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D6.1 MAPPING OF EUROPEAN AND INTERNATIONAL TECHNICAL BODIES RELEVANT FOR INDUSTRIAL SYMBIOSIS

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*) **R** — Document, report; **DMP** — Data Management Plan; **DATA** — data sets, microdata, etc; **DEC** —Websites, patent filings, videos, etc

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LIST OF ACRONYMS

Abbreviation	Explanation of abbreviation
ENSPIRE	Enspire Science Ltd.
CEN	European Committee for Standardization
DIN	DIN Deutsches Institut für Normung e. V.
EIT-RM	EIT RawMaterials GmbH
Fraunhofer	Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e. V.
UGent	Universiteit Gent
IETU	Instytut Ekologii Terenów Uprzemysłowionych
ISQ	Instituto de Soldadura e Qualidade
ISL	International Synergies Ltd.
AB	Advisory Board
CE	Circular Economy
CEFIC	European Chemical Industry Council
DPM	Data Management Plan
EC	European Commission
EoW	End of Waste
IP	Intellectual Property
IPR	Intellectual Property Rights
IS	Industrial symbiosis
KPI	Key Project Indicators
PEDR	Plan for the Exploitation and Dissemination of Results
R&D	Research and Development
R&I	Research and Innovation
SC	Steering Committee
WP	Work Package

Introduction

Deliverable D6.1 'Mapping of European and International Technical Bodies relevant for industrial symbiosis' has been developed within WP 6 (Roadmap for industrial symbiosis standardisation - First period) of the RISERS project funded by the European Commission under Grant Agreement 101135539.

This deliverable is the result of Task 6.1 (Technical Bodies mapping) which is aimed at identifying standardisation Technical Committees at the European (CEN) and International (ISO) level relevant to manufacturing, process industries, waste treatment, energy use, and materials sourcing. This activity has been carried out as desk research building on previous relevant work and exploiting databases of CEN and DIN.

The deliverable is organized into three chapters:

- **Chapter 1** provides an overview of the standardisation system and deliverables as well as explains how standards can be used as a vehicle to valorise results from research and innovation;
- **Chapter 2** describes the methodology applied and assumptions underpinning the work to identify relevant technical committees;
- **Chapter 3** presents the results, including a visual representation of the relevant technical committees.

The full list of Technical Committees is presented in Annex 1 to this deliverable.

Chapter 1: Overview of standardisation

Standardisation is the agreement on voluntary specifications through the consensus-based contribution of all interested parties in the framework of standardisation organizations.

A 'standard' is defined as a technical specification, adopted by a recognized standardization body, for repeated or continuous application, with which compliance is not compulsory[1]. Therefore, a standard is a consensus-based document that is approved by a recognized body or organization, reflecting the state of the art. It is based on the consolidated results of science, technology, and experience, and aims to reflect the consensus of all interested stakeholders.

Standardisation is used to agree on terminologies, methodologies, requirements, characteristics, etc. in specific areas to make a product, process, or service fit for its purpose. Thus, standardisation can drive innovative outcomes by agreeing on common product requirements such as interoperability, quality, or safety, and provide guidelines for achieving them. Standardisation supports the development of a common language, which is understandable for everyone and thus helps to create a common basis. The result of the standardisation process is a document, which provides rules, guidelines, or characteristics for activities or their results.

Standards can cover a wide range of topics such as:

- specification of products, processes,
- services or systems;
- testing procedures;
- metrologies;
- terminologies;
- management systems, etc.

Standardisation system

Standardisation can take place at national, European, or international level. All three levels are interconnected, as they feed each other. Consistency is ensured by the standardisation organizations' structure and internal regulations. An overview of the standardization system and interatom between national, European and international level is presented in Figure 1.

[1] Regulation (EU) No 1025/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 October 2012 on European standardisation

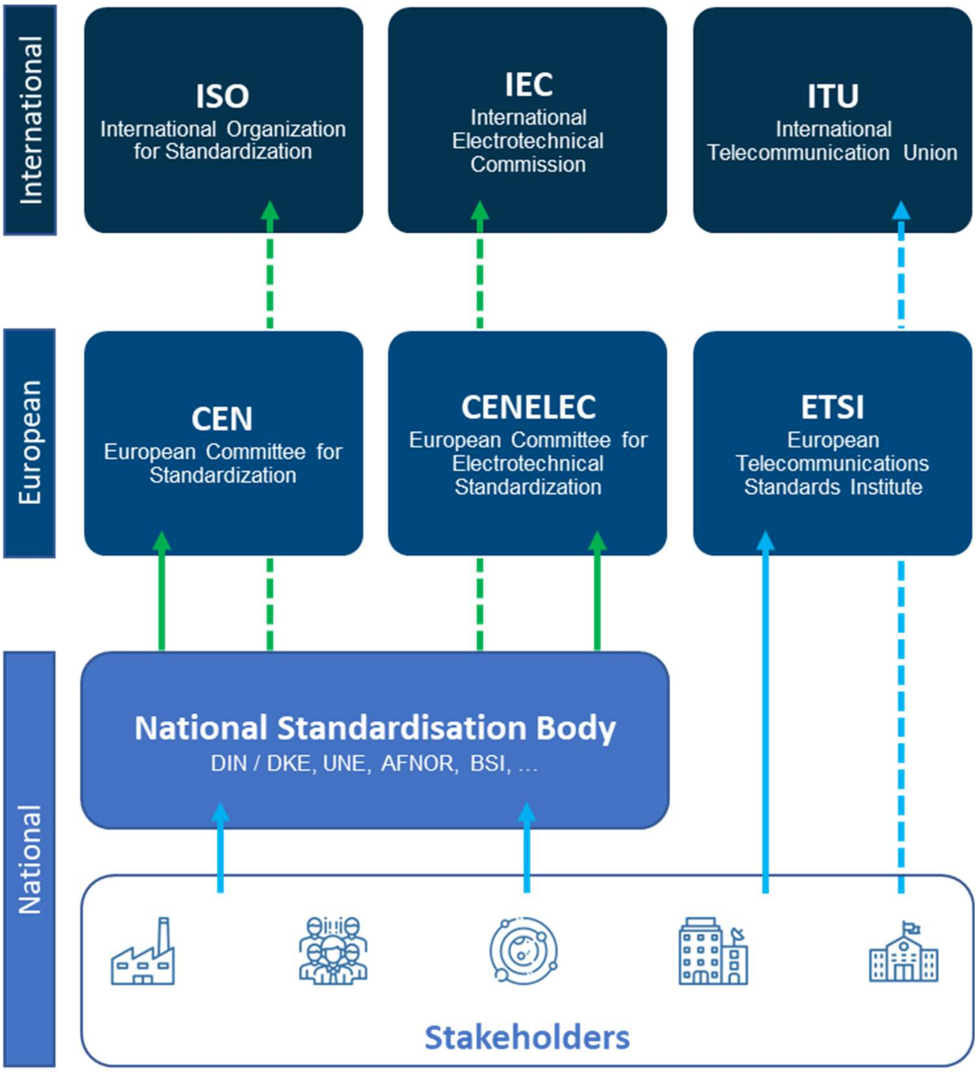

Figure 1 Overview of the standardisation system

National standardisation

National standardisation organizations exist in every country, they are the National Standards Bodies (NSBs) members of CEN and the National Committees (NCs) members of CENELEC.

Their work consists in managing and promoting the development of national standards and contribute to the elaboration of European and international ones, by proposing new standards or the uplift of a national standard.

To represent national positions at European or international level, so-called mirror-committees are set up and coordinated by the NSB's. In these national committees, the work and existing results of corresponding European and international standardisation committees are discussed, a national opinion is developed, and the final drafts of standards are agreed upon. When European or international draft standards are published for comment, the mirror committees also vote on whether the standard should be published or not.

European standardisation

The main goal of European standardisation is the development of European standards that are valid and accepted within the EU. These European standards are the basis for the European single market. The European Standardisation organisations are:

- **CEN (European Committee for Standardisation)** which brings together the National Standardisation Bodies of 34 European countries and is responsible for all sectors, except fort he scope of the other two organizations.
- **CENELEC (European Committee for Electrotechnical Standardisation)** which comprises members who are the 'National Electrotechnical Committees' of 34 European countries. CENELEC is responsible for standardisation in the electrotechnical engineering field.
- **ETSI (the European Telecommunications Standards Institute)** which is responsible for standardisation in the telecommunications sector.

Each European Standard (EN) is implemented by the national CEN and CENELEC Members as a national standard, and therefore is included in the standards catalogue of CEN and CENELEC's Members, the National Standardization Organizations in 34 countries.

Harmonised standards are a particular category of European standards developed by a recognised European Standards Organisation (CEN, CENELEC, or ETSI) following a request from the European Commission. Manufacturers, other economic operators, or conformity assessment bodies can use harmonised standards to demonstrate that products, services, or processes comply with relevant EU legislation. The references of harmonised standards must be published in the Official Journal of the European Union (OJEU).

International standardisation

International standardisation organizations manage and promote the standards development at the international level.

International standardisation organizations are:

- **ISO (International Organization for Standardisation)** responsible for all sectors, except from the scope of the other two organizations.
- **IEC (International Electrotechnical Commission)** responsible for the electrotechnical sectors.
- **ITU (International Telecommunication Union)** in charge of standardisation activities in the field of telecommunications

To avoid duplication of work and to harmonize European and international standardisation (where possible), ISO and CEN signed the Vienna Agreement and CENELEC and IEC the Frankfurt Agreement. According to those Agreements, a standard can be developed either at international (by ISO, IEC) or European (by CEN, CENELEC) level and then adopted simultaneously as both an International and a European Standard by means of parallel voting.

National standards can be the basis for European and international ones. International standards can be adopted as national ones. European standards are adopted by the CEN and CENELEC national members as national standards.

Technical Committees
Standardisation work is developed in groups of experts (Technical Committees – TCs) that represent stakeholders. Each TC has its own field of operation (scope) within which a work programme of identified standards is developed and executed. In TCs work, delegates represent their respective national point of view (National Delegation Principle). This principle allows the TCs to take balanced decisions that reflect a wide consensus.

Each technical committee has:

- a Secretariat, held by a National Standards Body,
- a Chairperson in a personal capacity,
- and several delegates.

The actual standards development work is undertaken by Working Groups (WG) within TCs. In WGs, experts, appointed by members but speaking in a personal capacity, come together and develop a draft that will become the future standard. This reflects an embedded principle of 'direct participation' in the standardisation activities. Each working group has a Convenor, acting in a personal capacity, and several experts.[2]

Standardisation deliverables

The portfolio of documents offered by CEN and/or CENELEC, known collectively as CEN and/or CENELEC publications, are as follows[3]:

- **European Standards**: European Standards (or European Norms = EN) shall be implemented at the national level in all CEN member countries by being given the status of national standards and any conflicting national standards shall be withdrawn. They are drawn up according to set rules of procedure, by the relevant Technical Committee. The maximum time allowed for their development is 3 years. They are approved by the balloting of all the national members. Their revision shall be considered every 5 years.
- **Technical Specifications:** A TS is a standardisation deliverable that provides specifications in experimental circumstances and/or evolving technologies. Those documents are developed by a TC, with a maximum development time of 21 months. They are approved by the balloting of all the national members. They shall be reviewed after a maximum of 6 years to be upgraded to standards or deleted.
- **Technical Reports:** A TR is an informative document recording some knowledge that can be interesting for the users (e.g. data obtained from a survey or from an informative report, or information of the perceived "state of the art"). It is elaborated in a TC. It is approved by the balloting of all the national members. Their time of elaboration is free and has no set requirements for revision.

[2] https://www.standardspluselearning.eu/
[3] CEN and CENELEC Internal Regulation Part 2 "Common rules for standardization work", July 2023

- **CEN and/or CENELEC Workshop Agreements:** CWA is a standardisation deliverable that is developed and approved in a CEN and/or CENELEC Workshop, an ad hoc working group not linked to any TC, which is open to the direct participation of anyone. A CWA is fast and flexible to develop, and is a first step to a future standard, especially recommended for new knowledge and results of R&I activities. The average timeframe for the delivery of a CWA is 6-12 months. It shall be revised after a maximum of 6 years to evaluate its upgrade to standard or deletion.
- **Guides:** The CEN-CENELEC Guides are reference documents published by CEN-CENELEC to give orientation, advice or recommendations on standardisation principles and policies and guidance to standards writers.

Benefits of standardisation for research and innovation

Standards help researchers and innovators bring their innovation closer to the market and spread technological advances by establishing uniform criteria and by developing methods, practices and procedures that are publicly available in a formal document. European and international standards provide access to large global and regional markets for innovative new products and services.[4]

Evidence suggests that standards can, in many cases, play an important role in enabling innovation, whether by providing information to drive innovation or creating incentives to innovate.[5]

Standards improve the research process by providing common terminologies, harmonised methodologies, and comparability between research activities. Standards also contribute to bridging the gap between research and the market by:

- Providing a vehicle for dissemination of research results and therefore facilitating their exploitation by industry;
- accelerating access to the European market for new products, methods, and services;
- facilitating networking between stakeholders in the R&I system.[6]

R&I projects can address standardisation in a number of different ways:[7]

- **Screening of existing standards:** this allows the consortium to analyse the existing standards landscape and assess the contribution which standardisation can offer to the research and innovation project.
- **Joining existing standardisation community:** Joining a standardisation community allows the project consortium to exchange ideas and perspectives, access relevant information, and network. A research project can apply for a Project Liaison with a CEN/CENELEC Technical

[4] Commission Recommendation (EU) 2023/498 of 1 March 2023 on a Code of Practice on standardisation in the European Research Area. C/2023/1320
[5] Blind, K. (2022), *Standards and Innovation: What Does the Research Say?* https://www.iso.org/publication/PUB100466.html
[6] European Commission, Directorate-General for Research and Innovation, Blind, K., Baldan, F., Tardos, G. et al., European standardisation panel survey – Final report, Baldan, F.(editor), Tardos, G.(editor), Publications Office of the European Union, 2024, https://data.europa.eu/doi/10.2777/643814
[7] CEN-CENELEC Guide 23 "Research Consortium Bridge- Addressing Research and Innovation in European Standardization activities and deliverables", October 2020

Body. Alternatively, participation of project representatives can happen through national mirror committees.

