

1 Detail of all subclusters

Tabell 1: Subclusters of sustainability science. Subcluster are sorted by average publication year in each parent cluster.

#	Parent_cluster	Nodes	Year	TFIDF
1_5	Soil, agriculture	2961	2014.07	Amf, Pgpr, Arbuscular, Rhizosphere, Rhizobacterium, Pgpb, Endophytic, Plant growth promotion, Phosphate solubilization, Arbuscular mycorrhizal fungi, Mycorrhizal, Inoculation, Biofertilizer, Fungi, Fungal
1_7	Soil, agriculture	1841	2013.85	Nue, Phosphoru, Struvite, Nutrient, Soil, Nitrogen, Fertilizer, Nitrogen use efficiency, Maize, Grain yield, Use efficiency, Kg ha, Agricultural, Organic, Nitrate
1_2	Soil, agriculture	3101	2013.45	Agroecology, Agricultural, Farmer, Sustainable intensification, Agroecological, Yield gap, Food security, Maize, Agriculture, Crop, Agrobiodiversity, Ksr, Farm, Land, Rice
1_3	Soil, agriculture	3092	2012.00	Tillage system, Nt, Fym, Npk, Maize, Soc, Zt, Conventional tillage, Conservation agriculture, Wheat, Grain yield, Soil, Rice wheat, Residue retention, Organic
1_10	Soil, agriculture	1487	2011.99	Organic farming, Organic agriculture, Conventional farming, Organic system, Mj ha, Agricultural, Soil, Nutrient, Olive, Conv, Farm, Fertilizer, Organic farm, Environmental, Farmer
1_4	Soil, agriculture	3062	2011.99	Ipm, Crylac, Weed, Bt cotton, Natural enemy, Pest management, Insect, Insecticide, Parasitoid, Aphid, Transgenic, Glyphosate, Pollinator, Wild bee, Herbicide
1_6	Soil, agriculture	2549	2011.30	Sqi, Soil quality index, Tillage system, Microbial biomas, Organic, Soc, Som, Soil property, Soil health, Nt, Soil organic matter, Soil organic carbon, Fym, Soil function, Soil quality indicator
1_9	Soil, agriculture	1689	2010.04	Homegarden, Agroforestry system, Tree, Dehesa, Cocoa tree, Silvopastoral system, Cacao, Farmer, Fallow, Maize, Soil fertility, Shade tree, Nutrient, Alley cropping, Montado
1_8	Soil, agriculture	1764	2008.57	Farmer, Soil erosion, Fallow, Nutrient, Agricultural, Slm, Nutmon, Land degradation, Ethiopium, Maize, Organic, Soil fertility, Adoption, Upland, Swc
1_1	Soil, agriculture	3284	2008.10	Farmer, Agricultural sustainability, Farm level, Organic farming, Sustainable agriculture, Environmental, Agriculture, Economic, Siat, Social, Indicator, Sustainability, System, Animal welfare, Rural
2_7	Corporate	1883	2015.27	Remanufactured product, Clsc, Closed loop supply chain, Reverse logistic, Supply chain network, Retailer, Manufacturer, Loop supply chain, Environmental, Model, Green, Sustainable supply chain, Intermodal, Weee, Sustainable
2_2	Corporate	4146	2014.75	Mql, Lean manufacturing, Machining process, Sustainable machining, Dry machining, Tool wear, Machine tool, Tool life, Aisi, Sustainable manufacturing practice, Kaizen, Cryogenic machining, Inconel, Minimum quantity lubrication, Workpiece
2_3	Corporate	3914	2014.72	Sscm practice, Gscm practice, Sustainable supply chain management, Sustainable supplier selection, Green supply chain management, Supply chain management, Supplier selection, Green supplier selection, Environmental, Sustainable procurement, Firm, Scm, Supply chain sustainability, Company, Social
2_1	Corporate	5930	2013.84	Csr, Corporate sustainability, Eco innovation, Firm performance, Sme, Sustainable entrepreneurship, Corporate social responsibility, Social enterprise, Company, Environmental, Social entrepreneurship, Green innovation, Organizational, Business model innovation, Entrepreneurial
2_9	Corporate	1248	2013.66	Ghrm practice, Green human, Green human resource management practice, Sustainable hrm, Hrm practice, Ergonomic, Employee, Organizational, Hrd, Ethical leadership, Sustainable human resource management, Environmental, Green hrm, Sustainable leadership, Avery

2_6	Corporate	2252	2013.52	Eco industrial park, Eip, Circular economy, Industrial symbiosi, Industrial ecology, Weee, Ce, Circular business model, Waste, Industrial park, Environmental, Electronic equipment, Industrial ecosystem, Kalundborg, Industrial symbiosis network
2_8	Corporate	1669	2013.20	Lcsa framework, Slca, Lca, Environmental impact, Life cycle sustainability assessment, Social life cycle assessment, Social lca, Life cycle assessment, Eco efficiency, Lcc, Economic, Product, Sustainable, Greenscope, Sustainability assessment
2_4	Corporate	3013	2012.84	Ps, Product service system, Ecodesign, Eol, Product development proces, Environmental impact, Elv, Remanufacturing, Pss design, Automotive, Dfe, Sustainable product service system, Lca, Sustainable product design, Eco design
2_10	Corporate	1178	2012.48	Tqm, Sbsc, Corporate sustainability performance, Environmental, Company, Scorecard, Social, Iso, Sustainable, Sustainability performance, Business excellence, Economic, Sustainable value approach, Balanced scorecard, Organization
