This table shows a list of topics identified as relevant by different stakeholder groups. They can be considered as stakeholders' suggestions or requests for topics to be monitored or disclosed by organizations.

Additional information about the project can be found at https://www.globalreporting.org/reporting/sector-guidance/Topics-Research/Pages/default.aspx

Technology and Semiconductors
43 Common Topics

37 - Technology Hardware and Equipment
20 Specific Topics

Manufacturers of communication equipment and products, including LANs, WANs, routers, telephones, switchboards and exchanges. Manufacturers of personal computers, servers, mainframes and workstations. Includes manufacturers of Automatic Teller Machines (ATMs). Manufacturers of electronic computer components and peripherals. Includes data storage components, motherboards, audio and video cards, monitors, keyboards, printers and other peripherals. Excludes semiconductors. Manufacturers of electronic equipment and instruments including analytical, electronic test and measurement instruments, scanner/barcode products, lasers, display screens, point-of-sales machines, and security system equipment. Manufacturers of electronic components. Includes electronic components, connection devices, electron tubes, electronic capacitors and resistors, electronic coil, printed circuit board, transformer and other inductors, signal processing technology/components. Producers of electronic equipment mainly for the OEM (Original Equipment Manufacturers) markets. Distributors of technology hardware and equipment. Includes distributors of communications equipment, computers & peripherals, semiconductors, and electronic equipment and components. Manufacturers of office electronic equipment including copiers and faxes.

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38 - Semiconductors and Semiconductors Equipment

2 Specific Topics

Manufacturers of semiconductor equipment, including manufacturers of the raw material and equipment used in the solar power industry. Manufacturers of semiconductors and related products, including manufacturers of solar modules and cells.

Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
Technology Hardware and Equipment, and Semiconductors and Semiconductors Equipment – Common Topics					
Environmental	Conflict minerals sourcing	Sourcing strategy and policies	Sustainable procurement covers measures taken by companies to integrate environmental and social criteria in the selection and management of suppliers. ¦ Formal sourcing policy covering environmental and social issues + policy in place addressing issues related to "Conflict Minerals" ¦ Membership in sector initiative covering Conflict Minerals (i.e. GeSI, EICC, Responsible Minerals Trade Working Group of the JEITA, etc.) ¦ Percentage of suppliers for which sustainable procurement measures (assessment or audit) have been implemented ¦ Formal assessment of suppliers with respect to REACH ¦ Report on due diligence mechanisms related to conflict minerals ¦ Social audits in supply chain ¦ Conflict minerals required by SEC (for companies listed on U.S. stock exchanges) ¦ Urgency of issue of conflict minerals ¦ Recent issues and condemnations of semi-conductor	427, 473	Financial Markets & Information Users

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
			manufacturers in China (e.g. Foxconn, Samsung suppliers and working conditions etc..) also applies to other sector such as automotive, jewelry, electronic components and telecommunication devices		
		Tantalum, tin, tungsten and gold	Conflict minerals Existence of a conflict minerals policy; percent of "conflict-free" products; percent of key suppliers (tier 1 or other designation) involved in due diligence process The situation in the DRC has been documented to be one of the worst humanitarian crises since World War II. Attention should be paid by those companies in a position to leverage their influence to reduce/eliminate the purchase of conflict minerals. Electronics companies use conflict minerals in their products (as do other industries) and therefore are in a position to influence the purchase of minerals from conflict areas. The EICC Code of Conduct, Ethics Section, Provision 7 states: "Responsible Sourcing of Minerals -- Participants shall have a policy to reasonably assure that the tantalum, tin, tungsten and gold in the products they manufacture does not directly or indirectly finance or benefit armed groups that are perpetrators of serious human rights abuses in the Democratic Republic of the Congo or an adjoining country. Participants shall exercise due diligence on the source and chain of custody of these	122	Mediating Institution

