10	2018	7
Colombia	10	2020	2
Egypt	10	2019	4
Iran	10	2018	4
Nigeria	10	2017	4

**Table S10: Data for Figures 3C and 3D.** Data behind the visualisation of the co-occurrence between keywords (Figure 3C) and for the overlay visualisation of keyword occurrence over time (Figure 3D). Data collected from the Scopus search and sorted with the VOSviewer software.

<b>Node Title (Keyword)</b>	<b>Node size (Number of times the keyword occurs across all publications)</b>	<b>Number of lines to the node (Level of corelation the keywords have with one another)</b>	<b>Figure 3C node colour (Cluster – Keywords with similar subjects)</b>	<b>Figure 3D node colour (Average Publication year)</b>
Construction and demolition waste	424	30	4 (Yellow)	2018

Waste management	239	30	1 (Red)	2015
Concrete aggregates	185	30	2 (Green)	2017
Recycled aggregate	175	30	2	2017
Concretes	143	30	2	2015
Aggregate	137	29	2	2016
Life cycle assessment	133	29	3 (Blue)	2017
Waste disposal	129	30	1	2014
Environmental impact	122	30	3	2015
Landfill	109	28	1	2012
Article	101	30	1	2015
Construction wastes	65	30	1	2016
Demolition wastes	60	30	2	2016
Building material	57	28	1	2014
Recycled concrete aggregates	50	24	2	2018
Industrial waste	48	30	1	2016
Charge density waves	47	29	4	2017
Debris	47	27	3	2012
Water absorption	47	24	2	2018
Mechanical properties	44	21	2	2017
Building industry	43	26	1	2016
Durability	40	24	2	2016
Waste treatment	40	29	1	2016
Brick	38	26	2	2017
Cements	38	29	2	2016
Project management	38	22	1	2012
Decision making	37	24	1	2017
Construction material	36	26	3	2015
Greenhouse gases	35	26	3	2018
Reuse and recycling	35	25	4	2016
Solid wastes	35	24	1	2012

**Table S11: Data for Figure 4A.** Quantity of publications per year from the search of ‘Refurbishment OR renovation OR (heritage AND restoration) AND building AND construction’ on the Scopus database. Data collected on the 29th May 2023.

Publication year	Quantity of publications
1960	1
1972	1
1974	4
1975	3
1976	3
1977	1
1978	5
1979	4
1980	4
1981	7
1982	2
1983	8
1984	15
1985	20
1986	25
1987	13
1988	16
1989	17
1990	15
1991	18

1992	16
1993	12
1994	13
1995	19
1996	27
1997	21
1998	20
1999	35
2000	34
2001	30
2002	29
2003	44
2004	55
2005	70
2006	101
2007	86
2008	95
2009	114
2010	102
2011	144
2012	153
2013	237
2014	226
2015	239
2016	261
2017	293
2018	309
2019	406
2020	353
2021	405
2022	407
2023	127

**Table S12: Data for Figure 4B.** Data behind the overlay visualisation for the publication countries over time. Data collected from the Scopus search and sorted with the VOSviewer software.

<b>Node Title (Country)</b>	<b>Node size (Number of publications found per country)</b>	<b>Node colour (Average Publication year)</b>	<b>Number of lines to the node (Level of corelation the publications have with one another)</b>
Italy	575	2018	22
United States	554	2009	27
Spain	328	2017	23
United Kingdom	302	2013	25
Germany	258	2014	19
Russian Federation	140	2019	6
Poland	128	2017	12
Portugal	115	2017	16
Netherlands	105	2015	21
France	103	2016	10
Finland	100	2012	18
Japan	93	2015	8
Turkey	88	2016	6
Sweden	87	2016	13
Canada	84	2012	10
Belgium	83	2017	15