- **Proposal for development of new standards:** The research project can make proposals to the existing technical committee for the development of new standards or revision of existing ones that fall under the portfolio of the specific TCs.
- **Standardisation roadmap:** input from R&I can lead to the definition of a standardisation roadmap focusing on innovative and upcoming topics with proposals for new standardisation activities in a specific area – not necessarily limited to the scope of one single Technical Body and potentially leading to the creation of a new ad-hoc Technical Body.
- **Develop a pre-standard:** at the European level, a pre-standard can be developed in the form of a CEN-CENELEC Workshop Agreement (CWA). At example of a pre-standard in the area of industrial symbiosis is CWA 17354 'Industrial Symbiosis: Core Elements and Implementation Approaches'.

Chapter 2: Methodology

The mapping undertaken as part of Task 6.1 “Technical Bodies mapping” is to provide a basis for the subsequent Task 6.2 “Consultation of Technical Bodies”, in which the technical committees will be invited to provide feedback on how industrial symbiosis (IS) is currently addressed or needs to be addressed in standards. Furthermore, the mapping aims to show the complexity and the horizontal character of IS and to enable a quick selection of the most relevant TC for each priority sector.

To build on existing work, the following sources have been analyzed:

- TC mapping for the SPIRE sectors developed by HARMONI project[8], funded by Horizon 2020 research and innovation programme under Grant Agreement No 768755.
- Mapping of standards in Circular Economy developed by CEN Strategic Advisory Board on Environment (SABE)[9]
- German standardisation roadmap for Circular Economy[10]

The German standardisation roadmap for Circular Economy clearly focuses on standards and gaps and therefore limited its scope to the key topics digitalization/business models/management, electrotechnology & ICT, batteries, packaging, plastics, textiles and construction and municipalities. Therefore, the Roadmap and the connected standards research can only be utilized for the specific topics.

The HARMONI TC mapping was conducted for the SPIRE sectors of Ceramics, Cement, non-ferrous metals, Chemicals, Minerals, and Steel. The mapping was based on the assumption that the most important European associations like CEFIC (chemistry) or CERAME-UNIE (ceramics) established liaisons with the most relevant TCs in their fields. The mapping was visualized through a subway map, showing TCs that are important for different sectors. A shortcoming of this methodology is that the European associations do not select TCs to liaise with based on their potential for IS, but instead focus on TCs that are generally important for the sector for various reasons. Therefore, a complete analysis of all TCs is required. This anlaysis is then compare with the TCs that have established a liaison with the corresponding associations.

Identification of relevant sectors

The RISERS consortium decided that the TC mapping should include all the industrial sectors that are relevant for industrial symbiosis. Manufacturing, process industries, waste treatment, energy use, and materials sourcing, which were identified in the proposal, were further detailed by the SPIRE sectors (Ceramics, Cement, non-ferrous metals, Chemicals, Minerals, Steel, Water, Engineering, Pulp and paper and Refinery(fuels)), which cover large parts of the process industry and sectors from the Circular Economy Action Plan[11]: Fertiliser, Plastics, Electronic and ICT, Batteries and Vehicles, Textiles,

[8] https://www.aspire2050.eu/harmoni
[9] https://www.cencenelec.eu/media/CEN-CENELEC/Events/Events/2021-03-18%20-%20Sustainability%20in%20PPE/Plenary/blaszkowski.pdf
[10] https://www.din.de/en/innovation-and-research/circular-economy/standardization-roadmap-circular-economy
[11] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A new Circular Economy Action Plan For a cleaner and more competitive Europe. COM/2020/98 final

Construction. The consortium decided to include in the analysis also Raw materials, as it is has become a priority sector for the EU[12]. In the mapping, plastics were merged with chemicals.

The definition of the sectors to include as part of this analysis was discussed with the consortium and specifically aligned with the work performed under WP3 “Gaps and opportunities analysis for priority synergies”.

The TCs were extracted from ISO and IEC on international level and from CEN and CENELEC on European level. In sum, there are around 800 TCs in the mapping. First, a relevance for IS was assigned for each TC. TCs which can’t be assigned to one of the priority resources or sectors were considered as not relevant. Also, TCs concerning just safety issues were considered irrelevant.

The remaining 355 TCs were mapped to the respective sectors and resources. For the SPIRE sectors, the mapping was verified and supplemented, taking into account the TCs, chosen for a liaison with a European association in the specific sector.

Prioritization scoring

Due to the large number of TCs affected, an approximate estimate of the relevance for IS was carried out. This allows, for example, an overview of the most important TCs at international or European level. TCs with a lower estimated IS relevance are nevertheless taken into account in the further course of the project. The following method was applied to estimate IS relevance. If a TC deals directly with a sector or resource or if the TC has an outstanding significance for a particular sector or resource have a very high estimated IS relevance.. This applies to CEN/TC 165 “Waste water engineering” for water. Or for example, CEN/TC 132 “Aluminum and aluminum alloys” for “non ferrous metals”.

Indirectly affected by sectors or resources have a high estimated IS relevance. This applies, for example, for CEN/TC 454 “Algae and algae products” for food. Also, products connected to a specific resource like road materials, steel structures and aluminum structures or paints, which have a high estimated throughput and therefore a high CO2 relevance, were rated with a 3.

The remaining 224 TCs have a medium or low estimated IS relevance. Those TCs concern products belonging to certain resources or sectors or are indirectly affected by certain resources but are considered to have a lower estimated IS relevance.

[12] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52008DC0699

Table 1 Scores and criteria

estimated IS relevance		Criteria
3	very high	• TC deals directly with a sector or resource, or • TC has an outstanding significance for a particular sector or resource
2	high	• TC indirectly affected by a sector or resource, or • High CO2 relevance
1	medium or low	• TC concerns products belonging to certain sector or resource, or • TC indirectly affected by a sector or resource with lower IS relevance

In general, a scoring is necessary to reduce the number of TCs to be addressed with the survey in the next phase (T6.2). A prioritization of resources and IS synergies will be received from WP3 to ensure that just the most relevant IS synergies will be addressed. the current mapping can show the complexity and the horizontal character of IS while enabling a quick selection of the most relevant TC for each priority resource of choice. Once the priority synergies are known, the relevant TCs can be addressed specifically while the IS relevance scoring will be refined based on the future results of WP3. To ensure a sufficient quality of the mapping, the methodology was discussed with the whole consortium, especially with the WP3 leader UGent and the resulting mapping was aligned with WP3.

Chapter 3: Results

Mapping of CEN and CENELEC Technical Committees

The most relevant Technical Committees (TCs) on an international level (ISO, IEC) and European level (CEN and CENELEC) are presented in the following figures and tables. Figure 2 shows the CEN and CENELEC TCs, grouped by sector/resource and sorted by the number of most relevant TCs. Waste treatment and energy use are relevant for many TCs which shows that these are quite horizontal topics. What limits the informative value of the number of TCs, is that TCs are more specialised or broader depending on the scope and the number of standards that fall within the area of responsibility can range from a few to thousands. The standards of specific TCs, belonging to specific priority symbiosis, will be analysed in a later stage of the project when T3.2 yielded the priority synergies.

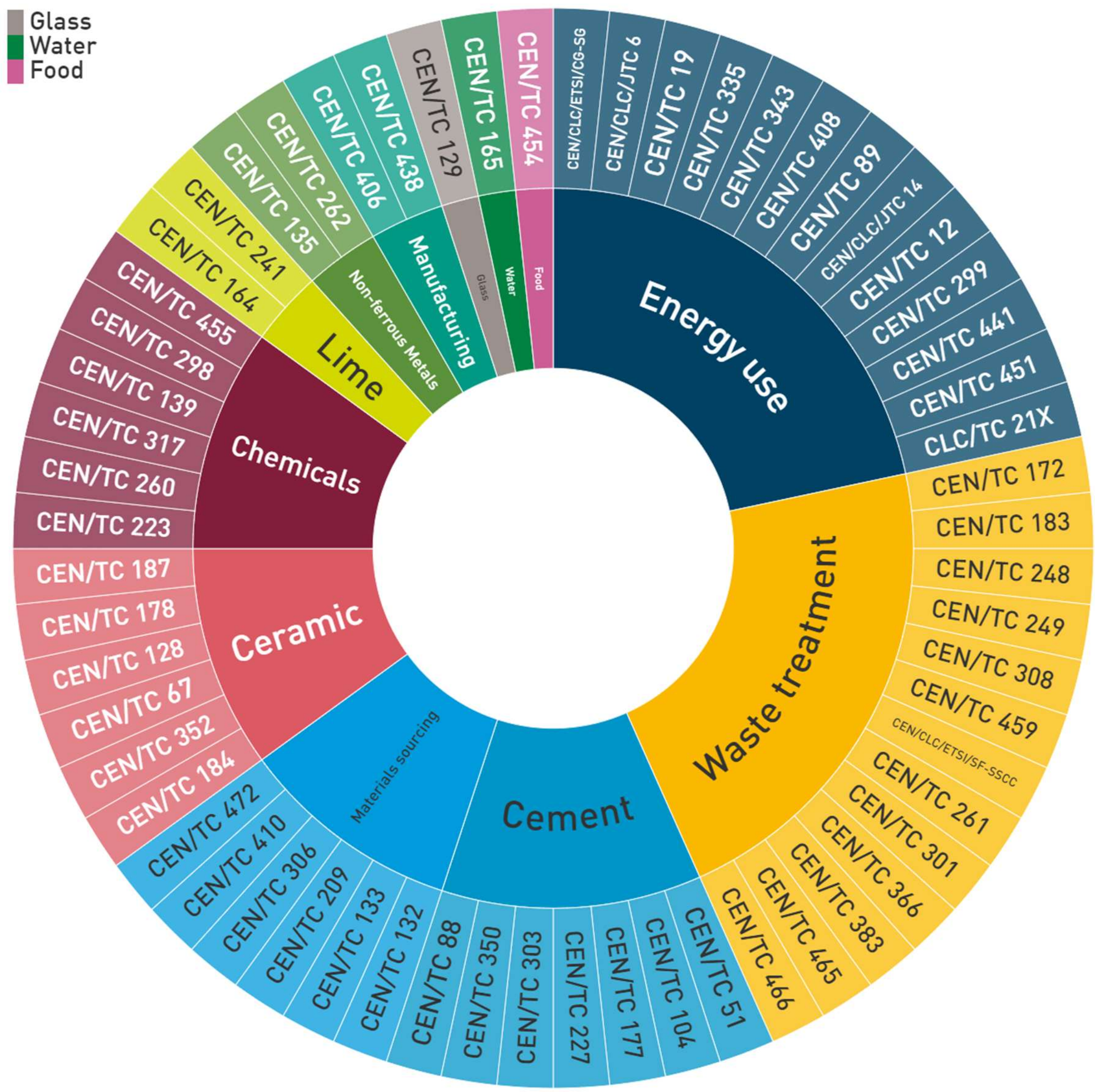

Figure 2 Mapping of the CEN and CENELEC TCs, most relevant for industrial symbiosis

As the TC titles are not visible in the Figure 2, Table 2 is provided. To enable a quick overview of the TCs, it is sorted by the number of most relevant TCs for each sector/resource.

A more exhaustive list can be found in the Annex in Table 4.