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
			minerals and make their due diligence measures available to customers upon customer request."		
			Rare metal ores (ores rich in tin, tantalum, tungsten and gold), are used to make a range of routine high-tech goods for sale worldwide, such as laptops, mobile phones and light-bulbs. This is a lucrative industry, but it is also a fraught and dangerous one, with deep-seated interests, both in terms of sellers and buyers.	427	Mediating Institution
	Hazardous materials	Adherence to international, national or local regulations and/or laws	The other environmental directive restricting the use of hazardous substances in the manufacture of products is the ROHS (Restriction of Hazardous Substances). China has its own version of the ROHS and South Korea has similar regulation. The REACH regulation, governing the safe use of chemicals, has also had an impact for companies in the semiconductor sector.	479	Business
		Hazardous substances management	Reduction/substitution of hazardous components

Measures to restrict / limit the use of hazardous substances (e.g. further brominated flame retardants or PVC). Measures to substitute hazardous substances used. Adaptation measures in production and logistics processes. Involvement of suppliers.

Hazardous substances contained in products and/or used in production processes pose a significant risk to the environment and human health. This risk has to be addressed, especially in view of often inadequate environmental standards in some supplier countries (e.g. in South-East Asia and Mexico). | 405 | Financial Markets & Information Users |

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			Version 17, released in November 2011, of the Greenpeace Guide to Greener Electronics ranks companies	227	Civil Society Organization
			The sector must also address the environmental impacts of its own operations, for example by reducing the use of chemicals and hazardous substances and waste, enhancing the energy efficiency of ultraclean spaces, and by reducing consumption of ultra-pure water	460	Financial Markets & Information Users
	Energy consumption		Energy management [including carbon/air emissions] Scope 1, 2, and 3 measurements; reduction targets (where applicable) for energy use; use of renewable energy; emission abatement through different approaches (carbon credits, reforestation, abatement systems at factory level to neutralize emissions) This is widely recognized as a key issue facing society due to impacts on climate change. The EICC Code of Conduct, Environmental Section, Provision 2 states: "Pollution Prevention and Resource Reduction -- Waste of all types, including water and energy, are to be reduced or eliminated at the source or by practices such as modifying production, maintenance and facility processes, materials substitution, conservation, recycling and re-using materials." The EICC Code, Environmental Section, Provision 5 states: "Air Emissions -- Air emissions of volatile organic chemicals, aerosols, corrosives, particulates, ozone depleting chemicals and combustion by-products	122	Business

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
			generated from operations are to be characterized, monitored, controlled and treated as required prior to discharge."		
	Energy efficiency of end products		Improvement rate of product energy efficiency compared to previous year	153	Financial Markets & Information Users
	Energy efficiency of operations		The main issues include energy-efficient production processes and low energy consumption chips and processors. The sector must also address the environmental impacts of its own operations, for example by reducing the use of chemicals and hazardous substances and waste, enhancing the energy efficiency of ultraclean spaces, and by reducing consumption of ultra-pure water	460	Financial Markets & Information Users
			Energy management [including carbon/air emissions]

Scope 1, 2, and 3 measurements; reduction targets (where applicable) for energy use; use of renewable energy; emission abatement through different approaches (carbon credits, reforestation, abatement systems at factory level to neutralize emissions)

This is widely recognized as a key issue facing society due to impacts on climate change.

The EICC Code of Conduct, Environmental Section, Provision 2 states: "Pollution Prevention and Resource Reduction -- Waste of all types, including water and energy, are to be reduced or eliminated at the source or | 122 | Mediating Institution |

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
			by practices such as modifying production, maintenance and facility processes, materials substitution, conservation, recycling and re-using materials." The EICC Code, Environmental Section, Provision 5 states: "Air Emissions -- Air emissions of volatile organic chemicals, aerosols, corrosives, particulates, ozone depleting chemicals and combustion by-products generated from operations are to be characterized, monitored, controlled and treated as required prior to discharge."		
	Water consumption	Supply chain	Water management Indicators should address i) drinking-water, ii) sanitation, iii) hygiene and iv) equity and non-discrimination (http://www.unwater.org/index.html); consumption of water per unit of production (normalized value); absolute value of water used; water recycling and reusage rate; water discharged; percentage of water that is treated in internal and external wastewater treatment plants; process to engage local stakeholders in water issues; availability of water strategy for different areas particularly in water-scarce zones Water scarcity and quality is becoming more important as the world population grows and water availability does not always match the need. In the electronics sector, water use is significant is some levels of the supply chain; use and quality efforts should be measured.	122	Mediating Institution