2_5	Corporate	2836	2011.18	Sustainable competitive advantage, Firm performance, Intellectual capital, Dynamic capability, Competitive advantage, Sme, Rbv, Tqm, Organizational performance, Knowledge management, Strategic, Company, Organization, Innovation, Open innovation
3_11	Ecosystem	1198	2015.22	Sdg, Sustainable development goal, Menstrual, Global, Mdg, Anthropocene, Environmental, Social, Human, Agenda, Geodiversity, Planetary boundary, Economic, Millennium development goal, International
3_6	Ecosystem	2337	2014.66	Ecosystem service value, Esv, E, Es, Ecological, Urban, Yuan, Spatial, Water yield, Biodiversity, Total esv, Ecosystem services value, Human, Grassland, Ecosystem services supply
3_2	Ecosystem	2628	2013.58	Urban expansion, Lst, Lulc, Spatial, Urban growth, Sleuth, China, Land use change, Land consolidation, Urban sprawl, Uhi, Landsat, Rural, Urbanization, Lucc
3_5	Ecosystem	2337	2013.28	Transdisciplinary research, Sustainability science, Social learning, Transdisciplinarity, Social ecological, Environmental, Science, Sustainable, Knowledge, Local, Stakeholder, Scientific, Interdisciplinary, Natural, Human
3_1	Ecosystem	2947	2013.25	Resilience thinking, Climate change adaptation, Social ecological system, Vulnerability, Adaptive capacity, Adaptation, Disaster risk reduction, Disaster, Drr, Urban resilience, Change, Local, Community, Sustainable, Environmental
3_8	Ecosystem	1770	2013.02	Loess plateau, Soil desiccation, China, Grassland, Loes, Ggp, Ecological restoration, Forest, Rocky desertification, Gtgp, Vegetation restoration, Lucc, Karst rocky desertification, Streamflow, Soil moisture
3_4	Ecosystem	2509	2012.55	Urban green space, Landscape ecology, Ug, Green space, Greenway, Ecological land, City, Urban forest, Green infrastructure, Urban greenspace, Urban park, Spatial, Tree, Urban ecological, Ecosystem service
3_3	Ecosystem	2513	2011.63	Social ecological system, Local, Forest, Community forestry, Common pool resource, Natural, Institutional, Conservation, Common, Indigenou, Livelihood, Sustainable, Ecological, Environmental, Fishery
3_9	Ecosystem	1682	2011.19	Environmental flow, River, Dam, Fish, Sediment, Ecohydrology, Ecological, Mekong, Reservoir, Hydrological, Basin, Floodplain, Riparian, Lake, Fluvial
3_7	Ecosystem	1813	2011.12	Rangeland degradation, Ldn, Pastoral, Grassland degradation, Pastoralist, Grazing, Anpp, Landcare, Pastoralism, Sheep ha, Herder, Livestock, Desertification, Arid, Qtp
3_10	Ecosystem	1532	2011.01	Coastal management, Iczm, Integrated coastal management, Icm, Coastal zone management, Marsh, Sediment, Sea level rise, Delta, Shoreline, Marine, Estuary, Integrated coastal zone management, Coast, Coastal erosion
4_2	Catalyst/ Electrochemical	2128	2016.64	Oer, Hydrogen evolution reaction, Electrocatalyst, Photocatalytic, Oxygen evolution reaction, Overpotential, Overall water splitting, Electrocatalytic, Photoelectrochemical, Low overpotential, Water splitting, Visible light, Photocatalyst, Mv dec, Tafel slope

4_7	Catalyst/ Electrochemical	1649	2016.63	Orr, Porous carbon, Oxygen reduction reaction, Supercapacitor, Porou, Carbon material, Graphene, Hierarchical porou, Hydrochar, High performance supercapacitor, Mah, Koh, Mesoporou, Electrochemical, Hydrothermal carbonization
4_6	Catalyst/ Electrochemical	1706	2016.15	Nanocellulose, Cellulose nanocrystal, Cnc, Cnf, Lignin, Cellulose nanofibril, Cellulose nanomaterial, Ggm, Nanocomposite, Nfc, Cellulose nanofiber, Chitosan, Hydrogel, Aerogel, Nanofibril
4_11	Catalyst/ Electrochemical	914	2016.01	Mah, Sodium ion battery, Lib, Rechargeable battery, Electrochemical performance, Li, Organic electrode material, Lithium, Cathode material, Electrode material, Capacity retention, Ion battery, Lithium ion battery, Electrolyte, Na ion battery
4_4	Catalyst/ Electrochemical	1922	2015.36	Pla, Isosorbide, Polymer, Epoxy, Poly, Monomer, Lactide, Benzoxazine, Cardanol, Thermoset, Polyol, Polymerization, Polyester, Anticorrosive, Bisphenol
4_3	Catalyst/ Electrochemical	2102	2015.30	Hydroxymethylfurfural, Hmf yield, Gvl, Furfural, Levulinic acid, Cellulose, Lignin, Valerolactone, Lignocellulosic biomas, Catalytic, Acrolein, Fructose, Glycerol, Ionic liquid, Fdca
4_8	Catalyst/ Electrochemical	1615	2015.18	Cyclic carbonate, Co2 conversion, Methanol, Epoxide, Formic acid, Co, Catalytic, Hydrogen, Formate, Electrochemical reduction, Photocatalytic, Lohc, Catalyst, Mof, Carbon dioxide
4_5	Catalyst/ Electrochemical	1756	2015.09	Natural fiber, Biocomposite, Natural fibre composite, Composite, Flax, Flexural, Pla, Biodegradable, Fiber, Tensile strength, Green composite, Mechanical property, Kenaf, Thermoplastic, Hemp
4_10	Catalyst/ Electrochemical	1093	2014.93	Catalytic activity, Catalyst, Kcc, Solvent free, Nanocatalyst, Pd, Reaction, Magnetic nanoparticle, Synthesi, Microwave, Excellent yield, Gold nanoparticle, Nanoparticle, Green, Aqueou
4_9	Catalyst/ Electrochemical	1366	2014.86	Nanomaterial, Nanotechnology, Enm, Nanoparticle, Agnp, Photocatalytic, Chitosan, Silver nanoparticle, Nm, Np, Nano, Ferrate, Tio2, Tio, Uv