Table 2 Titles of the CEN and CENELEC TCs, most relevant for industrial symbiosis

Sector/Resource	Committee	Title
Energy use	CEN/CLC/ETSI/CG-SG	CEN-CENELEC-ETSI Coordination Group on Smart Grids (CG-SG)
Energy use	CEN/CLC/JTC 6	Hydrogen in energy systems
Energy use	CEN/TC 12	Oil and gas industries including lower carbon energy
Energy use	CEN/CLC/JTC 14	Energy management and energy efficiency in the framework of energy transition
Energy use	CEN/TC 19	Gaseous and liquid fuels, lubricants and related products of petroleum, synthetic and biological origin
Energy use	CEN/TC 89	Thermal performance of buildings and building components
Energy use	CEN/TC 299	Gas-fired sorption appliances, indirect fired sorption appliances, gas-fired endothermic engine heat pumps and domestic gas-fired washing and drying appliances.
Energy use	CEN/TC 335	Solid biofuels
Energy use	CEN/TC 343	Solid recovered materials, including solid recovered fuels
Energy use	CEN/TC 408	Natural gas and biomethane for use in transport and biomethane for injection in the natural gas grid
Energy use	CEN/TC 441	Fuel labelling
Energy use	CEN/TC 451	Water wells and borehole heat exchangers
Waste treatment	CEN/CLC/ETSI/SF-SSCC	CEN-CENELEC-ETSI Sector Forum on Smart and Sustainable Cities and Communities
Waste treatment	CEN/TC 172	Pulp, paper and board
Waste treatment	CEN/TC 183	Waste management
Waste treatment	CEN/TC 248	Textiles and textile products
Waste treatment	CEN/TC 249	Plastics
Waste treatment	CEN/TC 261	Packaging
Waste treatment	CEN/TC 301	Road vehicles
Waste treatment	CEN/TC 308	Characterization and management of sludge
Waste treatment	CEN/TC 366	Materials obtained from End-of-Life Tyres (ELT)
Waste treatment	CEN/TC 383	Sustainably produced biomass for energy applications
Waste treatment	CEN/TC 459	ECISS - European Committee for Iron and Steel Standardization
Waste treatment	CEN/TC 465	Sustainable Cities and Communities
Waste treatment	CEN/TC 466	Circularity and recyclability of fishing gear and aquaculture equipment.
Energy use	CLC/TC 21X	Secondary cells and batteries
Cement	CEN/TC 51	Cement and building limes
Cement	CEN/TC 88	Thermal insulating materials and products
Cement	CEN/TC 104	Concrete and related products
Cement	CEN/TC 177	Prefabricated reinforced components of autoclaved aerated concrete or light-weight aggregate concrete with open structure
Cement	CEN/TC 227	Road materials
Cement	CEN/TC 303	Floor screeds and screed materials
Cement	CEN/TC 350	Sustainability of construction works
Ceramic	CEN/TC 67	Ceramic tiles
Ceramic	CEN/TC 128	Roof covering products for discontinuous laying and products for wall cladding
Ceramic	CEN/TC 178	Paving units and kerbs
Ceramic	CEN/TC 184	Advanced technical ceramics
Ceramic	CEN/TC 187	Refractory products and materials
Ceramic	CEN/TC 352	Nanotechnologies
Chemicals	CEN/TC 139	Paints and varnishes

Chemicals	CEN/TC 223	Soil improvers and growing media
Chemicals	CEN/TC 260	Fertilizers and liming materials
Chemicals	CEN/TC 298	Pigments and extenders
Chemicals	CEN/TC 317	Derivatives from coal pyrolysis
Chemicals	CEN/TC 455	Plant Biostimulants
Materials sourcing	CEN/TC 132	Aluminium and aluminium alloys
Materials sourcing	CEN/TC 133	Copper and copper alloys
Materials sourcing	CEN/TC 209	Zinc and zinc alloys
Materials sourcing	CEN/TC 306	Lead and lead alloys
Materials sourcing	CEN/TC 410	Jewellery and precious metals
Materials sourcing	CEN/TC 472	Rare Earth
Lime	CEN/TC 164	Water supply
Lime	CEN/TC 241	Gypsum and gypsum based products
Manufacturing	CEN/TC 406	Mechanical products - Ecodesign methodology
Manufacturing	CEN/TC 438	Additive Manufacturing
Non-ferrous Metals	CEN/TC 135	Execution of steel structures and aluminium structures
Non-ferrous Metals	CEN/TC 262	Metallic and other inorganic coatings, including for corrosion protection and corrosion testing of metals and alloys
Food	CEN/TC 454	Algae and algae products
Glass	CEN/TC 129	Glass in building
Water	CEN/TC 165	Waste water engineering

Mapping of ISO and IEC Technical Committees

The mapping for the ISO and IEC TCs is shown in Figure 3. As the the distribution of TCs and their scope has to a certain extent parallels on international level, the distribution of the sectors/resources looks quite similar.

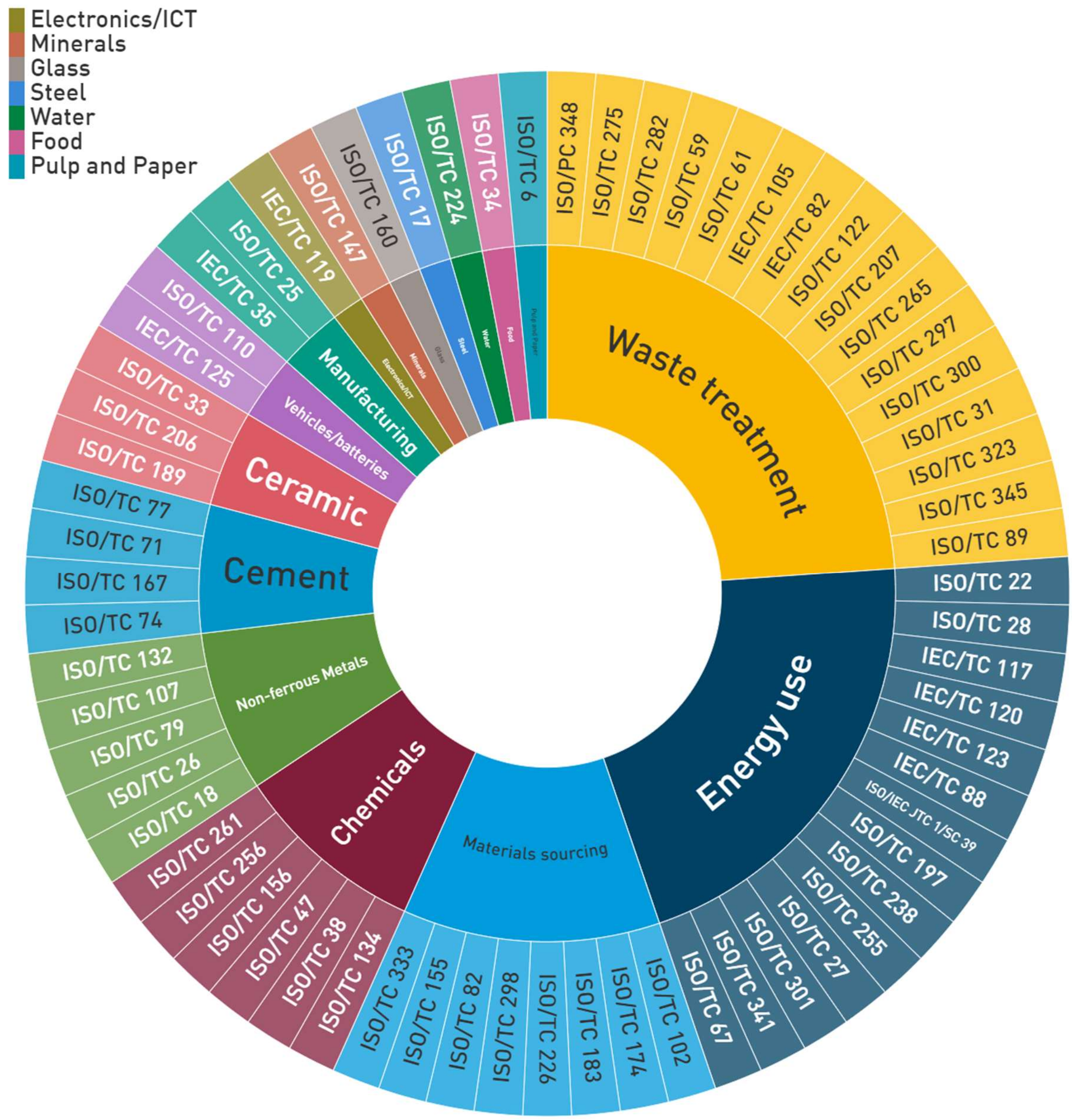

Figure 3 Mapping of the ISO and IEC TCs, most relevant for industrial symbiosis

As the TC titles are not visible in Figure 3, Table 3 is provided. To enable a quick overview of the TCs, it is sorted by the number of most relevant TCs for each sector/resource.

A more exhaustive list can be found in the Annex in Table 4.

Table 3 Titles of the ISO and IEC TCs, most relevant for industrial symbiosis

Sector/Resource	Committee	Title
Waste treatment	ISO/TC 31	Tyres, rims and valves
Waste treatment	ISO/TC 59	Buildings and civil engineering works
Waste treatment	ISO/TC 61	Plastics
Waste treatment	IEC/TC 82	Solar photovoltaic energy systems
Waste treatment	ISO/TC 89	Wood-based panels
Waste treatment	IEC/TC 105	Fuel cell technologies
Waste treatment	ISO/TC 122	Packaging
Waste treatment	ISO/TC 207	Environmental management
Waste treatment	ISO/TC 265	Carbon dioxide capture, transportation, and geological storage
Waste treatment	ISO/TC 275	Sludge recovery, recycling, treatment and disposal
Waste treatment	ISO/TC 282	Water reuse
Waste treatment	ISO/TC 297	Waste collection and transportation management
Waste treatment	ISO/TC 300	Solid recovered materials, including solid recovered fuels
Waste treatment	ISO/TC 323	Circular economy
Waste treatment	ISO/TC 345	Specialty metals and minerals
Waste treatment	ISO/PC 348	Sustainable raw materials
Energy use	ISO/IEC JTC 1/SC 39	Sustainability, IT and data centres
Energy use	ISO/TC 22	Road vehicles
Energy use	ISO/TC 27	Coal and coke
Energy use	ISO/TC 28	Petroleum and related products, fuels and lubricants from natural or synthetic sources
Energy use	ISO/TC 67	Oil and gas industries including lower carbon energy
Energy use	IEC/TC 88	Wind energy generation systems
Energy use	IEC/TC 117	Solar thermal electric plants
Energy use	IEC/TC 120	Electrical Energy Storage (EES) systems
Energy use	IEC/TC 123	Management of network assets in power systems
Energy use	ISO/TC 197	Hydrogen technologies
Energy use	ISO/TC 238	Solid biofuels
Energy use	ISO/TC 255	Biogas
Energy use	ISO/TC 301	Energy management and energy savings
Energy use	ISO/TC 341	Heat supply network
Materials sourcing	ISO/TC 82	Mining
Materials sourcing	ISO/TC 102	Iron ore and direct reduced iron
Materials sourcing	ISO/TC 155	Nickel and nickel alloys
Materials sourcing	ISO/TC 174	Jewellery and precious metals
Materials sourcing	ISO/TC 183	Copper, lead, zinc and nickel ores and concentrates
Materials sourcing	ISO/TC 226	Materials for the production of primary aluminium

Materials sourcing	ISO/TC 298	Rare earth
Materials sourcing	ISO/TC 333	Lithium
Chemicals	ISO/TC 38	Textiles
Chemicals	ISO/TC 47	Chemistry
Chemicals	ISO/TC 134	Fertilizers, soil conditioners and beneficial substances
Chemicals	ISO/TC 156	Corrosion of metals and alloys
Chemicals	ISO/TC 256	Pigments, dyestuffs and extenders
Chemicals	ISO/TC 261	Additive manufacturing
Non-ferrous Metals	ISO/TC 18	Zinc and zinc alloys [STANDBY]
Non-ferrous Metals	ISO/TC 26	Copper and copper alloys
Non-ferrous Metals	ISO/TC 79	Light metals and their alloys
Non-ferrous Metals	ISO/TC 107	Metallic and other inorganic coatings
Non-ferrous Metals	ISO/TC 132	Ferroalloys
Cement	ISO/TC 71	Concrete, reinforced concrete and pre-stressed concrete
Cement	ISO/TC 74	Cement and lime [STANDBY]
Cement	ISO/TC 77	Products in fibre reinforced cement [STANDBY]
Cement	ISO/TC 167	Steel and aluminium structures
Ceramic	ISO/TC 33	Refractories
Ceramic	ISO/TC 189	Ceramic tile
Ceramic	ISO/TC 206	Fine ceramics
Manufacturing	ISO/TC 25	Cast irons and pig irons
Manufacturing	IEC/TC 35	Primary cells and batteries
Vehicles/batteries	ISO/TC 110	Industrial trucks
Vehicles/batteries	IEC/TC 125	e-Transporters
Pulp and Paper	ISO/TC 6	Paper, board and pulps
Steel	ISO/TC 17	Steel
Food	ISO/TC 34	Food products
Electronics/ ICT	IEC/TC 119	Printed Electronics
Minerals	ISO/TC 147	Water quality
Glass	ISO/TC 160	Glass in building
Water	ISO/TC 224	Drinking water, wastewater and stormwater systems and services

Conclusion and outlook

The over 800 Technical Committees (TCs) from ISO, IEC, CEN and CENELEC were analysed regarding their relevance for industrial symbiosis and mapped to one or more specific priority resourced resources or sectors for industrial symbiosis. The sectors are manufacturing, process industries, waste treatment, energy use and materials sourcing, as requested in the tender. The sectors were further detailed by the SPIRE sectors (Ceramics, Cement, non-ferrous metals, Chemicals, Minerals, Steel, Water, Engineering, Pulp and paper and Refinery(fuels)) which cover large parts of the process industry and sectors from the CE action plan (Fertiliser, Plastics, Electronic and ICT, Batteries and Vehicles, Textiles, Construction),), complemented by raw materials.

The analysis yielded around 450 TCs, potentially relevant for industrial symbiosis. The 130 most relevant TCs were illustrated in two figures, to get a quick overview. The full set of TCs and their assignment to the resources/sectors is also made available in an interactive online version on the RISERS website.

The analysis showed that industrial symbiosis is a very broad and horizontal topic, potentially affecting half of the in sum 800 TCs on European and international level, for the IS priority resources/sectors only. Together with a further prioritization of resources and key IS synergies by WP3, the current analysis lays a valuable basis for the survey among the TCs relevant for IS to be carried out in the following task T6.2.

ANNEX 1: TABLE 4 SHOWING THE FULL MAPPING

Table 4 Shows the complete mapping of the international and European TCs, regarding IS relevance and priority sector/resource. The IS relevance ranges from 1 to 3 and can be understood as a rough estimation that needs to be refined, once the RISERS priorities are in place. T12he mapping aims to rather include than exclude potentially affected TCs. TC which are mapped to several sectors/resources are duplicated accordingly.