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
			The EICC Code of Conduct, Environmental Section, Provision 2 states: "Pollution Prevention and Resource Reduction -- Waste of all types, including water and energy, are to be reduced or eliminated at the source or by practices such as modifying production, maintenance and facility processes, materials substitution, conservation, recycling and re-using materials." The EICC Code of Conduct, Environmental Section, Provision 4 states: "Wastewater and Solid Waste -- Wastewater and solid waste generated from operations, industrial processes and sanitation facilities are to be characterized, monitored, controlled and treated as required prior to discharge or disposal."		
		Ultra-pure water consumption	The sector must also address the environmental impacts of its own operations, for example by reducing the use of chemicals and hazardous substances and waste, enhancing the energy efficiency of ultraclean spaces, and by reducing consumption of ultra-pure water	460	Financial Markets & Information Users
			KPI 14 Water Abstraction Definition Water is an essential resource that is required for a healthy environment and is used in the production and provision of numerous goods and services, such as electricity. In the UK approximately a third of drinking water is abstracted from groundwater, whilst the remainder comes from surface water. Abstraction of water can have significant local, or more widespread, impacts on the environment. The threat of climate change, resulting in severe droughts, floods and	109	Mediating Institution

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
			storms, also constitutes a challenge for water resources management. Countries around the world are aware of the need to use water resources more efficiently and reduce waste in order to ensure availability of the resource in the long term. To achieve this goal various market and financial instruments have been put in place, such as abstraction charges, effluent consents and pricing mechanisms.

Processes
Water can be abstracted for public water supply to produce drinking water following treatment. It can also be abstracted directly for use by businesses for a wide variety of uses including irrigation and for industrial processes (e.g. coolant, carrier or solvent purposes).

Sectors
Water is abstracted by various companies including water and sewerage companies, industrial and chemical companies, and power companies. Many sectors rely heavily on supplied water, although this impact should be reported as a supply chain impact and not a direct KPI. For more information please refer to Figure 4 and to the section on supply chains (Section 4.5).

Calculation or measurement procedures
For abstracted water, the majority of charges are levied according to the licensed volume, but actual volumes abstracted are reported to the Environment Agency. It is the actual volumes abstracted that should be measured. | | |

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
			Reporting guidance The table overleaf illustrates the scope of measures that should be reported. In most cases reporting will be much simpler, as most companies focus on a specific type of abstraction. The most appropriate way of reporting abstracted water should be in cubic metres. If an estimation method has been used this should also be reported. Compliance with any abstraction consents, such as those provided by the Environment Agency in the UK, should also be reported. Companies should also discuss whether water has been re-used or returned to source (e.g. cooling water). Direct abstraction should be reported as the volume taken, not the licensed volume. Water use It is important to distinguish water abstraction from the use of supplied water. The environmental impacts associated with supplied water use are indirect and more guidance on how these can be reported can be found in section 4.5 – Supply Chains.		
			Water Consumption Water (in m^3) per amount (e.g. tonnes) of product manufactured Groundwater consumption in m^3 Waste effluent water in cubic meters	153	Financial Markets & Information Users