4_1	Catalyst/ Electrochemical	2254	2013.73	Green chemistry, Solvent, Biocatalysi, Supercritical, Enzyme, Sustainable chemistry, Chemistry, Organic synthesi, Chiral, Ionic liquid, Catalytic, Green analytical, Pharmaceutical, Biocatalytic, Reaction
5_1	Building	2426	2015.56	Geopolymer concrete, Uhpc, Compressive strength, Cement, Concrete, Pofa, Pozzolanic, Opc, Fly ash, Cementitiou, Mortar, Portland cement, Rha, Silica fume, Flexural
5_9	Building	973	2015.13	Asphalt mixture, Rap, Pavement sustainability, Asphalt binder, Asphalt pavement, Hma, Reclaimed asphalt pavement, Bituman, Wma additive, Warm mix asphalt, Rejuvenator, Crumb rubber, Bio binder, Virgin binder, Biobinder
5_10	Building	900	2015.11	Rammed earth wall, Brick, Compressive strength, Cseb, Cement, Clay brick, Burnt clay brick, Unconfined compressive strength, Unfired, Ceb, Fly ash, Geopolymer, Uc, Adobe, Earth building
5_5	Building	1390	2014.94	Rca, Recycled aggregate concrete, Concrete aggregate, Recycled concrete aggregate, Natural aggregate, Compressive strength, Rac, Demolition waste, Recycled coarse aggregate, Coarse aggregate, Fine aggregate, Construction waste, Mortar, Cdw, Flexural
5_7	Building	1251	2014.67	Green roof system, Uhi, Extensive green roof, Urban climatic, Thermal comfort, Green facade, Green wall, Roof, Building, Urban heat island, Vertical greenery system, Outdoor thermal comfort, Vg, Green façade, Solar
5_2	Building	2173	2014.47	Bim, Lca, Building material, Embodied energy, Information modeling, Environmental impact, Construction industry, Life cycle assessment, Tall building, Green, Material, Energy, Information modelling, Residential building, Sustainable building
5_4	Building	1473	2014.21	Adaptive reuse, Heritage building, Historic building, Building stock, Urban renewal, Refurbishment, Retrofit, Sustainable refurbishment, Historical building, Urban regeneration, Energy performance, Social, Cultural, Environmental, Residential
5_11	Building	876	2013.75	Ppp project, Project management, Mife, Construction project, Rvr, Sustainable, Infrastructure project, Public private partnership, Social, Sustainability, Environmental, Construction industry, Economic, Civil engineer, Mega-project

5_8	Building	1114	2013.68	Occupant, Daylight, Building, Bioclimatic potential, Thermal comfort, Ieq, Poe, Vernacular architecture, Indoor environmental quality, Post occupancy evaluation, Comfort, Green building, Office building, Sustainable building, Indoor environment
5_6	Building	1325	2013.18	Leed nd, Breeam, Green building, Casbee, Building, Rating system, Environmental design, Urban, Sustainable building, Sbtool, Social, Sustainability, Intelligent building, Regenerative design, Assessment tool
5_3	Building	1790	2012.84	Gbt, Green building development, Sustainable construction project, Construction industry, Leed, Construction project, Gbts adoption, Contractor, Green construction project, Construction firm, Environmental, Building, Sustainable building, Construction company, Construction professional
6_7	Smart city	1097	2015.87	Bike sharing, Bicycle, Cyclist, Cycling infrastructure, Bs, Electric bicycle, Public bicycle, Car sharing, Pedestrian, Ride, Airbnb, Urban, Carsharing, City, Collaborative consumption
6_5	Smart city	1332	2015.81	Smart city concept, Smart sustainable city, City, Urban, Iot, Ict, Smart mobility, Citizen, Sustainable city, Smartnes, Big data analytic, Smart city project, Smart city service, Big datum, Social
6_9	Smart city	925	2014.57	Ev, Electric vehicle, Bev, Hybrid electric vehicle, Prosumer, Energy justice, Phev, Smart grid, Eco driving, Electric bus, Vehicle, Plug, Renewable, V2g, Environmental
6_3	Smart city	2639	2014.41	Sustainability transition, Ull, Transition management, Grassroots innovation, Socio technical transition, Multi level perspective, Energy transition, Transition study, Technological innovation system, Urban, Strategic niche management, Renewable, Snm, Sociotechnical, Innovation system
6_6	Smart city	1192	2013.58	Degrowth movement, Rebound effect, Green economy, Environmental, Economic growth, Social, Sustainable development, Ecological, Green growth, Time bank, Political, Community currency, Growth, Global, Article
6_1	Smart city	3688	2013.11	Tod, Public transport, Urban, Travel plan, Car use, Transit, Pedestrian, Transport policy, Walking, City, Car ownership, Sustainable transport, Travel behaviour, Mode choice, Sustainable mobility
6_8	Smart city	1084	2012.91	Sustainable consumption, Social practice theory, Environmental, Laundry, Consumption, Everyday, Household sustainability, Practice theory, Change, Green, Individual, Pro environmental, Consumer, Urban, Lifestyle
6_4	Smart city	1369	2012.50	Urban form, Social sustainability, City, Compact city, Sustainable urban form, Crime, Neighbourhood, Residential, Greyfield, Environmental, Spatial, Public, Suburb, Community, Local