Legend: x – TC connected to sector; L – a European/international association, typical for the respective sector, established a liaison

IS relevance estimation: 3 – very high (sector directly affected); 2 – high (sector indirectly affected); 1 – medium or low

Table 4 Complete mapping of all ISO, IEC, CEN and CENELEC TCs to the IS sectors, including an estimated relevance for Industrial Symbiosis.

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Cement	CEN/TC 343	Solid recovered materials, including solid recovered fuels	3			x		L											x						
Cement	CEN/TC 51	Cement and building limes	3					L							L		L					x			
Cement	CEN/TC 89	Thermal performance of buildings and building components	3			x		L	L								L					x			
Cement	ISO/TC 59	Buildings and civil engineering works	3		x	x		x	x	x				x			x			L		L			
Cement	ISO/TC 74	Cement and lime [STANDBY]	3					L							x							x			
Cement	CEN/TC 104	Concrete and related products	2					L									L					x			
Cement	CEN/TC 177	Prefabricated reinforced components of autoclaved aerated concrete or light-weight aggregate concrete with open structure	2					x														x			
Cement	CEN/TC 227	Road materials	2					x		x					L		L					x			
Cement	CEN/TC 303	Floor screeds and screed materials	2					x									L					x			
Cement	CEN/TC 350	Sustainability of construction works	2					L	L	L							L			L		x			
Cement	CEN/TC 88	Thermal insulating materials and products	2					L		L				x			L					x			
Cement	ISO/TC 167	Steel and aluminium structures	2					L									x			L		x			
Cement	ISO/TC 27	Coal and coke	2			x		x		x										x					

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Cement	ISO/TC 300	Solid recovered materials, including solid recovered fuels	2		x	x		L											x						
Cement	ISO/TC 71	Concrete, reinforced concrete and pre-stressed concrete	2					L														x			
Cement	ISO/TC 77	Products in fibre reinforced cement [STANDBY]	2					x														x			
Cement	CEN/TC 125	Masonry	1					L							L		L					x			
Cement	CEN/TC 127	Fire safety in buildings	1					L	L	L							L					x			
Cement	CEN/TC 166	Chimneys	1					x	L	x												x			
Cement	CEN/TC 229	Precast concrete products	1					L	L													x			
Cement	CEN/TC 250	Structural Eurocodes	1					x	L					L			L			L		x			
Cement	CEN/TC 277	Suspended ceilings	1					x												x		x			
Cement	CEN/TC 33	Doors, windows, shutters, building hardware and curtain walling	1					x	x					x			L			x		x			
Cement	CEN/TC 351	Construction Products - Assessment of release of dangerous substances	1					L	L	L						L	L					x			
Cement	CEN/TC 474	CO2 capture, transportation, utilization, storage and carbon accounting	1					x	x	x				x	x	x	x		x	x					
Cement	CEN/TC 99	Wallcoverings	1					x	x					x						x		x			
Cement	ISO/TC 162	Doors, windows and curtain walling	1					x	x					x						x		x			
Cement	ISO/TC 195	Building construction machinery and equipment	1					x		x				x			x			x		x			
Cement	ISO/TC 219	Floor coverings	1					x	x	x												x			
Cement	ISO/TC 221	Geosynthetics	1					x	x																
Cement	ISO/TC 328	Engineered stones	1					x		x												x			
Cement	ISO/TC 98	Bases for design of structures	1					L												L		x			
Ceramic	CEN/TC 184	Advanced technical ceramics	3						L													x			
Ceramic	CEN/TC 352	Nanotechnologies	3						L	x						L									
Ceramic	CEN/TC 67	Ceramic tiles	3						L								L					x			
Ceramic	CEN/TC 89	Thermal performance of buildings and building components	3			x		L	L								L					x			
Ceramic	ISO/TC 189	Ceramic tile	3						x													x			

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Ceramic	ISO/TC 59	Buildings and civil engineering works	3		x	x		x	x	x				x			x			L		L			
Ceramic	CEN/TC 128	Roof covering products for discontinuous laying and products for wall cladding	2						L								L					x			
Ceramic	CEN/TC 178	Paving units and kerbs	2						L													x			
Ceramic	CEN/TC 187	Refractory products and materials	2						L													x			
Ceramic	CEN/TC 350	Sustainability of construction works	2					L	L	L							L			L		x			
Ceramic	ISO/TC 206	Fine ceramics	2						x																
Ceramic	ISO/TC 33	Refractories	2						x																
Ceramic	CEN/TC 127	Fire safety in buildings	1					L	L	L							L					x			
Ceramic	CEN/TC 166	Chimneys	1					x	L	x												x			
Ceramic	CEN/TC 229	Precast concrete products	1					L	L													x			
Ceramic	CEN/TC 246	Natural stones	1						x																
Ceramic	CEN/TC 250	Structural Eurocodes	1					x	L					L			L			L		x			
Ceramic	CEN/TC 297	Free-standing industrial chimneys	1						x											x		x			
Ceramic	CEN/TC 314	Mastic asphalt for waterproofing	1						x	x												x			
Ceramic	CEN/TC 33	Doors, windows, shutters, building hardware and curtain walling	1					x	x					x			L			x		x			
Ceramic	CEN/TC 351	Construction Products - Assessment of release of dangerous substances	1					L	L	L						L	L					x			
Ceramic	CEN/TC 371	Energy performance of buildings	1			x			L													x			
Ceramic	CEN/TC 442	Building Information Modelling (BIM)	1						L													x			
Ceramic	CEN/TC 474	CO2 capture, transportation, utilization, storage and carbon accounting	1					x	x	x				x	x	x	x		x	x					
Ceramic	CEN/TC 99	Wallcoverings	1					x	x					x						x		x			
Ceramic	ISO/TC 162	Doors, windows and curtain walling	1					x	x					x						x		x			
Ceramic	ISO/TC 166	Ceramic ware, glassware and glass ceramic ware in contact with food	1						x				x	L											
Ceramic	ISO/TC 219	Floor coverings	1					x	x	x												x			

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Ceramic	ISO/TC 221	Geosynthetics	1					x	x																
Ceramic	ISO/TC 244	Industrial furnaces and associated processing equipment	1						x											x					
Ceramic	ISO/TC 306	Foundry machinery	1						x											x					
Chemicals	CEN/TC 19	Gaseous and liquid fuels, lubricants and related products of petroleum, synthetic and biological origin	3			x				L									L						
Chemicals	CEN/TC 223	Soil improvers and growing media	3							x		x	x			L									
Chemicals	CEN/TC 249	Plastics	3		L					L															
Chemicals	CEN/TC 260	Fertilizers and liming materials	3							x		L	x		x	L	L								
Chemicals	CEN/TC 317	Derivatives from coal pyrolysis	3							x															
Chemicals	CEN/TC 335	Solid biofuels	3			x				x									x						
Chemicals	CEN/TC 352	Nanotechnologies	3						L	x						L									
Chemicals	ISO/TC 134	Fertilizers, soil conditioners and beneficial substances	3							x		x	x		x										
Chemicals	ISO/TC 275	Sludge recovery, recycling, treatment and disposal	3		x					x															x
Chemicals	ISO/TC 28	Petroleum and related products, fuels and lubricants from natural or synthetic sources	3			x				x									L						
Chemicals	ISO/TC 38	Textiles	3							L											x				
Chemicals	ISO/TC 47	Chemistry	3							L															
Chemicals	ISO/TC 59	Buildings and civil engineering works	3		x	x		x	x	x				x			x			L		L			
Chemicals	ISO/TC 61	Plastics	3		L					L															
Chemicals	CEN/TC 139	Paints and varnishes	2							x								x			x	x			
Chemicals	CEN/TC 227	Road materials	2					x		x					L		L					x			
Chemicals	CEN/TC 261	Packaging	2		L					L							L	L	L						
Chemicals	CEN/TC 298	Pigments and extenders	2							x															
Chemicals	CEN/TC 350	Sustainability of construction works	2					L	L	L							L			L		x			
Chemicals	CEN/TC 366	Materials obtained from End-of-Life Tyres (ELT)	2		L					x															

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Chemicals	CEN/TC 438	Additive Manufacturing	2	x						x							x								
Chemicals	CEN/TC 455	Plant Biostimulants	2							x		x	x												
Chemicals	CEN/TC 466	Circularity and recyclability of fishing gear and aquaculture equipment.	2		x					x															
Chemicals	CEN/TC 88	Thermal insulating materials and products	2					L		L				x			L					x			
Chemicals	ISO/TC 122	Packaging	2		x					L								x							
Chemicals	ISO/TC 156	Corrosion of metals and alloys	2							L							x			x					
Chemicals	ISO/TC 207	Environmental management	2		x	x				L							L			L					
Chemicals	ISO/TC 256	Pigments, dyestuffs and extenders	2							x															
Chemicals	ISO/TC 261	Additive manufacturing	2							x							L								
Chemicals	ISO/TC 27	Coal and coke	2			x		x		x										x					
Chemicals	ISO/TC 31	Tyres, rims and valves	2		x					x										x				x	
Chemicals	CEN/TC 127	Fire safety in buildings	1					L	L	L							L					x			
Chemicals	CEN/TC 145	Plastics and rubber machines	1							x															
Chemicals	CEN/TC 155	Plastics piping systems and ducting systems	1							x															L
Chemicals	CEN/TC 166	Chimneys	1					x	L	x												x			
Chemicals	CEN/TC 182	Refrigerating systems, safety and environmental requirements	1	x		x				x															
Chemicals	CEN/TC 188	Conveyor belts	1							x															
Chemicals	CEN/TC 189	Geosynthetics	1							x						x									
Chemicals	CEN/TC 193	Adhesives	1							x															
Chemicals	CEN/TC 208	Elastomeric seals for joints in pipework and pipelines	1							x															L
Chemicals	CEN/TC 216	Chemical disinfectants and antiseptics	1							x															
Chemicals	CEN/TC 218	Rubber and plastics hoses and hose assemblies	1							x															
Chemicals	CEN/TC 219	Cathodic protection	1							x							x								
Chemicals	CEN/TC 240	Thermal spraying and thermally sprayed coatings	1							x															

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Chemicals	CEN/TC 254	Flexible sheets for waterproofing	1							x															
Chemicals	CEN/TC 276	Surface active agents	1							L															
Chemicals	CEN/TC 314	Mastic asphalt for waterproofing	1						x	x												x			
Chemicals	CEN/TC 336	Bitumens and bituminous binders	1							x												x			
Chemicals	CEN/TC 349	Sealants for joints in building construction	1							x							L					x			
Chemicals	CEN/TC 351	Construction Products - Assessment of release of dangerous substances	1					L	L	L						L	L					x			
Chemicals	CEN/TC 360	Coating systems for chemical apparatus and plants against corrosion	1							x															
Chemicals	CEN/TC 361	Polymer modified bituminous thick coatings for waterproofing - Definitions/requirements and test methods	1							x												x			
Chemicals	CEN/TC 411	Bio-based products	1							L			x					L							
Chemicals	CEN/TC 462	Regulated chemicals in products	1		L					x															
Chemicals	CEN/TC 474	CO2 capture, transportation, utilization, storage and carbon accounting	1					x	x	x				x	x	x	x		x	x					
Chemicals	ISO/TC 123	Plain bearings	1							x										x					
Chemicals	ISO/TC 130	Graphic technology	1							L															
Chemicals	ISO/TC 138	Plastics pipes, fittings and valves for the transport of fluids	1							x															
Chemicals	ISO/TC 180	Solar energy	1			x				x							x			x					
Chemicals	ISO/TC 195	Building construction machinery and equipment	1					x		x				x			x			x		x			
Chemicals	ISO/TC 20	Aircraft and space vehicles	1	x						x							x			x					
Chemicals	ISO/TC 219	Floor coverings	1					x	x	x												x			
Chemicals	ISO/TC 229	Nanotechnologies	1							L															
Chemicals	ISO/TC 313	Packaging machinery	1	x						x								x		x					
Chemicals	ISO/TC 328	Engineered stones	1					x		x												x			
Chemicals	ISO/TC 35	Paints and varnishes	1							L															

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Chemicals	ISO/TC 41	Pulleys and belts (including veebelts)	1		x					x															
Chemicals	ISO/TC 45	Rubber and rubber products	1		x					x															
Chemicals	ISO/TC 52	Light gauge metal containers	1							L							x			x					
Chemicals	ISO/TC 91	Surface active agents	1							L															
Construction	CEN/TC 129	Glass in building	3											L								x			
Construction	CEN/TC 132	Aluminium and aluminium alloys	3				x										L					x			
Construction	CEN/TC 183	Waste management	3		x																	x			
Construction	CEN/TC 184	Advanced technical ceramics	3						L													x			
Construction	CEN/TC 209	Zinc and zinc alloys	3				x										x					x			
Construction	CEN/TC 241	Gypsum and gypsum based products	3												x							x			
Construction	CEN/TC 51	Cement and building limes	3					L							L		L					x			
Construction	CEN/TC 67	Ceramic tiles	3						L								L					x			
Construction	CEN/TC 89	Thermal performance of buildings and building components	3			x		L	L								L					x			
Construction	ISO/TC 160	Glass in building	3											x								x			
Construction	ISO/TC 189	Ceramic tile	3						x													x			
Construction	ISO/TC 25	Cast irons and pig irons	3	x																x		x			
Construction	ISO/TC 59	Buildings and civil engineering works	3		x	x		x	x	x				x			x			L		L			
Construction	ISO/TC 74	Cement and lime [STANDBY]	3					L							x							x			
Construction	CEN/CLC/ETSI/SF-SSCC	CEN-CENELEC-ETSI Sector Forum on Smart and Sustainable Cities and Communities	2		x	x	x				x											x	x		x
Construction	CEN/TC 104	Concrete and related products	2					L									L					x			
Construction	CEN/TC 128	Roof covering products for discontinuous laying and products for wall cladding	2						L								L					x			
Construction	CEN/TC 135	Execution of steel structures and aluminium structures	2														L			L		x			
Construction	CEN/TC 139	Paints and varnishes	2							x								x			x	x			