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
	Wastewater	Management and treatment	Water management Indicators should address i) drinking-water, ii) sanitation, iii) hygiene and iv) equity and non-discrimination (http://www.unwater.org/index.html); consumption of water per unit of production (normalized value); absolute value of water used; water recycling and reusage rate; water discharged; percentage of water that is treated in internal and external wastewater treatment plants; process to engage local stakeholders in water issues; availability of water strategy for different areas particularly in water-scarce zones Water scarcity and quality is becoming more important as the world population grows and water availability does not always match the need. In the electronics sector, water use is significant is some levels of the supply chain; use and quality efforts should be measured. The EICC Code of Conduct, Environmental Section, Provision 2 states: "Pollution Prevention and Resource Reduction -- Waste of all types, including water and energy, are to be reduced or eliminated at the source or by practices such as modifying production, maintenance and facility processes, materials substitution, conservation, recycling and re-using materials." The EICC Code of Conduct, Environmental Section, Provision 4 states: "Wastewater and Solid Waste -- Wastewater and solid waste generated from operations,	122	Business

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
			industrial processes and sanitation facilities are to be characterized, monitored, controlled and treated as required prior to discharge or disposal."		
	Emissions to air		Energy management [including carbon/air emissions] Scope 1, 2, and 3 measurements; reduction targets (where applicable) for energy use; use of renewable energy; emission abatement through different approaches (carbon credits, reforestation, abatement systems at factory level to neutralize emissions) This is widely recognized as a key issue facing society due to impacts on climate change. The EICC Code of Conduct, Environmental Section, Provision 2 states: "Pollution Prevention and Resource Reduction -- Waste of all types, including water and energy, are to be reduced or eliminated at the source or by practices such as modifying production, maintenance and facility processes, materials substitution, conservation, recycling and re-using materials." The EICC Code, Environmental Section, Provision 5 states: "Air Emissions -- Air emissions of volatile organic chemicals, aerosols, corrosives, particulates, ozone depleting chemicals and combustion by-products generated from operations are to be characterized, monitored, controlled and treated as required prior to discharge."	122	Business

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
	Emissions to air - GHG emissions		Total CO_2 emissions in million tonnes	153	Financial Markets & Information Users
			Energy management [including carbon/air emissions] Scope 1, 2, and 3 measurements; reduction targets (where applicable) for energy use; use of renewable energy; emission abatement through different approaches (carbon credits, reforestation, abatement systems at factory level to neutralize emissions) This is widely recognized as a key issue facing society due to impacts on climate change. The EICC Code of Conduct, Environmental Section, Provision 2 states: "Pollution Prevention and Resource Reduction -- Waste of all types, including water and energy, are to be reduced or eliminated at the source or by practices such as modifying production, maintenance and facility processes, materials substitution, conservation, recycling and re-using materials." The EICC Code, Environmental Section, Provision 5 states: "Air Emissions -- Air emissions of volatile organic chemicals, aerosols, corrosives, particulates, ozone depleting chemicals and combustion by-products generated from operations are to be characterized, monitored, controlled and treated as required prior to discharge."	122	Mediating Institution

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
	Electronic waste (e-waste)	Hazardous substances	Waste management [including Hazardous Waste Management]

Percent of total waste going to a landfill; Reduction target for waste going to landfill; Tons of total hazardous waste out of total waste; Waste recycling and reuse of total waste; Waste under Basil Convention (waste transported as a percent of total hazardous waste)

The impact of waste from manufacturing of electronics products is significant due to use of chemical substances used in the production processes.

The EICC Code of Conduct, Environmental Section, Provision 3 states: "Hazardous Substances -- Chemicals and other materials posing a hazard if released to the environment are to be identified and managed to ensure their safe handling, movement, storage, use, recycling or reuse and disposal."
The EICC Code of Conduct, Environmental Section, Provision 4 states: "Wastewater and Solid Waste -- Wastewater and solid waste generated from operations, industrial processes and sanitation facilities are to be characterized, monitored, controlled and treated as required prior to discharge or disposal." | 122 | Mediating Institution |
| | | | Heavy metals (Lead, mercury, cadmium) and brominated flame retardants are released during disposal or recycling of electronic wastes.