6_2	Smart city	2846	2010.69	Urban sustainability, Eco city, City, Local agenda, Environmental, Sustainable development, Social, Green, Sustainability, Sustainable urban, Regional, Economic, Political, Sustainable city, New urbanist
7_7	Water	986	2015.32	Nexu, Water energy food nexu, Water security, Wef nexu, Iwrm, Energy water nexu, Energy, Nexus approach, Water resource, Food, Urban, China, Sustainable, Transboundary, Potassium ferrate
7_9	Water	946	2014.74	Water footprint assessment, Wf, Virtual water trade, Blue water, Water resource, Grey water footprint, Gwf, Water use, Agricultural, Virtual water flow, Water scarcity, Total wf, Green water, Total water footprint, China
7_5	Water	1337	2014.50	Membrane distillation, Fo membrane, Desalination process, Osmosi, Draw solution, Reverse electrodialysi, Forward osmosi, Solar still, Ro, Reverse osmosi, Swro, Seawater desalination, Desalination plant, Brackish, Desalination technology
7_2	Water	1674	2012.96	Lid, Sud, Stormwater management, Permeable pavement system, Bioretention cell, Rain garden, Sustainable urban drainage system, Urban, Perviou, Sfrb, Sustainable drainage system, Wsud, Low impact development, Suwm, Pervious concrete
7_10	Water	838	2012.73	Ncp, North china plain, Groundwater resource, Winter wheat, Wue, Heihe river basin, Irrigation, Maize, Water resource, Hydrological, China, Arid, Mm, Hebei plain, Tarim
7_1	Water	2104	2012.70	Groundwater resource, Aquifer system, Recharge rate, Groundwater level, Groundwater recharge, Hydrogeological, Groundwater management, Karst, Groundwater use, Sustainable groundwater management, Modflow, Hydrochemical, Groundwater storage, Arid, Irrigation

7_8	Water		961	2012.55	Handpump, Trachoma, Sanitation facility, Latrine, Wash, Rural, Water point, Open defecation, Rural water supply, Wua, Rural water service, Hygiene, Piped, Household toilet, Safe water
7_3	Water		1618	2011.94	Soil salinity, Irrigation water, Irrigated agriculture, Saline water, Sodic, Salt, D, Arid, Salinity, Groundwater, Deficit irrigation, Conjunctive use, Water resource, Agricultural, Soil salinization
7_4	Water		1374	2011.80	Urine, Struvite precipitation, Ecosan, Human urine, Wwtp, Wastewater treatment plant, Nomix, Urban, Environmental, Sanitation system, Nutrient, Water, Sustainable, Uddt, Toilet
7_6	Water		1276	2009.90	Water resource, Iwrm, Wjwsi, Basin, Hydrological, Weap, Watershed, Sustainable, Reservoir, Groundwater, Environmental, Drought, Water resources management, Water demand, Water supply
8_7	Sustainable gy(others)	ener-	855	2015.75	Ekc hypothesis, Financial development, Economic growth, Renewable energy consumption, Environmental kuznet, Co2 emission, Renewable, Trade openness, Energy consumption, Ardl, Gdp, Fdi, Emission, Cointegration, Unidirectional causality
8_4	Sustainable gy(others)	ener-	1189	2015.00	Renewable energy source, District heating, Sdewe, Energy system, Environment systems sdewe, Solar, Electric vehicle, Heat, International centre, Dh, Electricity, Sustainable, Energyplan, Environment system, Smart
8_5	Sustainable gy(others)	ener-	979	2014.79	Microgrid, Smart grid, Ev, Electric vehicle, Grid, Renewable, Ieee, Phev, Pev, Micro grid, V2g, Dg, Solar, Power system, Pv
8_3	Sustainable gy(others)	ener-	1473	2014.14	Renewable energy source, Environmental, Fuzzy, Economic, Sustainable development, Ahp, Social, Criterium, Solar, Mcdm, Energy system, Method, Nuclear, Alternative, Mcda
8_6	Sustainable gy(others)	ener-	964	2013.89	China, Renewable energy development, In, Pakistan, Solar, Wind power industry, Energy, Sustainable development, Environmental, Economic, Nuclear, Taiwan, Coal, Ltd, Geothermal
8_2	Sustainable gy(others)	ener-	1583	2013.31	Exergy efficiency, Hydrogen production, Exergetic efficiency, Waste exergy ratio, Exergetic sustainability index, Solar, Exergy analysi, Environmental effect factor, Renewable, Hydrogen energy publication, Exergy destruction, Exergoeconomic, Thermodynamic, Thermochemical, Enviroeconomic
8_1	Sustainable gy(others)	ener-	1646	2013.01	Renewable energy, Rural electrification, Solar, Grid extension, Electricity acces, Solar home system, Mini grid, Microgrid, Energy acces, Electrification, Pv, Bangladesh, Sustainable, Diesel generator, Country
9_9	Bioenergy		820	2015.52	Pha production, Rhamnolipid, Biosurfactant production, Phb, Polyhydroxyalkanoate, Sophorolipid, Olive, Scg, Succinic acid, Omw, Whey, Spent coffee ground, Hydroxybutyrate co, Product, Lactic acid
9_1	Bioenergy		2352	2015.36	Microalgae cultivation, Microalgal biomas, Lipid productivity, Algal biofuel, Algae, Biodiesel production, Scenedesmu, Lipid production, Biofuel production, Chlamydomona, Mixotrophic, Lipid content, Lipid accumulation, Photobioreactor, Nannochloropsis sp
9_7	Bioenergy		1237	2015.08	Biorefinery, Biomas, Integrated biorefinery, Bioethanol, Environmental, Biofuel, Ethanol, Economic, Shale ga, Lignocellulosic, Process synthesi, Lcsoft, Optimal, Sustainable, Bioenergy