Austria	81	2016	16
Denmark	74	2016	16
Czech Republic	71	2017	8
Switzerland	68	2017	12
Greece	59	2017	14
India	59	2017	3
Lithuania	55	2011	6
South Korea	54	2018	4
Malaysia	53	2017	4
Norway	51	2017	16
Hungary	41	2014	5
Slovakia	35	2016	8
Slovenia	35	2015	8
Iran	33	2018	7
Taiwan	33	2015	2
Brazil	29	2018	9
Ireland	25	2017	9
Latvia	24	2016	6
New Zealand	24	2016	4
Serbia	24	2017	6

**Table S13: Data for Figures 4C and 4D.** Data behind the visualisation of the co-occurrence between keywords (Figure 4C) and for the overlay visualisation of keyword occurrence over time (Figure 4D). Data collected from the Scopus search and sorted with the VOSviewer software.

<b>Node Title (Keyword)</b>	<b>Node size (Number of times the keyword occurs across all publications)</b>	<b>Number of lines to the node (Level of corelation the keywords have with one another)</b>	<b>Figure 4C node colour (Cluster – Keywords with similar subjects)</b>	<b>Figure 4D node colour (Average Publication year)</b>
Energy efficiency	632	31	2 (Green)	2017
Architectural design	395	31	1 (Red)	2016
Housing	339	31	2	2016
Life cycle assessment	338	31	3 (Blue)	2018
Energy utilization	325	30	2	2016
Building	297	31	3	2016
Restoration	287	31	1	2015
Historic preservation	265	31	1	2017
Renovation	259	30	1	2014
Energy conservation	236	31	2	2015
Retrofitting	223	31	2	2015
Refurbishment	220	31	3	2014
Environmental impact	198	31	3	2016
Office buildings	188	30	3	2014
Structural design	182	31	1	2011
Architecture	179	31	1	2015
Residential building	175	30	2	2017
Walls (structural partitions)	175	30	1	2015
Project management	170	31	3	2012
Building construction	160	30	3	2015
Maintenance	152	31	1	2014
Investments	147	31	2	2017
Costs	146	30	2	2014
Building renovation	145	30	3	2016

Decision making	141	29	3	2017
Cultural heritage	140	24	1	2017
Concrete construction	139	28	1	2010
Thermal insulation	135	30	2	2016
Intelligent buildings	127	30	3	2016
Heating	122	30	2	2014
Reinforced concrete	121	29	1	2015
Ventilation	120	28	2	2011

**Table S14: Data for Figure 5A.** Quantity of publications per year from the search of ‘Circular economy OR closing the loop OR zero waste OR narrowing the loop AND construction OR demolition’ on the Scopus database. Data collected on the 29th May 2023.

Publication year	Quantity of publications
1973	2
1974	4
1975	4
1977	2
1978	2
1979	4
1980	2
1981	1
1983	3
1984	2
1985	6
1986	2
1987	2
1988	3
1989	1
1990	1
1991	2
1992	3
1993	4
1994	1
1995	4
1996	3
1997	3
1998	4
1999	4
2000	10
2001	5
2002	10
2003	12
2004	5
2005	21
2006	21
2007	28
2008	24
2009	31
2010	35
2011	56
2012	55
2013	58
2014	65
2015	46
2016	74
2017	104

2018	163
2019	277
2020	409
2021	613
2022	728
2023	316

**Table S15: Data for Figure 5B.** Data behind the overlay visualisation for the publication countries over time. Data collected from the Scopus search and sorted with the VOSviewer software.

<b>Node Title (Country)</b>	<b>Node size (Number of publications found per country)</b>	<b>Node colour (Average Publication year)</b>	<b>Number of lines to the node (Level of corelation the publications have with one another)</b>
Italy	293	2020	29
United Kingdom	260	2020	31
Spain	247	2020	23
United States	244	2015	31
Germany	184	2019	29
India	160	2020	27
Netherlands	126	2020	25
Portugal	123	2021	21
France	100	2020	28
Canada	97	2019	21
Brazil	93	2020	19
Denmark	83	2020	24
Poland	82	2020	20
Belgium	77	2020	19
Switzerland	68	2021	22
Sweden	67	2020	21
Austria	64	2019	22
Finland	59	2020	14
Malaysia	54	2021	17
Norway	51	2020	19
Greece	42	2020	13
Romania	42	2019	16
Japan	39	2015	19
Turkey	37	2020	20
Russian Federation	33	2018	17
South Africa	32	2020	6
South Korea	32	2020	16
Colombia	30	2021	7
Chile	28	2021	10
Czech Republic	27	2019	13
Iran	26	2019	8
Egypt	25	2019	12
Taiwan	25	2019	3
Nigeria	24	2018	6
Saudi Arabia	23	2021	13
Pakistan	22	2022	11