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Construction	CEN/TC 177	Prefabricated reinforced components of autoclaved aerated concrete or light-weight aggregate concrete with open structure	2					x														x			
Construction	CEN/TC 178	Paving units and kerbs	2						L													x			
Construction	CEN/TC 187	Refractory products and materials	2						L													x			
Construction	CEN/TC 227	Road materials	2					x		x					L		L					x			
Construction	CEN/TC 303	Floor screeds and screed materials	2					x									L					x			
Construction	CEN/TC 350	Sustainability of construction works	2					L	L	L							L			L		x			
Construction	CEN/TC 465	Sustainable Cities and Communities	2		x	x	x															x			x
Construction	CEN/TC 88	Thermal insulating materials and products	2					L		L				x			L					x			
Construction	IEC/TC 82	Solar photovoltaic energy systems	2		x	x	x									x	x					x		x	
Construction	ISO/TC 107	Metallic and other inorganic coatings	2														x			x		x			
Construction	ISO/TC 167	Steel and aluminium structures	2					L									x			L		x			
Construction	ISO/TC 323	Circular economy	2		L															L		L			
Construction	ISO/TC 71	Concrete, reinforced concrete and pre-stressed concrete	2					L														x			
Construction	ISO/TC 77	Products in fibre reinforced cement [STANDBY]	2					x														x			
Construction	ISO/TC 89	Wood-based panels	2		x																	x			
Construction	CEN/CLC/JTC 17	Gas Appliances with Combined Heat and Power	1																			x			
Construction	CEN/TC 10	Lifts, escalators and moving walks	1	x																x		x			
Construction	CEN/TC 124	Timber structures	1																			x			
Construction	CEN/TC 125	Masonry	1					L							L		L					x			
Construction	CEN/TC 127	Fire safety in buildings	1					L	L	L							L					x			
Construction	CEN/TC 134	Resilient, textile, laminate and modular mechanical locked floor coverings	1																		x	x			
Construction	CEN/TC 156	Ventilation for buildings	1			x																x			
Construction	CEN/TC 166	Chimneys	1					x	L	x												x			

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Construction	CEN/TC 175	Round and sawn timber	1																			x			
Construction	CEN/TC 180	Decentralized gas heating	1			x													L			x			
Construction	CEN/TC 228	Heating systems and water based cooling systems in buildings	1	x		x														x		x			L
Construction	CEN/TC 229	Precast concrete products	1					L	L													x			
Construction	CEN/TC 250	Structural Eurocodes	1					x	L					L			L			L		x			
Construction	CEN/TC 277	Suspended ceilings	1					x												x		x			
Construction	CEN/TC 288	Execution of special geotechnical works	1				x															x			
Construction	CEN/TC 297	Free-standing industrial chimneys	1						x											x		x			
Construction	CEN/TC 312	Thermal solar systems and components	1			x																x			
Construction	CEN/TC 314	Mastic asphalt for waterproofing	1						x	x												x			
Construction	CEN/TC 323	Raised access floors	1																			x			
Construction	CEN/TC 33	Doors, windows, shutters, building hardware and curtain walling	1					x	x					x			L			x		x			
Construction	CEN/TC 330	Qualification of construction enterprises	1																			x	x		
Construction	CEN/TC 336	Bitumens and bituminous binders	1							x												x			
Construction	CEN/TC 349	Sealants for joints in building construction	1							x							L					x			
Construction	CEN/TC 351	Construction Products - Assessment of release of dangerous substances	1					L	L	L						L	L					x			
Construction	CEN/TC 357	Stretched ceilings	1																		x	x			
Construction	CEN/TC 361	Polymer modified bituminous thick coatings for waterproofing - Definitions/requirements and test methods	1							x												x			
Construction	CEN/TC 371	Energy performance of buildings	1			x			L													x			
Construction	CEN/TC 38	Durability of wood and wood-based products	1																			x			
Construction	CEN/TC 395	Engineering consultancy services	1																			x			
Construction	CEN/TC 402	Domestic Pools and Spas	1																			x			x

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Construction	CEN/TC 426	Domestic appliances used for water treatment not connected to water supply	1																			x			L
Construction	CEN/TC 442	Building Information Modelling (BIM)	1						L													x			
Construction	CEN/TC 99	Wallcoverings	1					x	x					x						x		x			
Construction	CLC/TC 205	Home and Building Electronic Systems (HBES)	1																			x			
Construction	CLC/TC 82	Solar photovoltaic energy systems	1		x	x	x															x			
Construction	IEC/TC 34	Lighting	1			x																x			
Construction	ISO/TC 136	Furniture	1																			x			
Construction	ISO/TC 162	Doors, windows and curtain walling	1					x	x					x						x		x			
Construction	ISO/TC 163	Thermal performance and energy use in the built environment	1			x											L					x			
Construction	ISO/TC 165	Timber structures	1																			x			
Construction	ISO/TC 195	Building construction machinery and equipment	1					x		x				x			x			x		x			
Construction	ISO/TC 205	Building environment design	1			L																x			
Construction	ISO/TC 214	Elevating work platforms	1																	x		x			
Construction	ISO/TC 218	Timber	1																			x			
Construction	ISO/TC 219	Floor coverings	1					x	x	x												x			
Construction	ISO/TC 268	Sustainable cities and communities	1		x																	x			x
Construction	ISO/TC 287	Sustainable processes for wood and wood-based products	1																			x			
Construction	ISO/TC 327	Natural stones	1																			x			
Construction	ISO/TC 328	Engineered stones	1					x		x												x			
Construction	ISO/TC 87	Cork	1																			x			
Construction	ISO/TC 92	Fire safety	1																			x			
Construction	ISO/TC 96	Cranes	1	x																x		x			
Construction	ISO/TC 98	Bases for design of structures	1					L												L		x			
Electronics/ ICT	IEC/TC 119	Printed Electronics	3								x														

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Electronics/ ICT	CEN/CLC/ETSI/SF-SSCC	CEN-CENELEC-ETSI Sector Forum on Smart and Sustainable Cities and Communities	2		x	x	x				x											x	x		x
Electronics/ ICT	ISO/IEC JTC 1/SC 39	Sustainability, IT and data centres	2			x					x														
Electronics/ ICT	CEN/CLC/JTC 10	Material efficiency aspects for products in scope of Ecodesign legislation	1	x	L						x			L			L								
Electronics/ ICT	CEN/TC 428	ICT Professionalism and Digital Competences	1								x												x		
Electronics/ ICT	CLC/TC 47X	Semiconductor devices and trusted chips	1				x				x						x								
Electronics/ ICT	CLC/TC 65X	Industrial-process measurement, control and automation	1	x							x														
Electronics/ ICT	CLC/TC 69X	Electrical systems for electric road vehicles	1								x													x	
Electronics/ ICT	CLC/TC 72	Automatic electrical controls	1								x														
Electronics/ ICT	ISO/IEC JTC 1/SC 22	Programming languages, their environments and system software interfaces	1								x														
Electronics/ ICT	ISO/IEC JTC 1/SC 24	Computer graphics, image processing and environmental data representation	1								x														
Electronics/ ICT	ISO/IEC JTC 1/SC 38	Cloud computing and distributed platforms	1								x														
Electronics/ ICT	ISO/IEC JTC 1/SC 7	Software and systems engineering	1								x														
Electronics/ ICT	ISO/TC 184	Automation systems and integration	1	x							x														
Electronics/ ICT	ISO/TC 307	Blockchain and distributed ledger technologies	1								x														
Fertilizers	CEN/TC 223	Soil improvers and growing media	3							x		x	x			L									
Fertilizers	CEN/TC 260	Fertilizers and liming materials	3							x		L	x		x	L	L								
Fertilizers	ISO/TC 134	Fertilizers, soil conditioners and beneficial substances	3							x		x	x		x										
Fertilizers	CEN/TC 455	Plant Biostimulants	2							x		x	x												

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Fertilizers	ISO/TC 190	Soil quality	1									x	x												
Food	CEN/TC 223	Soil improvers and growing media	3							x		x	x			L									
Food	CEN/TC 260	Fertilizers and liming materials	3							x		L	x		x	L	L								
Food	ISO/TC 134	Fertilizers, soil conditioners and beneficial substances	3							x		x	x		x										
Food	ISO/TC 34	Food products	3										x												
Food	CEN/TC 454	Algae and algae products	2										x												
Food	CEN/TC 455	Plant Biostimulants	2							x		x	x												
Food	CEN/TC 153	Machinery intended for use with foodstuffs and feed	1										x												
Food	CEN/TC 302	Milk and milk products - Methods of sampling and analysis	1										x												
Food	CEN/TC 307	Oilseeds, vegetable and animal fats and oils and their by-products - Methods of sampling and analysis	1										x						L						
Food	CEN/TC 327	Animal feeding stuffs - Methods of sampling and analysis	1										x			L									
Food	CEN/TC 334	Irrigation techniques	1										x												x
Food	CEN/TC 411	Bio-based products	1							L			x					L							
Food	CEN/TC 460	Food Authenticity	1										x												
Food	ISO/TC 166	Ceramic ware, glassware and glass ceramic ware in contact with food	1						x				x	L											
Food	ISO/TC 190	Soil quality	1									x	x												
Food	ISO/TC 23	Tractors and machinery for agriculture and forestry	1										x											x	
Food	ISO/TC 234	Fisheries and aquaculture	1										x												
Food	ISO/TC 315	Cold chain logistics	1			x							x												
Food	ISO/TC 326	Machinery intended for use with foodstuffs	1	x									x												
Food	ISO/TC 54	Essential oils	1										x												
Food	ISO/TC 93	Starch (including derivatives and by-products)	1										x												
Glass	CEN/TC 129	Glass in building	3											L								x			

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Glass	ISO/TC 160	Glass in building	3											x								x			
Glass	ISO/TC 59	Buildings and civil engineering works	3		x	x		x	x	x				x			x			L		L			
Glass	CEN/TC 88	Thermal insulating materials and products	2					L		L				x			L					x			
Glass	CEN/CLC/JTC 10	Material efficiency aspects for products in scope of Ecodesign legislation	1	x	L						x			L			L								
Glass	CEN/TC 250	Structural Eurocodes	1					x	L					L			L			L		x			
Glass	CEN/TC 284	Greenhouses	1											x						x					
Glass	CEN/TC 33	Doors, windows, shutters, building hardware and curtain walling	1					x	x					x			L			x		x			
Glass	CEN/TC 474	CO2 capture, transportation, utilization, storage and carbon accounting	1					x	x	x				x	x	x	x		x	x					
Glass	CEN/TC 99	Wallcoverings	1					x	x					x						x		x			
Glass	ISO/TC 162	Doors, windows and curtain walling	1					x	x					x						x		x			
Glass	ISO/TC 166	Ceramic ware, glassware and glass ceramic ware in contact with food	1						x				x	L											
Glass	ISO/TC 178	Lifts, escalators and moving walks	1	x										x						x					
Glass	ISO/TC 195	Building construction machinery and equipment	1					x		x				x			x			x		x			
Glass	ISO/TC 63	Glass containers	1		x									x											
Lime	CEN/TC 164	Water supply	3												L										L
Lime	CEN/TC 241	Gypsum and gypsum based products	3												x							x			
Lime	CEN/TC 260	Fertilizers and liming materials	3							x		L	x		x	L	L								
Lime	CEN/TC 308	Characterization and management of sludge	3		x										L										x
Lime	CEN/TC 51	Cement and building limes	3					L							L		L					x			
Lime	ISO/TC 134	Fertilizers, soil conditioners and beneficial substances	3							x		x	x		x										
Lime	ISO/TC 74	Cement and lime [STANDBY]	3					L							x							x			
Lime	CEN/TC 227	Road materials	2					x		x					L		L					x			

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Lime	CEN/TC 125	Masonry	1					L							L		L					x			
Lime	CEN/TC 474	CO2 capture, transportation, utilization, storage and carbon accounting	1					x	x	x				x	x	x	x		x	x					
Minerals	CEN/TC 223	Soil improvers and growing media	3							x		x	x			L									
Minerals	CEN/TC 260	Fertilizers and liming materials	3							x		L	x		x	L	L								
Minerals	CEN/TC 352	Nanotechnologies	3						L	x						L									
Minerals	CEN/TC 472	Rare Earth	3				x									x	x								
Minerals	ISO/PC 348	Sustainable raw materials	3		x		x									x	x								
Minerals	ISO/TC 147	Water quality	3													L									x
Minerals	ISO/TC 174	Jewellery and precious metals	3				x									x	x								
Minerals	ISO/TC 298	Rare earth	3				x									x	x								
Minerals	ISO/TC 82	Mining	3				x									x	x								
Minerals	IEC/TC 82	Solar photovoltaic energy systems	2		x	x	x									x	x					x		x	
Minerals	ISO/TC 345	Specialty metals and minerals	2		x		x									x	x								
Minerals	CEN/TC 189	Geosynthetics	1							x						x									
Minerals	CEN/TC 327	Animal feeding stuffs - Methods of sampling and analysis	1										x			L									
Minerals	CEN/TC 351	Construction Products - Assessment of release of dangerous substances	1					L	L	L						L	L					x			
Minerals	CEN/TC 474	CO2 capture, transportation, utilization, storage and carbon accounting	1					x	x	x				x	x	x	x		x	x					
Non-ferrous Metals	CEN/TC 132	Aluminium and aluminium alloys	3				x										L					x			
Non-ferrous Metals	CEN/TC 133	Copper and copper alloys	3				x										x								L
Non-ferrous Metals	CEN/TC 209	Zinc and zinc alloys	3				x										x					x			
Non-ferrous Metals	CEN/TC 260	Fertilizers and liming materials	3							x		L	x		x	L	L								
Non-ferrous Metals	CEN/TC 306	Lead and lead alloys	3				x										x								