9_4	Bioenergy		1497	2015.02	Xylose, Butanol production, Metabolic engineering, Ethanol, Lignocellulosic biomas, Heterologou, Bioethanol, Lignocellulose, Cyanobacterium, Glucose, Biobutanol, Biofuel, Microbial, Enzyme, Titer
9_5	Bioenergy		1428	2014.78	Mfc technology, Microbial fuel cell, Anammox, Bioelectrochemical system, Microbial electrochemical, Smfc, Pmfc, Cathode, Anode, Biocathode, Maximum power density, Bioelectricity generation, Nitrite, Be, Electrode
9_8	Bioenergy		1052	2014.43	Biodiesel production, Jatropa curca, Curca, Diesel engine, Btdc, Transesterification reaction, Wco, Engine performance, Vegetable oil, Biofuel, Methanol, Ulsd, Fame, Diesel fuel, Bsfc
9_6	Bioenergy		1384	2014.29	Anaerobic digestion, Digestate, Bioga, Biogas production, Uasb, Co digestion, Sludge, Biomethane, Sewage sludge, Methane yield, Biogas plant, Ad, Vinasse, Organic, Mesophilic
9_10	Bioenergy		806	2013.86	Biomas, Ash, Gasification, Coal, Combustion, Biomass ash, Torrefaction, Fuel, Torrefied, Pyrolysi, Synga, Char, Hydrochar, Renewable, Water hyacinth

9_2	Bioenergy	1860	2013.10	Switchgras, Miscanthu, Bioenergy crop, Ethanol, Energy crop, Biofuel, Panicum virgatum, Willow, Biomas, Lignocellulosic, Straw, Cellulosic, Srwc, Poplar, Sweet sorghum
9_3	Bioenergy	1793	2012.95	Bioenergy system, Biofuel production, Sugarcane production, Ethanol production, Biodiesel production, Biomas, Jatropa, Environmental, Renewable, Iluc, Ej, Fossil, Ghg, Feedstock, Agricultural
10_5	Urban	1273	2015.12	China, Undesirable output, Dea environmental assessment, Managerial disposability, Dea, Urban, Urbanization, Environmental efficiency, Eco efficiency, Economic, Data envelopment analysi, Non radial directional, Green, Industrial, Dmu
10_4	Urban	1376	2014.28	Ree, Spent lithium ion battery, Spent lib, Use stock, Lithium, Rare earth element, Lib, Metal, Hanpp, Critical metal, Li, Material, Environmental, Cobalt, Copper
10_7	Urban	1074	2013.28	Urban metabolism, City, Ecological network analysi, Ascendency, Urban metabolic, Environmental, China, Ena, Ecological, Emission, Sustainable urban, Energy, Economic, Eoli, Mfa
10_6	Urban	1153	2012.33	Emergy analysi, Sej ha, Emergy evaluation, Eyr, Emergy index, Emergy yield ratio, Elr, Emergy sustainability index, Total emergy, Emergy synthesi, Emergy investment ratio, Uev, Emergy accounting, Transformity, Esi
10_2	Urban	2122	2011.89	Urban sustainability indicator, Indicator, City, Environmental, Sustainable development indicator, Economic, Social, Sustainability indicator, China, Local, Sustainable urbanization, Index, Regional, Asses, Spatial
10_3	Urban	1427	2011.34	Hm2 cap, Ecological footprint model, Ecological deficit, Ef, Gha, Wackernagel, Ecological capacity, Biocapacity, Ecological carrying capacity, Capita ecological footprint, Emergy ecological, Ecological footprint analysi, Footprint family, Ecological surplu, Energy ecological footprint
10_1	Urban	2249	2008.58	Isew, Gpus, Genuine saving, Sustainable economic welfare, Economic, Natural capital, Environmental, Genuine progress indicator, Sustainable development, Chichilnisky, Ecological economic, Sustainability, Inclusive wealth, Gdp, Social
11_1	Health care	1260	2016.07	Maternal mortality, Uhc, Neonatal mortality, Ncd, Newborn, Universal health coverage, U5mr, Livebirth, Sdg, Stillbirth, Health system, Child health, Fap sba, Sustainable development goal, Global health
11_3	Health care	818	2014.49	Sbirt, Patient, Ebp, Primary care practice, Clinical, Clinician, Intervention, Implementation science, Mental, Cfir, Clinic, Qi, Care, Referral, Implementation research
11_4	Health care	631	2012.66	Chw program, Hiv aid, Community health worker, Antiretroviral therapy, Maternal, Malarium, Newborn, Vhw, Asha, Lhw, Fsw, Child, Iccm, Patient, Orphan
11_5	Health care	604	2012.18	Cbpr approach, Community participation, Hiap, African american, Participatory research, Hiit, Hiv, Health disparity, Intervention, Community academic partnership, Physical activity, Malarium, Patient, Church, Partnership
11_2	Health care	1257	2012.06	Patient, Intervention, Sustainability, Program sustainability, Hiv, Community, Smgl, Clinical, Implementation, Sustainment, Evidence, Nurse, Ebp, Hospital, Child
12_3	Forest	1267	2014.10	Rspo, Sustainable palm oil, Fairtrade, Palm oil, Roundtable, Certification, Fair trade, Vs, Coffee, Oil palm plantation, Sustainability standard, Smallholder, Peatland, Global, Ispo
12_8	Forest	804	2011.80	Medicinal plant species, Ethnobotanical study, Herbal medicine, Species, Wild edible, Ethnomedicinal, Plant species, Orchid, Conservation, Informant, Traditional medicine, Ethnobotany, Local, Fic, Ethnopharmacological
12_7	Forest	1081	2010.33	Bushmeat trade, Peccary, Hunting, Wildlife trade, Primate, Hunter, Species, Caiman, Wild meat, Hunted, Narwhal, Elephant, Bushmeat hunting, Conservation, Bat