Effects include neurotoxicity, including developmental | 529 | Mediating Institution |

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			neurotoxicity (methyl mercury) as well as organ damage. Lead effects include neurotoxicity, including developmental neurotoxicity; high blood pressure; organ damage. Effects of cadmium include carcinogenicity; possible damage to fertility; possible fetal damage; organ damage. Effects of brominated flame retardants include neurotoxicity; thyroid disorders.		
		End-of-life products - Disposal, recycling and reuse	Percentage of total product output in terms of revenue which has undergone a design for disassembly design process	153	Financial Markets & Information Users
			Products delivered to company for recycling/ Recycling quota	153	Financial Markets & Information Users
			Management of electronic waste E-Waste streams and quantities Actions put in place to verify proper disposal End of life solutions Recycling goals What is being done to support 'circular economy' thinking. Building in interoperability and reusable components. The widespread use of electrical and electronic equipment (EEE) has raised public awareness of its positive effects such as the reduction of the digital divide, but also of the negative environmental and health	335, 471	Mediating Institution

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
			effects associated with the inefficient waste management of end-of-life electrical and electronic equipment (WEEE or e-waste). There have been alarming reports of e-waste mismanagement in many countries, particularly in less developed nations and countries with economies in transition. E-waste is a significant contributor to the ICT industry's impact on the environment, and urgent global action to address this issue is essential if the industry is to fulfill its commitment to a sustainable future.

Many electronic devices include heavy metals such as lead, cadmium, mercury and arsenic. If not handled properly, these can poison our environment and threaten the health of individuals and communities. E-waste contains a combination of reusable raw materials as well as toxic materials. The raw materials have value and can be reused to manufacture new products. The appropriate handling of e-waste can both prevent serious environmental damage and also recover valuable materials, especially for metals. | | |
| | | | Developing countries and countries with economies in transition bear a particularly large burden from unsafe disposal and recycling of Electronic products. Heavy metals (Lead, mercury, cadmium) and brominated flame retardants are released during disposal or recycling of electronic wastes. | 529 | Mediating Institution |

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
			Effects include neurotoxicity, including developmental neurotoxicity (methyl mercury) as well as organ damage. Lead effects include neurotoxicity, including developmental neurotoxicity; high blood pressure; organ damage. Effects of cadmium include carcinogenicity; possible damage to fertility; possible fetal damage; organ damage. Effects of brominated flame retardants include neurotoxicity; thyroid disorders.		
			The fastest growing type of waste stream is the electronics waste stream in the industrialized countries, growing almost three times faster than the overall municipal waste stream. This is a result of the fast pace of technological innovation and, consequently, the shortened lifetimes of electronic products Health-damaging exposure to e-waste can result in long term, often irreversible effects, such as infertility, miscarriage, tumors, endocrine diseases and birth defects. The workers often suffer from cuts, coughs, headaches, upper respiratory problems, rashes and burns. Thousands of people are working in the informal waste industry in Ghana. Children constitute around 40 percent of the scrap workers at Agbogbloshie dumpsite.	193	Civil Society Organization
			The technology equipment sector is characterized by constant innovation, increasing vertical integration and mass production of electronic equipment. Shorter product life cycles and increasing demand from emerging economies have resulted in high disposal volumes. To address the issue of electronic waste, product design and sales need to take into account energy and material	460	Financial Markets & Information Users

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
			conservation, modularity, take-back programs and extended producer responsibility. Revenue streams can be diversified through a gradual migration from sale to leasing, and from products to services provision.		
			The technology equipment sector is characterized by constant innovation, increasing vertical integration and mass production of electronic equipment. Shorter product life cycles and increasing demand from emerging economies have resulted in high disposal volumes. To address the issue of electronic waste, product design and sales need to take into account energy and material conservation, modularity, take-back programs and extended producer responsibility	460	Financial Markets & Information Users
			Version 17, released in November 2011, of the Greenpeace Guide to Greener Electronics ranks companies	227	Civil Society Organization
			Waste Scope III: Hazardous waste total in total tonnes	153	Financial Markets & Information Users
	Recycling rate	Components	To understand the company's recycling rate of components	597	Business
Social	Labor conditions	Employee turnover	Employee turnover costs estimated at EUR 11,448 per employee. High labour turnover represents a loss of knowledge and skills while threatening a company's ability to meet business objectives. According to recent surveys, a majority of turnover is voluntarily, with total implied costs estimated at 26.9% of median gross salary based on a 5Y average, which translates into EUR 11,448 per EU27 affected employee in 2010E.	521	Business