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Non-ferrous Metals	CEN/TC 410	Jewellery and precious metals	3				x										x								
Non-ferrous Metals	CEN/TC 472	Rare Earth	3				x									x	x								
Non-ferrous Metals	CEN/TC 51	Cement and building limes	3					L							L		L					x			
Non-ferrous Metals	CEN/TC 67	Ceramic tiles	3						L								L					x			
Non-ferrous Metals	CEN/TC 89	Thermal performance of buildings and building components	3			x		L	L								L					x			
Non-ferrous Metals	ISO/PC 348	Sustainable raw materials	3		x		x									x	x								
Non-ferrous Metals	ISO/TC 174	Jewellery and precious metals	3				x									x	x								
Non-ferrous Metals	ISO/TC 18	Zinc and zinc alloys [STANDBY]	3														x								
Non-ferrous Metals	ISO/TC 183	Copper, lead, zinc and nickel ores and concentrates	3				x										x								
Non-ferrous Metals	ISO/TC 226	Materials for the production of primary aluminium	3				x										x								
Non-ferrous Metals	ISO/TC 26	Copper and copper alloys	3														x								
Non-ferrous Metals	ISO/TC 298	Rare earth	3				x									x	x								
Non-ferrous Metals	ISO/TC 59	Buildings and civil engineering works	3		x	x		x	x	x				x			x			L		L			
Non-ferrous Metals	ISO/TC 79	Light metals and their alloys	3														L								
Non-ferrous Metals	ISO/TC 82	Mining	3				x									x	x								
Non-ferrous Metals	CEN/TC 104	Concrete and related products	2					L									L					x			
Non-ferrous Metals	CEN/TC 128	Roof covering products for discontinuous laying and products for wall cladding	2						L								L					x			
Non-ferrous Metals	CEN/TC 135	Execution of steel structures and aluminium structures	2														L			L		x			

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Non-ferrous Metals	CEN/TC 227	Road materials	2					x		x					L		L					x			
Non-ferrous Metals	CEN/TC 261	Packaging	2		L					L							L	L	L						
Non-ferrous Metals	CEN/TC 262	Metallic and other inorganic coatings, including for corrosion protection and corrosion testing of metals and alloys	2														x								
Non-ferrous Metals	CEN/TC 303	Floor screeds and screed materials	2					x									L					x			
Non-ferrous Metals	CEN/TC 350	Sustainability of construction works	2					L	L	L							L			L		x			
Non-ferrous Metals	CEN/TC 438	Additive Manufacturing	2	x						x							x								
Non-ferrous Metals	CEN/TC 88	Thermal insulating materials and products	2					L		L				x			L					x			
Non-ferrous Metals	IEC/TC 82	Solar photovoltaic energy systems	2		x	x	x									x	x					x		x	
Non-ferrous Metals	ISO/TC 107	Metallic and other inorganic coatings	2														x			x		x			
Non-ferrous Metals	ISO/TC 132	Ferroalloys	2														x			x					
Non-ferrous Metals	ISO/TC 155	Nickel and nickel alloys	2				x										x								
Non-ferrous Metals	ISO/TC 156	Corrosion of metals and alloys	2							L							x			x					
Non-ferrous Metals	ISO/TC 167	Steel and aluminium structures	2					L									x			L		x			
Non-ferrous Metals	ISO/TC 207	Environmental management	2		x	x				L							L			L					
Non-ferrous Metals	ISO/TC 261	Additive manufacturing	2							x							L								
Non-ferrous Metals	ISO/TC 333	Lithium	2				x										x								
Non-ferrous Metals	ISO/TC 345	Specialty metals and minerals	2		x		x									x	x								

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Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Non-ferrous Metals	CEN/CLC/JTC 10	Material efficiency aspects for products in scope of Ecodesign legislation	1	x	L						x			L			L								
Non-ferrous Metals	CEN/TC 125	Masonry	1					L							L		L					x			
Non-ferrous Metals	CEN/TC 127	Fire safety in buildings	1					L	L	L							L					x			
Non-ferrous Metals	CEN/TC 219	Cathodic protection	1							x							x								
Non-ferrous Metals	CEN/TC 250	Structural Eurocodes	1					x	L					L			L			L		x			
Non-ferrous Metals	CEN/TC 296	Tanks for the transport of dangerous goods	1														L			x					
Non-ferrous Metals	CEN/TC 33	Doors, windows, shutters, building hardware and curtain walling	1					x	x					x			L			x		x			
Non-ferrous Metals	CEN/TC 349	Sealants for joints in building construction	1							x							L					x			
Non-ferrous Metals	CEN/TC 351	Construction Products - Assessment of release of dangerous substances	1					L	L	L						L	L					x			
Non-ferrous Metals	CEN/TC 474	CO2 capture, transportation, utilization, storage and carbon accounting	1					x	x	x				x	x	x	x		x	x					
Non-ferrous Metals	CLC/TC 20	Electric cables	1														x								
Non-ferrous Metals	CLC/TC 209	Cable networks for television signals, sound signals and interactive services	1														x								
Non-ferrous Metals	CLC/TC 46X	Communication cables	1			x											x								
Non-ferrous Metals	CLC/TC 47X	Semiconductor devices and trusted chips	1				x				x						x								
Non-ferrous Metals	IEC/TC 20	Electric cables	1														x								
Non-ferrous Metals	IEC/TC 46	Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories	1														x								

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Non-ferrous Metals	IEC/TC 55	Winding wires	1														x								
Non-ferrous Metals	IEC/TC 68	Magnetic alloys and steels	1														x			x					
Non-ferrous Metals	ISO/TC 100	Chains and chain sprockets for power transmission and conveyors	1	x													x			x					
Non-ferrous Metals	ISO/TC 119	Powder metallurgy	1														L								
Non-ferrous Metals	ISO/TC 149	Cycles	1	x													x			x				x	
Non-ferrous Metals	ISO/TC 163	Thermal performance and energy use in the built environment	1			x											L					x			
Non-ferrous Metals	ISO/TC 180	Solar energy	1			x				x							x			x					
Non-ferrous Metals	ISO/TC 188	Small craft	1														x			x					
Non-ferrous Metals	ISO/TC 195	Building construction machinery and equipment	1					x		x				x			x			x		x			
Non-ferrous Metals	ISO/TC 20	Aircraft and space vehicles	1	x						x							x			x					
Non-ferrous Metals	ISO/TC 227	Springs	1	x													x			x					
Non-ferrous Metals	ISO/TC 29	Small tools	1														x			x					
Non-ferrous Metals	ISO/TC 52	Light gauge metal containers	1							L							x			x					
Non-ferrous Metals	ISO/TC 60	Gears	1	x													x			x					
Pulp and Paper	CEN/TC 172	Pulp, paper and board	3		L													L							
Pulp and Paper	ISO/TC 6	Paper, board and pulps	3															x							
Pulp and Paper	CEN/TC 139	Paints and varnishes	2							x								x			x	x			
Pulp and Paper	CEN/TC 261	Packaging	2		L					L							L	L	L						
Pulp and Paper	ISO/TC 122	Packaging	2		x					L								x							

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Pulp and Paper	CEN/TC 411	Bio-based products	1							L			x					L							
Pulp and Paper	CEN/TC 69	Industrial valves	1	x														x		x					
Pulp and Paper	CEN/TC 74	Flanges and their joints	1															x		x					
Pulp and Paper	ISO/TC 313	Packaging machinery	1	x						x								x		x					
Refining (fuels)	CEN/TC 19	Gaseous and liquid fuels, lubricants and related products of petroleum, synthetic and biological origin	3			x				L									L						
Refining (fuels)	CEN/TC 335	Solid biofuels	3			x				x									x						
Refining (fuels)	CEN/TC 343	Solid recovered materials, including solid recovered fuels	3			x		L											x						
Refining (fuels)	CEN/TC 408	Natural gas and biomethane for use in transport and biomethane for injection in the natural gas grid	3			x													x						
Refining (fuels)	ISO/TC 28	Petroleum and related products, fuels and lubricants from natural or synthetic sources	3			x				x									L						
Refining (fuels)	CEN/TC 12	Oil and gas industries including lower carbon energy	2			x													x						
Refining (fuels)	CEN/TC 261	Packaging	2		L					L							L	L	L						
Refining (fuels)	CEN/TC 383	Sustainably produced biomass for energy applications	2		x	x													L						
Refining (fuels)	CEN/TC 441	Fuel labelling	2			x													L						
Refining (fuels)	ISO/TC 197	Hydrogen technologies	2			x													x						
Refining (fuels)	ISO/TC 238	Solid biofuels	2			x													x						
Refining (fuels)	ISO/TC 255	Biogas	2			x													x						
Refining (fuels)	ISO/TC 300	Solid recovered materials, including solid recovered fuels	2		x	x		L											x						

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Refining (fuels)	ISO/TC 67	Oil and gas industries including lower carbon energy	2			x													x						
Refining (fuels)	CEN/TC 109	Central heating boilers using gaseous fuels	1																L						
Refining (fuels)	CEN/TC 131	Forced draught burners for gaseous and liquid fuels	1			x													x						
Refining (fuels)	CEN/TC 180	Decentralized gas heating	1			x													L			x			
Refining (fuels)	CEN/TC 181	Appliances and leisure vehicle installations using liquefied petroleum gas and appliances using natural gas for outdoor use	1																L						
Refining (fuels)	CEN/TC 23	Transportable gas cylinders	1																L	x					
Refining (fuels)	CEN/TC 270	Internal combustion engines	1			x													x						
Refining (fuels)	CEN/TC 286	Liquefied petroleum gas equipment and accessories	1	x															L	x					
Refining (fuels)	CEN/TC 307	Oilseeds, vegetable and animal fats and oils and their by-products - Methods of sampling and analysis	1										x						L						
Refining (fuels)	CEN/TC 326	Natural gas vehicles - Fuelling and operation	1																x					x	
Refining (fuels)	CEN/TC 363	Organic contaminants (tar) in biomass producer gases	1		x														x						
Refining (fuels)	CEN/TC 474	CO2 capture, transportation, utilization, storage and carbon accounting	1					x	x	x				x	x	x	x		x	x					
Refining (fuels)	ISO/TC 109	Oil and gas burners	1			x													x						
Refining (fuels)	ISO/TC 161	Controls and protective devices for gaseous and liquid fuels	1																x						
Refining (fuels)	ISO/TC 263	Coalbed methane (CBM)	1			x													x						
Refining (fuels)	ISO/TC 285	Clean cookstoves and clean cooking solutions	1			x													x						
Refining (fuels)	ISO/TC 291	Domestic gas cooking appliances	1	x															x						

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Refining (fuels)	ISO/TC 70	Internal combustion engines	1			x													x					x	
Services (related to IMS/data excahnge)	CEN/CLC/ETSI/SF-SSCC	CEN-CENELEC-ETSI Sector Forum on Smart and Sustainable Cities and Communities	2		x	x	x				x											x	x		x
Services (related to IMS/data excahnge)	CEN/TC 330	Qualification of construction enterprises	1																			x	x		
Services (related to IMS/data excahnge)	CEN/TC 428	ICT Professionalism and Digital Competences	1								x												x		
Services (related to IMS/data excahnge)	ISO/TC 322	Sustainable finance	1																				x		
Steel	CEN/TC 459	ECISS - European Committee for Iron and Steel Standardization	3		L															L					
Steel	ISO/TC 102	Iron ore and direct reduced iron	3				x													x					
Steel	ISO/TC 17	Steel	3																	L					
Steel	ISO/TC 25	Cast irons and pig irons	3	x																x		x			
Steel	ISO/TC 59	Buildings and civil engineering works	3		x	x		x	x	x				x			x			L		L			
Steel	CEN/TC 135	Execution of steel structures and aluminium structures	2														L			L		x			
Steel	CEN/TC 350	Sustainability of construction works	2					L	L	L							L			L		x			
Steel	ISO/TC 107	Metallic and other inorganic coatings	2														x			x		x			
Steel	ISO/TC 132	Ferroalloys	2														x			x					
Steel	ISO/TC 156	Corrosion of metals and alloys	2							L							x			x					
Steel	ISO/TC 167	Steel and aluminium structures	2					L									x			L		x			
Steel	ISO/TC 207	Environmental management	2		x	x				L							L			L					
Steel	ISO/TC 27	Coal and coke	2			x		x		x										x					