**Table S16: Data for Figures 5C and 5D.** Data behind the visualisation of the co-occurrence between keywords (Figure 4C) and for the overlay visualisation of keyword occurrence over time (Figure 4D). Data collected from the Scopus search and sorted with the VOSviewer software.

<b>Node Title (Keyword)</b>	<b>Node size (Number of times the keyword occurs across all publications)</b>	<b>Number of lines to the node (Level of correlation the keywords have with one another)</b>	<b>Figure 5C node colour (Cluster – Keywords with similar subjects)</b>	<b>Figure 5D node colour (Average Publication year)</b>
Life Cycle Assessment	465	37	1 (Red)	2020
Waste Management	387	37	2 (Green)	2020
Environmental Impact	304	37	1	2020
Construction And Demolition Waste	276	37	3 (Blue)	2021
Economics	160	37	1	2018
Waste Disposal	136	37	2	2018
Industrial Economics	135	34	1	2019
Architectural Design	131	34	1	2020
Energy Efficiency	122	34	1	2019
Energy Utilization	121	34	1	2019
Climate Change	118	37	1	2021
Economic Aspect	117	37	2	2021
Construction Sectors	114	37	1	2021
Greenhouse Gases	114	37	1	2020
Carbon Dioxide	111	36	3	2019
Concrete Aggregates	110	35	3	2020
Recycled Aggregate	107	33	3	2020
Carbon	106	37	1	2020
Decision Making	104	33	1	2020
Aggregate	96	35	3	2020
Landfill	95	35	2	2018
Cements	93	35	3	2020
Economic And Social Effects	93	35	1	2019
Fly Ash	92	33	3	2019
Building	91	34	2	2021
Waste Treatment	91	36	2	2018
Concretes	90	37	3	2018
Construction Material	90	34	2	2020
Environmental Management	89	37	1	2020
Slags	89	31	3	2019
Gas Emissions	86	37	1	2019
Environmental Economics	85	35	2	2020
Industrial Waste	84	36	2	2020
Supply Chains	84	33	1	2020
Building Industry	81	36	2	2021
Environmental Protection	81	35	2	2017
Building Material	78	36	2	2020
Controlled Study	72	36	2	2020

**Table S17: Data for Figure 6A.** Quantity of publications per year from the search of ‘Waste minimization OR waste minimisation OR zero waste AND construction’ on the Scopus database. Data collected on the 29th of May 2023.

<b>Publication year</b>	<b>Quantity of publications</b>
1973	1
1974	2
1975	5
1976	2
1977	1
1979	3
1980	1
1983	3
1984	2
1985	1
1986	1
1987	1
1988	5
1989	1
1990	4
1991	6
1992	3
1993	4
1994	4
1995	5
1996	12
1997	7
1998	3
1999	8
2000	13
2001	11
2002	12
2003	26
2004	19
2005	20
2006	39
2007	27
2008	45
2009	28
2010	25
2011	58
2012	49
2013	49
2014	51
2015	45
2016	61
2017	72
2018	69
2019	77
2020	118
2021	128
2022	161
2023	68



**Table S18: Data for Figure 6B.** Data behind the overlay visualisation for the publication countries over time. Data collected from the Scopus search and sorted with the VOSviewer software.