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		Freedom of association and collective bargaining rights	Nevertheless, companies have faced an increase in protests as the absence of labour representation bodies often impairs workers' ability to raise their conditions above patchy local regulation.	479	Business
			Workers in electronics companies are usually not allowed to elect their own representatives; nor are they able to communicate, let alone negotiate, with management. The absence of these rights makes it almost impossible for workers to improve their working conditions. These findings are in sharp contrast with reports from electronics brand companies, which claim that compliance of their suppliers with freedom of association and, in some cases collective bargaining, is high

Somo's research shows that workers in the electronics industry are categorically denied the right to associate freely and bargain collectively.

'Freedom of association in the electronics industry' by SOMO is based on extensive and on-going research carried out since 2004 | 429, 480 | Civil Society Organization |
| | | Living wages | In many major electronics production countries, minimum wage levels are too low to allow workers to cover their basic needs. As commonly understood, a living wage should cover the basic needs of a worker and a small family and also include some discretionary income. In order to achieve fundamental improvements in regard to wage levels, awareness among companies needs to be raised. In particular, awareness is necessary | 429 | Civil Society Organization |

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
			regarding the fact that payment of minimum wages is often insufficient and instead living wages need to be introduced. Many workers therefore need to work excessive overtime in order to earn enough money to support themselves and their families.		
			Fulfillment of the company's human rights responsibility by provision of "living wage" for employees (http://en.wikipedia.org/wiki/Living_wage) Policies and management processes. Breach leads to violation of the following human rights: Universal declaration of human rights : article 23, 25 Convention on the rights of the child: article 27 EC5 (ratio of entry-level wage to local minimum wage) Payment of wages above the minimum can contribute to adult workers' ability to support a family and thus reduce child labour	21	Mediating Institution
		Temporary workers	Temporary workers are often employed during peak times in order to cover high production demands. They are easy prey to discriminatory recruitment and employment practices Temporary workers are confronted with a number of disadvantages ranging from high job insecurity, lower wages, fewer social security benefits, fewer training opportunities and less information regarding health and	429, 481	Civil Society Organization

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
			safety and weaker protection of their rights, including the right to unionise and collective bargaining		
		Working hours	Working hours Percent of workers in excess of the legal working hours limit; percent of workers without one day off in seven (consecutive) days; percent of workers exceeding a code of conduct working hours limitation, if it is stricter than legal limits Excessive working hours is a common issue in the electronics sector due to many factors: customer demand planning and purchasing practices and the need for collaboration between customers and suppliers to understand the contributing factors from both; workers expectation; wages. While this is a multi-faceted and highly complex issue, it is one to be addressed through focused efforts by all companies in order to improve employee welfare. The EICC Code of Conduct, Labor Section, Provision 3 states: "Working Hours -- Studies of business practices clearly link worker strain to reduced productivity, increased turnover and increased injury and illness. Workweeks are not to exceed the maximum set by local law. Further, a workweek should not be more than 60 hours per week, including overtime, except in emergency or unusual situations. Workers shall be allowed at least one day off per seven-day week."	122	Mediating Institution