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Steel	ISO/TC 31	Tyres, rims and valves	2		x					x										x				x	
Steel	ISO/TC 323	Circular economy	2		L															L		L			
Steel	CEN/TC 10	Lifts, escalators and moving walks	1	x																x		x			
Steel	CEN/TC 15	Inland navigation vessels	1	x																x					
Steel	CEN/TC 190	Foundry technology	1	x																x					
Steel	CEN/TC 202	Foundry machinery	1	x																x					
Steel	CEN/TC 203	Cast iron pipes, fittings and their joints	1	x																x					L
Steel	CEN/TC 210	GRP tanks and vessels	1																	x					
Steel	CEN/TC 228	Heating systems and water based cooling systems in buildings	1	x		x														x		x			L
Steel	CEN/TC 23	Transportable gas cylinders	1																L	x					
Steel	CEN/TC 232	Compressors, vacuum pumps and their systems	1	x		x														x					
Steel	CEN/TC 250	Structural Eurocodes	1					x	L					L			L			L		x			
Steel	CEN/TC 265	Metallic tanks for the storage of liquids	1	x																x					
Steel	CEN/TC 267	Industrial piping and pipelines	1	x																x					
Steel	CEN/TC 268	Cryogenic vessels and specific hydrogen technologies applications	1	x																x					
Steel	CEN/TC 269	Shell and water-tube boilers	1	x																x					
Steel	CEN/TC 277	Suspended ceilings	1					x												x		x			
Steel	CEN/TC 282	Installation and equipment for LNG	1	x																x					
Steel	CEN/TC 284	Greenhouses	1											x						x					
Steel	CEN/TC 286	Liquefied petroleum gas equipment and accessories	1	x															L	x					
Steel	CEN/TC 296	Tanks for the transport of dangerous goods	1														L			x					
Steel	CEN/TC 297	Free-standing industrial chimneys	1						x											x		x			
Steel	CEN/TC 33	Doors, windows, shutters, building hardware and curtain walling	1					x	x					x			L			x		x			
Steel	CEN/TC 342	Metal hoses, hose assemblies, bellows and expansion joints	1																	x					

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Steel	CEN/TC 344	Steel static storage systems	1																	x					
Steel	CEN/TC 474	CO2 capture, transportation, utilization, storage and carbon accounting	1					x	x	x				x	x	x	x		x	x					
Steel	CEN/TC 69	Industrial valves	1	x														x		x					
Steel	CEN/TC 74	Flanges and their joints	1															x		x					
Steel	CEN/TC 99	Wallcoverings	1					x	x					x						x		x			
Steel	CLC/TC 14	Power transformers	1																	x					
Steel	CLC/TC 88	Wind turbines	1			x														x					
Steel	IEC/TC 68	Magnetic alloys and steels	1														x			x					
Steel	ISO/TC 100	Chains and chain sprockets for power transmission and conveyors	1	x													x			x					
Steel	ISO/TC 104	Freight containers	1																	x					
Steel	ISO/TC 105	Steel wire ropes	1																	x					
Steel	ISO/TC 11	Boilers and pressure vessels [STANDBY]	1																	x					
Steel	ISO/TC 111	Round steel link chains, chain slings, components and accessories	1	x																x					
Steel	ISO/TC 115	Pumps	1	x																x					
Steel	ISO/TC 118	Compressors and pneumatic tools, machines and equipment	1	x		x														x					
Steel	ISO/TC 123	Plain bearings	1							x										x					
Steel	ISO/TC 14	Shafts for machinery and accessories	1	x																x					
Steel	ISO/TC 149	Cycles	1	x													x			x				x	
Steel	ISO/TC 153	Valves	1	x																x					
Steel	ISO/TC 162	Doors, windows and curtain walling	1					x	x					x						x		x			
Steel	ISO/TC 178	Lifts, escalators and moving walks	1	x										x						x					
Steel	ISO/TC 180	Solar energy	1			x				x							x			x					
Steel	ISO/TC 188	Small craft	1														x			x					
Steel	ISO/TC 192	Gas turbines	1	x		x														x					

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Steel	ISO/TC 195	Building construction machinery and equipment	1					x		x				x			x			x		x			
Steel	ISO/TC 20	Aircraft and space vehicles	1	x						x							x			x					
Steel	ISO/TC 214	Elevating work platforms	1																	x		x			
Steel	ISO/TC 220	Cryogenic vessels	1																	x					
Steel	ISO/TC 227	Springs	1	x													x			x					
Steel	ISO/TC 244	Industrial furnaces and associated processing equipment	1						x											x					
Steel	ISO/TC 29	Small tools	1														x			x					
Steel	ISO/TC 306	Foundry machinery	1						x											x					
Steel	ISO/TC 313	Packaging machinery	1	x						x								x		x					
Steel	ISO/TC 39	Machine tools	1	x																x					
Steel	ISO/TC 4	Rolling bearings	1																	x					
Steel	ISO/TC 5	Ferrous metal pipes and metallic fittings	1																	x					
Steel	ISO/TC 52	Light gauge metal containers	1							L							x			x					
Steel	ISO/TC 58	Gas cylinders	1																	x					
Steel	ISO/TC 60	Gears	1	x													x			x					
Steel	ISO/TC 8	Ships and marine technology	1	x																x					
Steel	ISO/TC 86	Refrigeration and air-conditioning	1			x														x					
Steel	ISO/TC 96	Cranes	1	x																x		x			
Steel	ISO/TC 98	Bases for design of structures	1					L												L		x			
Textiles	CEN/TC 248	Textiles and textile products	3		L																x				
Textiles	ISO/TC 38	Textiles	3							L											x				
Textiles	CEN/TC 139	Paints and varnishes	2							x								x			x	x			
Textiles	CEN/TC 134	Resilient, textile, laminate and modular mechanical locked floor coverings	1																		x	x			
Textiles	CEN/TC 214	Textile machinery and accessories	1	x																	x				
Textiles	CEN/TC 289	Leather	1																		x				
Textiles	CEN/TC 357	Stretched ceilings	1																		x	x			

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Textiles	ISO/TC 72	Textile machinery and accessories	1	x																	x				
Vehicles/batteries	IEC/TC 125	e-Transporters	3																					x	
Vehicles/batteries	IEC/TC 35	Primary cells and batteries	3	x	x	x																		x	
Vehicles/batteries	ISO/TC 22	Road vehicles	3			x																		x	
Vehicles/batteries	CEN/TC 301	Road vehicles	2		L																			x	
Vehicles/batteries	CLC/TC 21X	Secondary cells and batteries	2			x																		x	
Vehicles/batteries	IEC/TC 105	Fuel cell technologies	2		x																			x	
Vehicles/batteries	IEC/TC 82	Solar photovoltaic energy systems	2		x	x	x									x	x					x		x	
Vehicles/batteries	ISO/TC 110	Industrial trucks	2																					x	
Vehicles/batteries	ISO/TC 31	Tyres, rims and valves	2		x					x										x				x	
Vehicles/batteries	CEN/TC 326	Natural gas vehicles - Fuelling and operation	1																x					x	
Vehicles/batteries	CEN/TC 354	Light motorized vehicles for the transportation of persons and goods and related facilities and not subject to type-approval for on-road use	1																					x	
Vehicles/batteries	CLC/TC 69X	Electrical systems for electric road vehicles	1								x													x	
Vehicles/batteries	IEC/PC 131	Rotating electrical machines for the traction of road vehicles	1																					x	
Vehicles/batteries	ISO/TC 149	Cycles	1	x													x			x				x	
Vehicles/batteries	ISO/TC 23	Tractors and machinery for agriculture and forestry	1										x											x	
Vehicles/batteries	ISO/TC 70	Internal combustion engines	1			x													x					x	
Water	CEN/TC 133	Copper and copper alloys	3				x										x								L

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Water	CEN/TC 164	Water supply	3												L										L
Water	CEN/TC 165	Waste water engineering	3																						L
Water	CEN/TC 308	Characterization and management of sludge	3		x										L										x
Water	ISO/TC 147	Water quality	3													L									x
Water	ISO/TC 224	Drinking water, wastewater and stormwater systems and services	3																						L
Water	ISO/TC 275	Sludge recovery, recycling, treatment and disposal	3		x					x															x
Water	ISO/TC 282	Water reuse	3		x																				x
Water	CEN/CLC/ETSI/SF-SSCC	CEN-CENELEC-ETSI Sector Forum on Smart and Sustainable Cities and Communities	2		x	x	x				x											x	x		x
Water	CEN/TC 451	Water wells and borehole heat exchangers	2			x																			x
Water	CEN/TC 465	Sustainable Cities and Communities	2		x	x	x															x			x
Water	CEN/TC 130	Space heating and/or cooling appliances without integral thermal sources	1			x																			L
Water	CEN/TC 155	Plastics piping systems and ducting systems	1							x															L
Water	CEN/TC 203	Cast iron pipes, fittings and their joints	1	x																x					L
Water	CEN/TC 208	Elastomeric seals for joints in pipework and pipelines	1							x															L
Water	CEN/TC 228	Heating systems and water based cooling systems in buildings	1	x		x														x		x			L
Water	CEN/TC 230	Water analysis	1																						x
Water	CEN/TC 334	Irrigation techniques	1										x												x
Water	CEN/TC 402	Domestic Pools and Spas	1																			x			x
Water	CEN/TC 426	Domestic appliances used for water treatment not connected to water supply	1																			x			L
Water	ISO/TC 268	Sustainable cities and communities	1		x																	x			x

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Water	ISO/TC 281	Fine bubble technology	1		x																				x
Manufacturing	IEC/TC 35	Primary cells and batteries	3	x	x	x																		x	
Manufacturing	ISO/TC 25	Cast irons and pig irons	3	x																x		x			
Manufacturing	CEN/TC 406	Mechanical products - Ecodesign methodology	2	x																					
Manufacturing	CEN/TC 438	Additive Manufacturing	2	x						x							x								
Manufacturing	CEN/CLC/JTC 10	Material efficiency aspects for products in scope of Ecodesign legislation	1	x	L						x			L			L								
Manufacturing	CEN/TC 10	Lifts, escalators and moving walks	1	x																x		x			
Manufacturing	CEN/TC 15	Inland navigation vessels	1	x																x					
Manufacturing	CEN/TC 182	Refrigerating systems, safety and environmental requirements	1	x		x				x															
Manufacturing	CEN/TC 190	Foundry technology	1	x																x					
Manufacturing	CEN/TC 202	Foundry machinery	1	x																x					
Manufacturing	CEN/TC 203	Cast iron pipes, fittings and their joints	1	x																x					L
Manufacturing	CEN/TC 214	Textile machinery and accessories	1	x																	x				
Manufacturing	CEN/TC 228	Heating systems and water based cooling systems in buildings	1	x		x														x		x			L
Manufacturing	CEN/TC 232	Compressors, vacuum pumps and their systems	1	x		x														x					
Manufacturing	CEN/TC 265	Metallic tanks for the storage of liquids	1	x																x					
Manufacturing	CEN/TC 267	Industrial piping and pipelines	1	x																x					
Manufacturing	CEN/TC 268	Cryogenic vessels and specific hydrogen technologies applications	1	x																x					

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Manufacturing	CEN/TC 269	Shell and water-tube boilers	1	x																x					
Manufacturing	CEN/TC 282	Installation and equipment for LNG	1	x																x					
Manufacturing	CEN/TC 286	Liquefied petroleum gas equipment and accessories	1	x															L	x					
Manufacturing	CEN/TC 310	Advanced automation technologies and their applications	1	x																					
Manufacturing	CEN/TC 407	Cylindrical helical springs made from round wire and bar - Calculation and design	1	x																					
Manufacturing	CEN/TC 69	Industrial valves	1	x														x		x					
Manufacturing	CLC/TC 65X	Industrial-process measurement, control and automation	1	x							x														
Manufacturing	ISO/TC 100	Chains and chain sprockets for power transmission and conveyors	1	x													x			x					
Manufacturing	ISO/TC 101	Continuous mechanical handling equipment	1	x																					
Manufacturing	ISO/TC 111	Round steel link chains, chain slings, components and accessories	1	x																x					
Manufacturing	ISO/TC 115	Pumps	1	x																x					
Manufacturing	ISO/TC 118	Compressors and pneumatic tools, machines and equipment	1	x		x														x					
Manufacturing	ISO/TC 131	Fluid power systems	1	x																					
Manufacturing	ISO/TC 14	Shafts for machinery and accessories	1	x																x					
Manufacturing	ISO/TC 149	Cycles	1	x													x			x				x	
Manufacturing	ISO/TC 153	Valves	1	x																x					
Manufacturing	ISO/TC 178	Lifts, escalators and moving walks	1	x										x						x					
Manufacturing	ISO/TC 184	Automation systems and integration	1	x							x														

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Manufacturing	ISO/TC 192	Gas turbines	1	x		x														x					
Manufacturing	ISO/TC 20	Aircraft and space vehicles	1	x						x							x			x					
Manufacturing	ISO/TC 227	Springs	1	x													x			x					
Manufacturing	ISO/TC 291	Domestic gas cooking appliances	1	x															x						
Manufacturing	ISO/TC 313	Packaging machinery	1	x						x								x		x					
Manufacturing	ISO/TC 326	Machinery intended for use with foodstuffs	1	x									x												
Manufacturing	ISO/TC 39	Machine tools	1	x																x					
Manufacturing	ISO/TC 60	Gears	1	x													x			x					
Manufacturing	ISO/TC 72	Textile machinery and accessories	1	x																	x				
Manufacturing	ISO/TC 8	Ships and marine technology	1	x																x					
Manufacturing	ISO/TC 96	Cranes	1	x																x		x			
Waste treatment	CEN/TC 172	Pulp, paper and board	3		L													L							
Waste treatment	CEN/TC 183	Waste management	3		x																	x			
Waste treatment	CEN/TC 248	Textiles and textile products	3		L																x				
Waste treatment	CEN/TC 249	Plastics	3		L					L															
Waste treatment	CEN/TC 308	Characterization and management of sludge	3		x										L										x
Waste treatment	CEN/TC 459	ECISS - European Committee for Iron and Steel Standardization	3		L															L					
Waste treatment	IEC/TC 35	Primary cells and batteries	3	x	x	x																		x	
Waste treatment	ISO/PC 348	Sustainable raw materials	3		x		x									x	x								