<b>Node Title (Country)</b>	<b>Node size (Number of publications found per country)</b>	<b>Node colour (Average Publication year)</b>	<b>Number of lines to the node (Level of corelation the publications have with one another)</b>
United States	169	2010	19
United Kingdom	132	2015	21
India	101	2018	15
Malaysia	58	2017	15
Canada	56	2013	7
Spain	45	2015	4
Italy	44	2019	15
Germany	41	2012	12
Brazil	39	2015	10
Egypt	29	2018	11
Russian Federation	28	2017	5
Belgium	22	2015	11
France	22	2014	11
Iran	22	2017	5
Nigeria	22	2017	8
Japan	20	2010	5
Poland	19	2017	5
South Korea	19	2019	7
Portugal	18	2014	7
Turkey	18	2016	4
Indonesia	17	2018	2
Netherlands	17	2015	9
New Zealand	17	2015	3
Switzerland	17	2018	7
Austria	16	2017	7
Denmark	14	2016	8
Norway	14	2017	4
South Africa	14	2018	4
Singapore	13	2012	3

**Table S19: Data for Figures 6C and 6D.** Data behind the visualisation of the co-occurrence between keywords (Figure 6C) and for the overlay visualisation of keyword occurrence over time (Figure 6D). Data collected from the Scopus search and sorted with the VOSviewer software.

<b>Node Title (Keyword)</b>	<b>Node size (Number of times the keyword occurs across all publications)</b>	<b>Number of lines to the node (Level of corelation the keywords have with one another)</b>	<b>Figure 6C node colour (Cluster – Keywords with similar subjects)</b>	<b>Figure 6D node colour (Average Publication year)</b>
Waste management	313	32	2 (Green)	2014
Waste minimisation	208	31	2	2012
Conservation	164	31	2	2015
Waste disposal	162	32	3 (Blue)	2012
Life cycle assessment	126	32	1 (Red)	2017
Environmental impact	120	32	1	2013

Construction and demolition waste	107	30	2	2019
Construction wastes	99	28	2	2015
Landfill	81	30	3	2011
Energy utilization	73	30	1	2017
Industrial waste	72	30	3	2013
Waste treatment	70	30	1	2015
Energy efficiency	65	29	1	2016
Project management	62	24	2	2013
Architectural design	61	29	2	2017
Priority journal	60	31	3	2013
Carbon dioxide	58	30	1	2016
Zero waste	58	25	1	2018
Optimization	57	28	2	2011
Building material	56	30	3	2015
Environmental protection	55	29	3	2007
Solid wastes	51	29	3	2011
Fly ash	49	27	1	2016
Environmental management	47	30	1	2015
Building industry	45	26	3	2015
Slags	45	26	1	2018
Costs	44	30	1	2013
Surveys	44	24	2	2016
Waste heat	44	16	1	2017
Carbon	43	29	1	2018
Cements	41	27	1	2017
Concretes	41	28	1	2014
Greenhouse gases	41	29	1	2018

**Table S20: Data for Figure 7A.** Quantity of publications per year from the search of ‘Waste minimization OR waste minimisation OR zero waste’ on the Scopus database. Data collected on the 29th of May 2023.

Publication year	Quantity of publications
1943	1
1944	1
1961	1
1963	2
1964	1
1965	2
1966	2
1967	2
1968	1
1969	6
1970	5
1971	9
1972	8
1973	27
1974	35
1975	46
1976	29

1977	37
1978	27
1979	31
1980	38
1981	35
1982	28
1983	34
1984	42
1985	45
1986	53
1987	55
1988	84
1989	80
1990	109
1991	141
1992	110
1993	156
1994	177
1995	172
1996	204
1997	208
1998	206
1999	204
2000	234
2001	239
2002	252
2003	305
2004	321
2005	383
2006	405
2007	402
2008	446
2009	492
2010	533
2011	600
2012	574
2013	606
2014	691
2015	675
2016	830
2017	902
2018	1,001
2019	1,229
2020	1,469
2021	1,724
2022	2,024
2023	900
2024	2

**Table S21: Data for Figure 7B.** Data behind the overlay visualisation for the publication countries over time. Data collected from the Scopus search and sorted with the VOSviewer software.