12_2	Forest	1379	2010.26	Forest floor, Wth, Nutrient, Tree growth, Whole tree harvesting, Soil, Plantation, Understory, Hwp, Eucalyptu, Base cation, Pine, Eucalypt, Biomas, Mg

12_5	Forest	1173	2009.91	Ntfp, Non timber, Brazil nut, Non timber forest product, Medicinal plant, Baobab, Species, Palm, Forest, Frankincense, Agarwood, Tree, Agave, Harvest, Nontimber
12_1	Forest	1627	2009.90	Saproxylic beetle, Forest management, Tree, Silvicultural, Boreal forest, Understory, Dead wood, Deadwood, Stand structure, Sustainable forest management, Fire, Species, Old growth, Biodiversity, Nothofagu
12_6	Forest	1103	2009.10	Ril, Unlogged forest, Logged forest, Tree, Mahogany, Forest, Selective logging, Deramakot, Tropical forest, Reduced impact logging, Silvicultural treatment, Logging, Liana, Timber species, Impact logging
12_4	Forest	1232	2009.06	Sustainable forest management, Forest management, Sfm, Certification, Fsc certification, Tosium, Stewardship council, Forestry, Certified, Indicator, Timber, Environmental, Economic, Criterium, Social
13_3	Fishery	948	2013.58	Abnj, National jurisdiction, Marine spatial planning, Msp, Ebsa, Seamount, Ocean, Benthic, Coastal, High sea, Ebm, Seabed, Marine biodiversity, Unclo, Fishery
13_1	Fishery	1551	2012.86	Aquaponic system, Imtum, Aquaculture system, Fish, Shrimp, Biofloc system, Seaweed, Tilapium, Shellfish, Bft, Cage, Mussel, Fishmeal, Multi trophic aquaculture, Salmon
13_2	Fishery	1189	2011.87	Fishery, Itq, Fisher, Fish stock, Fisheries subsidy, Fisheries management, Amerb, Small scale fishery, Catch, Marine, Common fisheries policy, Turf, Individual transferable quota, Fishing, Fisherman
13_4	Fishery	925	2011.72	Mangrove forest, Mangrofe, Shrimp farming, Mangrove ecosystem, Mangrove area, Coastal, Sundarban, Aquaculture, Rhizophora, Silver carp, Shrimp farm, Shrimp aquaculture, Mangrove resource, Fish, Bangladesh
13_5	Fishery	844	2009.53	Msy, Fmsy, Maximum sustainable yield, Aspice, Fishery, Ceda, Catch, Fish, Surplus production model, Schaefer, Stock assessment, Biological reference point, Bmsy, Pella tomlinson model, Natural mortality
14_4	Tourism	1052	2013.06	Ski area, Tourism industry, Tourist, Sustainable tourism, Low carbon tourism, Destination, Climate change, Air travel, Tourism development, Environmental, Travel, Hotel, Visitor, Economic, Tourism sector
14_3	Tourism	1098	2013.05	Hotel industry, Hospitality industry, Sustainable tourism, Tour operator, Tourist, Tourism industry, Csr, Environmental, Green hotel, Hotelier, Guest, Hotel guest, Hotel company, Hotel manager, Destination
14_5	Tourism	992	2013.03	Tourism development, Cbt, Sustainable tourism development, Resident, Surf tourism, Community tourism, Tourist, Okavango deltum, Local community, Tourism industry, Tourism impact, Ecotourism, Rural tourism, Social, Destination
14_1	Tourism	1456	2011.30	Sustainable tourism development, Tourism development, Destination, Tourist destination, Tourism planning, Tourism destination, Overtourism, Local, Tourism industry, Cultural, Sustainable tourism policy, Tourism policy, Social, Economic, Rural tourism
14_2	Tourism	1299	2009.43	Ecotourism development, Tourism development, Protected area, Local person, Conservation, Visitor, Tourist, National park, Ecotourist, Wildlife, Optional, Park, Sustainable tourism, Natural, Environmental
15_3	CSR	1462	2015.20	Sustainability reporting, Sustainability report, Csr disclosure, Integrated reporting, Grus, Disclosure, Environmental disclosure, Esg, Sustainability assurance, Corporate social responsibility, Sustainability disclosure, Company, Firm, Assurance provider, Assurance statement
15_6	CSR	832	2013.77	Esg, Csr, Djsi, Responsible investment, Financial performance, Srus, Corporate social responsibility, Social, Triodo, Firm, Responsible investing, Investor, Ecg, Environmental, Bank
15_2	CSR	1658	2012.50	Mine closure, Mining industry, Asm, Amd, Upl, Artisanal, Mineral, Small scale mining, Mining sector, Mining company, Csr, Social licence, Environmental, Minerals industry, Slo
15_5	CSR	964	2011.89	Sustainability accounting, Accountant, Environmental management accounting, Environmental accounting, Accounting, Corporate social, Sustainability reporting, Biodiversity reporting, Social, Company, Csr, Management accounting, Sustainable development, Sustainability report, Emerald

15_4	CSR	1055	2009.81	Eium, Strategic environmental assessment, Sea proces, Iaium, Environmental assessment, Eia proces, Eia system, Environmental impact assessment, Sium, Ea, Sustainability assessment, Ecium, Social, Sustainable development, Cea
15_1	CSR	2379	2006.79	Sustainable development, Environmental, Social, Economic, Sustainability, Ecological, Political, Environment, Development, Concept, Article, Global, Natural, Local, Human