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Sustainability Category	Topic	Topic Specification (if available)	Explanation	Reference(s)[1]	Constituency
	Labor management relations	Strikes and/or lock-outs	Employee turnover costs chosen as pricing factor. Despite a general decrease in labour strikes across selective EU states (median -14.3% 2000-08), 1.9%56 of EU27 workers were still involved in labour disputes in 2007, which resulted in lost corporate productivity (37 working days lost per 1,000 workers). Fluctuations around historical turnover rates result from various sources, a major one being labour strikes, which signal employee dissatisfaction that could result in employees' departures.	521	Business
	Working conditions	Freely chosen employment - Organization and supply chain	Freely chosen employment Percent of workers by various demographics: full time, part time, local, migrant; All recruitment/agency fees paid by a worker in order to obtain employment (considering there may be several intermediaries between home country and start of employment); worker turnover; extent to which companies reimburse workers for employment fees, and timeframe for reimbursement; percent of workers whose passport/identity documents are kept from them; bonded training fees that workers must repay There is an increased focus on this topic due to modern slavery issues such as debt bondage, higher agency-based worker fees, human trafficking. Global regulation is starting to address this through transparency measures and should be included in supply chain management and reporting.	122	Mediating Institution

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			The EICC Code of Conduct, Labor Section, Provision 1 states: "Freely Chosen Employment -- Forced, bonded (including debt bondage) or indentured labor, involuntary prison labor, slavery or trafficking of persons shall not to be used. This includes transporting, harboring, recruiting, transferring or receiving vulnerable persons by means of threat, force, coercion, abduction or fraud for the purpose of exploitation. All work must be voluntary and workers shall be free to leave work at any time or terminate their employment. Workers must not be required to surrender any government-issued identification, passports, or work permits as a condition of employment. Excessive fees are unacceptable and all fees charged to workers must be disclosed."		
		Safe and humane working environment	Humane treatment Number of treatment complaints, as a percentage of workers; policy to ensure humane treatment; percent of managers and workers trained on policy; process to communicate policy and how to raise grievances; Employee satisfaction rates as related to quality of life in the context of employee wellbeing (e.g., workers taking own life) Every workers has a right to safe and humane working environment. While not all governments may have regulations to address this, it is important for companies to be able to show that their working environment enhances the working environment and does not detract from it.	122	Mediating Institution

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			The EICC Code of Conduct, Labor Section, Provision 5 states: "Humane Treatment There is to be no harsh and inhumane treatment including any sexual harassment, sexual abuse, corporal punishment, mental or physical coercion or verbal abuse of workers; nor is there to be the threat of any such treatment. Disciplinary policies and procedures in support of these requirements shall be clearly defined and communicated to workers."		
	Occupational health and safety risks	Critical incidents	To understand company's quality management (number of critical accidents which affect the human body)	597	Business
		Hazardous chemicals use	Workers in industries using chemicals are especially vulnerable through exposure to toxic chemicals and related health effects. These include an increased cancer rate in workers in electronics facilities;	529	Mediating Institution
			Fatalities & Injuries Total number of fatalities in relation to FTEs Total number of injuries in relation to FTEs	153	Financial Markets & Information Users
	Occupational health and safety	Hazardous chemicals and machinery	Occupational health and safety Information covering: Occupational Safety, Emergency Preparedness, Occupational Injury and Illness, Industrial Hygiene, Physically Demanding Work, Machine Safeguarding, and Sanitation, Food, and Housing. There is significant manufacturing in the electronics supply chain with open/automated machinery, use of hazardous chemicals and repetitive motion. Factories	122	Business

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			should strive to minimize the incidence of work-related injury and illness and promote a safe and healthy work environment that enhances the quality of products and services while aiming to increase worker retention and morale. A facility to striving to meet these objectives will benefit the workers, the company, and the customers. The EICC Code lists seven provisions re: OHS with detailed explanations of standards including Occupational Safety, Emergency Preparedness, Occupational Injury and Illness, Industrial Hygiene, Physically Demanding Work, Machine Safeguarding, and Sanitation, Food, and Housing. Each of these provides important details that EICC members must ensure adherence to in their own operations and supply chain.		
	Migrant workers	Recruitment and employment	Recruitment and employment of migrant workers Number of migrant workers employed Countries of origin Gender of workers Positions within company Length of contracts Recruitment channels Any fees for recruitment Passport retention Migrant workers both internal and external are a significant and growing feature of all company activities. There are over 200 million migrants in the world. They are found within nearly all business sectors and across all	253	Mediating Institution