<b>Node Title (Country)</b>	<b>Node size (Number of publications found per country)</b>	<b>Node colour (Average Publication year)</b>	<b>Number of lines to the node (Level of corelation the publications have with one another)</b>
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United States	3503	2007	29
India	1745	2017	29
United Kingdom	1270	2012	29
Italy	836	2016	27
Canada	669	2012	28
Spain	649	2015	28
Germany	625	2011	29
Brazil	539	2016	22
Japan	527	2011	29
Malaysia	503	2017	27
South Korea	456	2016	27
France	399	2013	28
Iran	373	2018	27
Turkey	371	2016	23
Poland	329	2017	24
Taiwan	313	2013	20
Netherlands	271	2013	26
Russian Federation	269	2017	26
Indonesia	265	2019	17
South Africa	261	2016	25
Egypt	240	2018	25
Greece	237	2016	24
Sweden	237	2014	28
Portugal	236	2016	22
Saudi Arabia	232	2018	28
Thailand	208	2017	20
Belgium	201	2014	24
Mexico	192	2015	19
Denmark	178	2014	25
Singapore	177	2015	21

**Table S22: Data for Figures 7C and 7D.** Data behind the visualisation of the co-occurrence between keywords (Figure 7C) and for the overlay visualisation of keyword occurrence over time (Figure 7D). Data collected from the Scopus search and sorted with the VOSviewer software.

<b>Node Title (Keyword)</b>	<b>Node size (Number of times the keyword occurs across all publications)</b>	<b>Number of lines to the node (Level of corelation the keywords have with one another)</b>	<b>Figure 7C node colour (Cluster – Keywords with similar subjects)</b>	<b>Figure 7D node colour (Average Publication year)</b>
Waste management	2658	46	1 (Red)	2012
Waste minimisation	1970	44	1	2009
Wastewater treatment	1821	46	3 (Blue)	2013
Waste disposal	1575	46	1	2010
Iron	1522	46	2 (Green)	2016
Waste water management	1482	45	3	2010
Adsorption	1435	46	2	2016
Controlled study	1397	45	2	2016
Wastewater	1313	46	3	2012
Ph	1228	45	2	2015
Waste treatment	1156	46	1	2013
Nonhuman	1086	45	5 (Purple)	2014
Environmental impact	1031	46	1	2011
Chemistry	1028	46	4 (Yellow)	2017

Water pollutants, chemical	1006	45	2	2017
Waste water	938	45	3	2013
Sewage	922	46	3	2015
Water pollutant	887	45	2	2018
Environmental protection	876	46	1	2004
Optimization	875	46	1	2012
Conservation	858	45	1	2015
Water treatment	849	46	3	2012
Pollutant removal	816	46	2	2017
Biomass	813	46	1	2016
Oxidation	793	46	2	2014
Carbon	790	46	1	2017
Waste component removal	781	45	2	2016
Carbon dioxide	779	46	1	2016
Kinetics	778	46	2	2014
Waste heat	751	32	1	2017
Industrial waste	745	46	1	2010
Scanning electron microscopy	735	44	2	2018
Human	720	46	1	2015
Procedures	696	46	4	2018
Temperature	677	46	1	2015
Iron nanoparticle	676	44	2	2019
Water	674	46	4	2015
Unclassified drug	655	45	2	2016
Effluents	648	46	3	2013
Landfill	640	46	1	2011
Zero waste	633	44	1	2018
Waste disposal, fluid	627	45	3	2014
Energy efficiency	626	45	1	2016
Water management	611	46	4	2015
Life cycle assessment	608	46	1	2016
Water purification	608	46	4	2015
Zero-valent iron	601	42	2	2016

**Table S23: Data for Figure 9.** Average total publications per year (1960-2023), vs the weighted average year of publications, calculated from an average of total publication quantities from the VosViewer data of search 1-6. The average year of publication was weighted by the number of publications in the year. The top 21 countries are displayed.