16_4	Education	1154	2014.16	Student, Education institution, Esd, Sustainability education, Sustainability competency, Learning, University, Sustainable development, Competency, Hesd, Transformative, Educational, Teacher, Curriculum, Environmental
16_2	Education	1545	2013.72	Hei, Education institution, University, Campu, Sustainable university, Campus sustainability, Rce, Student, Esd, Sustainability reporting, Environmental, Sustainable campu, Green university, Campuse, Sustainable development
16_1	Education	1657	2013.24	Esd, Early childhood education, Ecef, Environmental education, Education, Teacher education, Pre service teacher, Ese, Student teacher, Sustainability education, Child, Ef, Sustainable development, School, Educational
16_5	Education	760	2013.16	Business school curricula, Management education, Prme, Responsible management education, Business education, Student, Sustainability education, Education, Usr, Curriculum, Csr, Sustainable development, Social, Environmental, University
16_3	Education	1500	2011.44	Engineering education, Student, Engineering student, Engineer, Course, Undergraduate, Civil, Engineering curriculum, Engineering program, Sustainability, Curriculum, Sustainable engineering, Abet, Engineering curricula, Civil engineering student
17_3	Food	1213	2015.27	Sustainable diet, Diet, Mediterranean diet, Dietary pattern, Vegetarian, Ghge, Nnd, Meat consumption, Meat substitute, Food system, Nutritional, Healthy diet, Nutrition, Dietary guideline, Vegan
17_1	Food	1995	2013.75	Sustainable consumption behavior, Green product, Consumer, Pro environmental behavior, Loha, Environmental, Green marketing, Social, Purchase intention, Green consumer, Consumption, Study, Ethical consumption, Sustainable product, Marketer
17_4	Food	1183	2013.68	Animal welfare, Cow, Ruminant, Pig, Feed efficiency, Genetic, Breed, Diet, Enteric, Rfi, Aviary, Milk yield, Cattle, Ruminant, Livestock
17_5	Food	701	2013.42	Urban agriculture, Ua, Community garden, Rtg, Rooftop greenhouse, Upa, City, Vertical farming, Garden, Community gardening, Hydroponic, Vegetable, Peri urban agriculture, Food security, Social
17_2	Food	1532	2012.28	Afn, Local food system, Food system, Alternative food network, Csa, Sfsc, Organic food, Farmers market, Farmer, Social, Food citizenship, Consumer, Sustainable food system, Rural, Sustainable
18_4	Green IcT	461	2014.96	Sustainable software development, Software sustainability, Software engineering, Requirements engineering, Green software engineering, Software system, Research software, Software development, Sustainable software engineering, Software product, Software engineer, Sustainability, Software change, Ict, Re4susy
18_3	Green IcT	484	2013.93	Data center, Datacenter, Cloud computing, Green sla, Sustainable data center, Cloud data center, Iot, Green cloud computing, Scloud, Renewable, Ieee, Server, Plda, Green iot, Smartbay
18_1	Green IcT	899	2013.69	Sustainable hcus, Hcus, Sustainable interaction design, Acm, Persuasive technology, Shcus, Interaction design, Hci community, Eco feedback, User, Design fiction, Human computer interaction, Hci researcher, Ubicomp, Owner author
18_2	Green IcT	801	2013.64	Green ict, Green information system, Green information technology, Information system, Environmental sustainability, Git, Ict, Organization, Data center, Sustainable, Energy informatic, Adoption, Information technology, Sustainability, Organizational
18_5	Green IcT	453	2011.92	Telecentre, Ict, Rural, Government development, Ict4d, Mobile, Egov, Digital divide, Telecenter, Communication technology, Rural ict project, Country, Sustainable, Social, Public value

19_4	Waste management	306	2014.85	Msw, Municipal solid waste management, Incineration, Wte plant, Waste, Landfill mining, Lca, Environmental impact, Energy recovery, Anaerobic digestion, Life cycle assessment, Solid, Gasification, Lfe, Aif
19_5	Waste management	250	2014.37	Msw management, Municipal solid waste management, Mswm, Solid waste management, Waste management system, City, Swm, Environmental, Iswm, Sustainable solid, Landfill, Economic, Isswm, Country, Municipal solid waste
19_3	Waste management	330	2012.8	Politechnika, Sustainable development, Social, Environmental, Economic, Lubelska, Ecophilosophy, Poland, Human, Ecological, Polish, Natural, Article, Concept, Environment
19_2	Waste management	346	2012.26	Waste picker, Municipal solid waste management, Mswm, Solid waste management, Msw management, Informal sector, Swm, Waste management, Informal waste picker, City, Environmental, Sustainable, Urban, Waste picking, Landfill
19_1	Waste management	371	2011.95	Msw management, Municipal solid waste management, Waste management system, Environmental, Mswm, Solid, Landfill, Economic, Easewaste, Sustainable, Swm, Solid waste management, Model, Transfer station, Municipal solid waste
20_5	Biochar	155	2016.54	Biochar, Pyrolysi, Activated carbon, Char, Mg, Aqueou, Bio oil, Chicken manure biochar, Mbbc, Adsorbent, Ius, Adsorption, Cd, Carbon, Arsenic