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/batteries	Water
Waste treatment	ISO/TC 275	Sludge recovery, recycling, treatment and disposal	3		x					x															x
Waste treatment	ISO/TC 282	Water reuse	3		x																				x
Waste treatment	ISO/TC 59	Buildings and civil engineering works	3		x	x		x	x	x				x			x			L		L			
Waste treatment	ISO/TC 61	Plastics	3		L					L															
Waste treatment	CEN/CLC/ETSI/SF-SSCC	CEN-CENELEC-ETSI Sector Forum on Smart and Sustainable Cities and Communities	2		x	x	x				x											x	x		x
Waste treatment	CEN/TC 261	Packaging	2		L					L							L	L	L						
Waste treatment	CEN/TC 301	Road vehicles	2		L																			x	
Waste treatment	CEN/TC 366	Materials obtained from End-of-Life Tyres (ELT)	2		L					x															
Waste treatment	CEN/TC 383	Sustainably produced biomass for energy applications	2		x	x													L						
Waste treatment	CEN/TC 465	Sustainable Cities and Communities	2		x	x	x															x			x
Waste treatment	CEN/TC 466	Circularity and recyclability of fishing gear and aquaculture equipment.	2		x					x															
Waste treatment	IEC/TC 105	Fuel cell technologies	2		x																			x	
Waste treatment	IEC/TC 82	Solar photovoltaic energy systems	2		x	x	x									x	x					x		x	
Waste treatment	ISO/TC 122	Packaging	2		x					L								x							
Waste treatment	ISO/TC 207	Environmental management	2		x	x				L							L			L					
Waste treatment	ISO/TC 265	Carbon dioxide capture, transportation, and geological storage	2		x	x																			
Waste treatment	ISO/TC 297	Waste collection and transportation management	2		x																				

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Waste treatment	ISO/TC 300	Solid recovered materials, including solid recovered fuels	2		x	x		L											x						
Waste treatment	ISO/TC 31	Tyres, rims and valves	2		x					x										x				x	
Waste treatment	ISO/TC 323	Circular economy	2		L															L		L			
Waste treatment	ISO/TC 345	Specialty metals and minerals	2		x		x									x	x								
Waste treatment	ISO/TC 89	Wood-based panels	2		x																	x			
Waste treatment	CEN/CLC/JTC 10	Material efficiency aspects for products in scope of Ecodesign legislation	1	x	L						x			L			L								
Waste treatment	CEN/TC 363	Organic contaminants (tar) in biomass producer gases	1		x														x						
Waste treatment	CEN/TC 430	Nuclear energy, nuclear technologies, and radiological protection	1		x	x																			
Waste treatment	CEN/TC 444	Environmental characterization of solid matrices	1		x																				
Waste treatment	CEN/TC 462	Regulated chemicals in products	1		L					x															
Waste treatment	CLC/TC 111X	Environment	1		L																				
Waste treatment	CLC/TC 82	Solar photovoltaic energy systems	1		x	x	x															x			
Waste treatment	ISO/PC 305	Sustainable non-sewered sanitation systems	1		x																				
Waste treatment	ISO/TC 268	Sustainable cities and communities	1		x																	x			x
Waste treatment	ISO/TC 281	Fine bubble technology	1		x																				x
Waste treatment	ISO/TC 41	Pulleys and belts (including veebelts)	1		x					x															
Waste treatment	ISO/TC 45	Rubber and rubber products	1		x					x															
Waste treatment	ISO/TC 63	Glass containers	1		x									x											

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Waste treatment	ISO/TC 85	Nuclear energy, nuclear technologies, and radiological protection	1		x	x																			
Energy use	CEN/CLC/ETSI/CG-SG	CEN-CENELEC-ETSI Coordination Group on Smart Grids (CG-SG)	3			x																			
Energy use	CEN/CLC/JTC 6	Hydrogen in energy systems	3			x																			
Energy use	CEN/TC 19	Gaseous and liquid fuels, lubricants and related products of petroleum, synthetic and biological origin	3			x				L									L						
Energy use	CEN/TC 335	Solid biofuels	3			x				x									x						
Energy use	CEN/TC 343	Solid recovered materials, including solid recovered fuels	3			x		L											x						
Energy use	CEN/TC 408	Natural gas and biomethane for use in transport and biomethane for injection in the natural gas grid	3			x													x						
Energy use	CEN/TC 89	Thermal performance of buildings and building components	3			x		L	L								L					x			
Energy use	IEC/TC 35	Primary cells and batteries	3	x	x	x																		x	
Energy use	ISO/TC 22	Road vehicles	3			x																		x	
Energy use	ISO/TC 28	Petroleum and related products, fuels and lubricants from natural or synthetic sources	3			x				x									L						
Energy use	ISO/TC 59	Buildings and civil engineering works	3		x	x		x	x	x				x			x			L		L			
Energy use	CEN/CLC/ETSI/SF-SSCC	CEN-CENELEC-ETSI Sector Forum on Smart and Sustainable Cities and Communities	2		x	x	x				x											x	x		x
Energy use	CEN/CLC/JTC 14	Energy management and energy efficiency in the framework of energy transition	2			x																			
Energy use	CEN/TC 12	Oil and gas industries including lower carbon energy	2			x													x						

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Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Energy use	CEN/TC 299	Gas-fired sorption appliances, indirect fired sorption appliances, gas-fired endothermic engine heat pumps and domestic gas-fired washing and drying appliances.	2			x																			
Energy use	CEN/TC 383	Sustainably produced biomass for energy applications	2		x	x													L						
Energy use	CEN/TC 441	Fuel labelling	2			x													L						
Energy use	CEN/TC 451	Water wells and borehole heat exchangers	2			x																			x
Energy use	CEN/TC 465	Sustainable Cities and Communities	2		x	x	x															x			x
Energy use	CLC/TC 21X	Secondary cells and batteries	2			x																		x	
Energy use	IEC/TC 117	Solar thermal electric plants	2			x																			
Energy use	IEC/TC 120	Electrical Energy Storage (EES) systems	2			x																			
Energy use	IEC/TC 123	Management of network assets in power systems	2			x																			
Energy use	IEC/TC 82	Solar photovoltaic energy systems	2		x	x	x									x	x					x		x	
Energy use	IEC/TC 88	Wind energy generation systems	2			x																			
Energy use	ISO/IEC JTC 1/SC 39	Sustainability, IT and data centres	2			x					x														
Energy use	ISO/TC 197	Hydrogen technologies	2			x													x						
Energy use	ISO/TC 207	Environmental management	2		x	x				L							L			L					
Energy use	ISO/TC 238	Solid biofuels	2			x													x						
Energy use	ISO/TC 255	Biogas	2			x													x						
Energy use	ISO/TC 265	Carbon dioxide capture, transportation, and geological storage	2		x	x																			
Energy use	ISO/TC 27	Coal and coke	2			x		x		x										x					
Energy use	ISO/TC 300	Solid recovered materials, including solid recovered fuels	2		x	x		L											x						
Energy use	ISO/TC 301	Energy management and energy savings	2			x																			
Energy use	ISO/TC 341	Heat supply network	2			x																			

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Energy use	ISO/TC 67	Oil and gas industries including lower carbon energy	2			x													x						
Energy use	CEN/CLC/JTC 2	Power Engineering	1			x																			
Energy use	CEN/TC 107	District heating and cooling systems	1			x																			
Energy use	CEN/TC 113	Heat pumps and air conditioning units	1			x																			
Energy use	CEN/TC 130	Space heating and/or cooling appliances without integral thermal sources	1			x																			L
Energy use	CEN/TC 131	Forced draught burners for gaseous and liquid fuels	1			x													x						
Energy use	CEN/TC 156	Ventilation for buildings	1			x																x			
Energy use	CEN/TC 169	Light and lighting	1			x	x																		
Energy use	CEN/TC 180	Decentralized gas heating	1			x													L			x			
Energy use	CEN/TC 182	Refrigerating systems, safety and environmental requirements	1	x		x				x															
Energy use	CEN/TC 228	Heating systems and water based cooling systems in buildings	1	x		x														x		x			L
Energy use	CEN/TC 232	Compressors, vacuum pumps and their systems	1	x		x														x					
Energy use	CEN/TC 234	Gas infrastructure	1			x																			
Energy use	CEN/TC 270	Internal combustion engines	1			x													x						
Energy use	CEN/TC 312	Thermal solar systems and components	1			x																x			
Energy use	CEN/TC 371	Energy performance of buildings	1			x			L													x			
Energy use	CEN/TC 430	Nuclear energy, nuclear technologies, and radiological protection	1		x	x																			
Energy use	CLC/TC 34	Lighting	1			x																			
Energy use	CLC/TC 46X	Communication cables	1			x											x								
Energy use	CLC/TC 57	Power systems management and associated information exchange	1			x																			
Energy use	CLC/TC 82	Solar photovoltaic energy systems	1		x	x	x															x			

Sector/Resource	Committee	Title	Estimated IS relevance	Manufacturing	Waste treatment	Energy use	Materials sourcing	Cement	Ceramic	Chemicals	Electronics/ ICT	Fertilizers	Food	Glass	Lime	Minerals	Non-ferr Metals	Pulp/Paper	Refining (fuels)	Steel	Textiles	Construction	Service	Vehicles/ batteries	Water
Energy use	CLC/TC 88	Wind turbines	1			x														x					
Energy use	IEC/PC 126	Binary power generation systems	1			x																			
Energy use	IEC/TC 34	Lighting	1			x																x			
Energy use	IEC/TC 57	Power systems management and associated information exchange	1			x																			
Energy use	IEC/TC 96	Transformers, reactors, power supply units, and combinations thereof	1			x																			
Energy use	ISO/TC 109	Oil and gas burners	1			x													x						
Energy use	ISO/TC 118	Compressors and pneumatic tools, machines and equipment	1	x		x														x					
Energy use	ISO/TC 163	Thermal performance and energy use in the built environment	1			x											L					x			
Energy use	ISO/TC 180	Solar energy	1			x				x							x			x					
Energy use	ISO/TC 192	Gas turbines	1	x		x														x					
Energy use	ISO/TC 205	Building environment design	1			L																x			
Energy use	ISO/TC 263	Coalbed methane (CBM)	1			x													x						
Energy use	ISO/TC 285	Clean cookstoves and clean cooking solutions	1			x													x						
Energy use	ISO/TC 315	Cold chain logistics	1			x							x												
Energy use	ISO/TC 339	Small hydropower plants (SHP plants)	1			x																			
Energy use	ISO/TC 340	Natural gas fuelling stations	1			x																			
Energy use	ISO/TC 70	Internal combustion engines	1			x													x					x	
Energy use	ISO/TC 85	Nuclear energy, nuclear technologies, and radiological protection	1		x	x																			
Energy use	ISO/TC 86	Refrigeration and air-conditioning	1			x														x					
Materials sourcing	CEN/TC 132	Aluminium and aluminium alloys	3				x										L					x			
Materials sourcing	CEN/TC 133	Copper and copper alloys	3				x										x								L
Materials sourcing	CEN/TC 209	Zinc and zinc alloys	3				x										x					x			

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Materials sourcing	CEN/TC 306	Lead and lead alloys	3				x										x								
Materials sourcing	CEN/TC 410	Jewellery and precious metals	3				x										x								
Materials sourcing	CEN/TC 472	Rare Earth	3				x									x	x								
Materials sourcing	ISO/PC 348	Sustainable raw materials	3		x		x									x	x								
Materials sourcing	ISO/TC 102	Iron ore and direct reduced iron	3				x													x					
Materials sourcing	ISO/TC 174	Jewellery and precious metals	3				x									x	x								
Materials sourcing	ISO/TC 183	Copper, lead, zinc and nickel ores and concentrates	3				x										x								
Materials sourcing	ISO/TC 226	Materials for the production of primary aluminium	3				x										x								
Materials sourcing	ISO/TC 298	Rare earth	3				x									x	x								
Materials sourcing	ISO/TC 82	Mining	3				x									x	x								
Materials sourcing	CEN/CLC/ETSI/SF-SSCC	CEN-CENELEC-ETSI Sector Forum on Smart and Sustainable Cities and Communities	2		x	x	x				x											x	x		x
Materials sourcing	CEN/TC 465	Sustainable Cities and Communities	2		x	x	x															x			x
Materials sourcing	IEC/TC 82	Solar photovoltaic energy systems	2		x	x	x									x	x					x		x	
Materials sourcing	ISO/TC 155	Nickel and nickel alloys	2				x										x								
Materials sourcing	ISO/TC 333	Lithium	2				x										x								
Materials sourcing	ISO/TC 345	Specialty metals and minerals	2		x		x									x	x								
Materials sourcing	CEN/TC 169	Light and lighting	1			x	x																		
Materials sourcing	CEN/TC 288	Execution of special geotechnical works	1				x															x			

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Materials sourcing	CLC/TC 47X	Semiconductor devices and trusted chips	1				x				x						x								
Materials sourcing	CLC/TC 82	Solar photovoltaic energy systems	1		x	x	x															x			
Materials sourcing	ISO/TC 182	Geotechnics	1				x																		