Keyword	Weighted average year	Average total of occurrences (from searches 1-6)
Belgium	2014.6818	22
Egypt	2017.8276	29
Malaysia	2017.8188	55.5
Canada	2015.940833	62
Brazil	2017.58816	63.8
Japan	2013.9011	66.5
Portugal	2018.00224	73.8
France	2017.6039	76.66666667
Denmark	2020.012	83
Russian Federation	2017.9286	84
Netherlands	2016.497933	90.66666667
Finland	2011.72	100
Germany	2015.29765	102.8333333

Australia	2017.3632	103.6666667
India	2019.21218	111.4
Hong Kong	2015	121
Poland	2017.1484	128
Spain	2017.0863	151
United Kingdom	2015.77115	160.8333333
China	2018.365433	192
Italy	2018.318117	195.6666667
United states	2011.939667	228.1666667

**Table S24: Data for Figure 10.** The highest occurring keywords per development phase. The publications from search 1 were organised into three files according to their publication date and re-imported into VosViewer to create three smaller diagrams analysing the top 5-10 occurring keywords for each development phase.

Node Title (Keyword)	Node size (Number of times the keyword occurred from 1966 to 2002)	Node colour (Average Publication year)	Node size (Number of times the keyword occurred from 2003 to 2016)	Node colour (Average Publication year)	Node size (Number of times the keyword occurred from 2017 to 2023)	Node colour (Average Publication year)
Waste minimisation	<i>Not meet threshold</i>	<i>n/a</i>	<i>Not meet threshold</i>	<i>n/a</i>	17	2020
Waste management	7	1999	103	2011	190	2020
Recycled aggregate	<i>Not meet threshold</i>	<i>n/a</i>	44	2012	76	2020
Material flow analysis	<i>Not meet threshold</i>	<i>n/a</i>	<i>Not meet threshold</i>	<i>n/a</i>	26	2020
Mass balance	3	1998	<i>Not meet threshold</i>	<i>n/a</i>	<i>Not meet threshold</i>	<i>n/a</i>
Life cycle assessment	<i>Not meet threshold</i>	<i>n/a</i>	42	2012	94	2020
Landfill	3	1997	<i>Not meet threshold</i>	<i>n/a</i>	<i>Not meet threshold</i>	<i>n/a</i>
Environmental impact	<i>Not meet threshold</i>	<i>n/a</i>	14	2011	24	2020
Copper	4	2001	<i>Not meet threshold</i>	<i>n/a</i>	<i>Not meet threshold</i>	<i>n/a</i>
Construction and demolition waste	6	2001	183	2012	365	2020
Chromium	3	2000	<i>Not meet threshold</i>	<i>n/a</i>	<i>Not meet threshold</i>	<i>n/a</i>
Building information modelling	<i>Not meet threshold</i>	<i>n/a</i>	<i>Not meet threshold</i>	<i>n/a</i>	13	2020
Aggregate	<i>Not meet threshold</i>	<i>n/a</i>	9	2011	<i>Not meet threshold</i>	<i>n/a</i>

**Table S25: Data for Figure 11.** Total occurrences of the keywords (1966 – 2023) vs the weighted average year of publication, calculated from the VosViewer data from search 1. The top 9 occurring keywords have been displayed. In addition, three other keywords of interest are shown: Zero Waste, Green Building, and Embodied E. (embodied energy).

Keyword	Weighted average year	Total of occurrences
C&DW	2017.3231	554
Waste Management	2016.6667	300
LCA	2018.1615	130
Recycled Aggregate	2016.7500	120
Environmental Impact	2016.4615	49

Material Flow Analysis	2017.4571	35
Waste Minimisation	2015.1111	27
Aggregate	2014.7647	17
BIM	2019.1250	16
Zero Waste	2019.4286	7
Green Building	2019.7143	7
Embodied E.	2016.0000	6