20_1	Biochar	506	2015.02	Biochar application rate, Soil amendment, Terra pretum, Biochar amendment, Biochar addition, Amazonian dark earth, Organic, Nutrient, Charcoal, Bc, Maize, Pyrolysis temperature, Pyrolysi, Índio, Soil fertility
20_3	Biochar	296	2014.36	Sustainable remediation forum, Remediation project, Gsr, Contaminated land, Remediation alternative, Remedial alternative, Soil, Environmental, Site, Smarte, Remediation practitioner, Remediation technology, Green, Surf uk, Remediation industry
20_2	Biochar	369	2012.62	Phytoremediation, Soil, Phytoextraction, Metal, Mine tailing, Heavy metal, Plant, Tailing, Cd, Pah, Organic, Remediate, Cu, Pb, Arsenic
20_4	Biochar	266	2011.70	Brownfield regeneration, Brownfield redevelopment project, Redevelopment, Brownfield site, Urban wasteland, Km adoption, Szna, Sustainable urban, Site, Brownfield land, Environmental, Sustainable brownfield regeneration, Industrial heritage, City, Regeneration
21_4	Fiscal sustainability	165	2013.94	Fiscal sustainability, Public debt, Debt sustainability, Primary surplus, Gdp, Fiscal policy, Fiscal limit, Primary balance, Fiscal reaction function, Fiscal stance, Government debt, Monetary policy, Fiscal space, Sovereign, Bohn
21_2	Fiscal sustainability	190	2012.38	Pension system, Pension reform, Retirement age, Reform, Social security system, Demographic, Public pension system, Spanish pension system, Financial sustainability, Payg, Fiscal, Individual account, Actuarial, Pension adequacy, Economic
21_5	Fiscal sustainability	112	2011.25	Pension system, Pension reform, Social security, Child allowance, Pension scheme, Economic, China, Reform, Old age security, Country, Financial, Pension benefit, Ndc, Sustainable, Retirement
21_1	Fiscal sustainability	229	2010.54	Fiscal sustainability, Public debt sustainability, Fiscal policy, Intertemporal budget constraint, Debt, Budget deficit, Structural break, Government debt, Intertemporal, Cointegration, Gdp, Public finance, Primary surplus, Fiscal deficit, Sustainability
21_3	Fiscal sustainability	174	2010.54	Current account deficit, Current account sustainability, Intertemporal approach, Cointegration, Structural break, Current account balance, External imbalance, Import, Trade deficit, Current account imbalance, External sustainability, Global imbalance, Export, External debt, Current account position
22_1	Nanogenerator	159	2017.44	Teng, Triboelectric nanogenerator, Wearable electronic, Stretchable, Nanogenerator, Ma, Human motion, Scpu, Biomechanical energy, Self, Sustainable power source, Portable electronic, Flexible, Supercapacitor, Mechanical energy
22_4	Nanogenerator	134	2016.57	Teng, Triboelectric nanogenerator, Wearable electronic, Piezoelectric, Stretchable, Nanogenerator, Mechanical energy, Ma, Electrostatic induction, Self, Flexible, Implantable, Sustainable power source, Output performance, Biomechanical

22_2	Nanogenerator	153	2016.44	Wireless, Wpcn, Sensor node, Energy harvesting, Swipt, Eppa, Wireless rechargeable sensor network, Iot device, Wireless power transfer, Wrsn, Wpt, Mobile charger, Ieee, Eh, Rf energy
22_5	Nanogenerator	133	2016.13	Bs, Cellular network, Mobile operator, Tamarillo, Base station, Lte, Renewable, Ieee, Spatial modulation, Green cellular, Femtocell, Future mobile network, Solar, Energy efficiency, Small cell
22_3	Nanogenerator	144	2013.34	Wsn, Wireless sensor network, Sensor node, Energy harvesting, Node, Sustainable sensor network, Eh wsn, Sensor network, Solar, Ieee, Sustainable, System, Battery, Wireless, Low
23_5	Entrepreneurship	90	2017.21	Vsi entrepreneurship, Sustainability center, Economic, Social, Biological asset, Sustainable development, Eu, Renewable, Unfair hrn practice, Energy security, Country, Development, New, Environmental entrepreneurship, Financial
23_1	Entrepreneurship	129	2017.10	Vsi entrepreneurship, Sustainability center, Economic, Financial literacy, Unmanned vehicle, State coercion, Lithuania, Country, Identify, Investment security, External labor migration, Eu, Ukraine, Research, Investment climate
23_3	Entrepreneurship	104	2016.61	Latvium, Vsi entrepreneurship, Sustainability center, Economic, Social innovation, Latgale region, Smart, Rural, Financial transparency, Region, Sustainable development, Biotic organization, Russian, Research, Dynamic capability
23_4	Entrepreneurship	103	2016.11	Economic, Enterprise architecture, Russian, International business information management association ibima, Renegotiation, Almaty, Arctic, Financial, Global crisis management, Subsystem busines, Russium, Regional, International, Petersburg, Development
23_2	Entrepreneurship	114	2013.23	Sustainable competitiveness, Economic growth, Sustainable development, Fdi impact, Country, Lithuania, Social, Functional review, Latvium, Competitiveness, Development, European, Lithuanian, Financial, Infamy