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			regions. Many migrant workers, particularly those working in unskilled jobs are subject to discrimination and are vulnerable to exploitation and abuse. For many migrants exploitation begins during recruitment. Exorbitant fees and other charges, often at usurious rates of interest can leave many migrant workers effectively bonded labour whatever the subsequent conditions of employment. Company due diligence and reporting should therefore extend into the supply chain for labour.		
		Human trafficking risks	Safe labour migration is a key driver of sustainable economic development in both sending and receiving countries. The protection of migrant workers is becoming an increasingly important issue for a number of global industries, as well as for home and host governments. Trafficking of workers, particularly women and girls, into global supply chains remains a significant reality, in part due to poorly regulated recruitment industries. Pockets of good and innovative practice in responsible recruitment and combating trafficking exist but have yet to be taken to scale. Over 215 million international migrants living outside their countries of origin play a vital role in the global economy. Recorded remittances received by developing countries, estimated to be US$325 billion in 2010, far exceed the volume of official aid flows and constitute more than 10 percent of gross domestic product (GDP) in many developing countries. The vast majority of migrants	254, 437	Mediating Institution

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			today are low-paid workers in industries ranging from apparel, electronics and construction to agriculture, hospitality, and domestic service. From the point of recruitment, through employment and to the point of return home, these workers are vulnerable to exploitation. Protection mechanisms to safeguard their rights continue to be wholly inadequate and access to legal remedy is poor in both host and home countries.		
	Corruption	Business and supply chain	Anti-corruption and bribery

Policy document, implementation process, percent of workers training on policy

The electronics industry exists in countries and regions where corruption and bribery are rampant. The EICC is providing additional guidance, in addition to relevant regulation, that it is not acceptable for members and their supply chains to engage in this type of behavior.

The EICC Code of Conduct, Ethics Section, Provision 1 states: "Business Integrity -- The highest standards of integrity are to be upheld in all business interactions. Participants shall have a zero tolerance policy to prohibit any and all forms of bribery, corruption, extortion and embezzlement (covering promising, offering, giving or accepting any bribes). All business dealings should be transparently performed and accurately reflected on Participant's business books and records. Monitoring and enforcement procedures shall be implemented to ensure compliance with anti-corruption laws." | 122 | Mediating Institution |

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			The EICC Code of Conduct, Ethics Section, Provision 2 states: "No Improper Advantage -- Bribes or other means of obtaining undue or improper advantage are not to be offered or accepted."		
	Child labor	Business and supply chain	Child/young labor Percent of workers under 18 and under 15 for the reporting period; Number of student interns; average length of service for student interns; type of contract for student interns/young workers versus type of work (are they doing full time/regular job activities and therefore should have full pay and benefits); process to ensure young workers are not doing night work, heavy lifting, or work with chemical substances - and percent of workers in those roles; robustness of process to ensure age of young workers Globally, child labor still exists and is occasionally found in the electronics sector supply chain as documented by company CSR reports. As noted by the UN, "child labour is a violation of fundamental human rights and has been shown to hinder children's development, potentially leading to lifelong physical or psychological damage" (cite: http://www.ilo.org/global/standards/subjects-covered-by-international-labour-standards/child-labour/lang--en/index.htm). There is difficulty in China and other countries to ascertain the true age of (migrant) workers. Additionally, it is difficult to stop young workers from being in roles that they are not intended (night work, heavy lifting, working with chemical substances).	122	Mediating Institution

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			Young migrant workers are also particularly vulnerable to social isolation due to factory life and living in dormitories. The EICC Code of Conduct, Labor Section, Provision 2 states: "Child Labor Avoidance -- Child labor is not to be used in any stage of manufacturing. The term "child" refers to any person under the age of 15 (or 14 where the law of the country permits), or under the age for completing compulsory education, or under the minimum age for employment in the country, whichever is greatest. The use of legitimate workplace apprenticeship programs, which comply with all laws and regulations, is supported. Workers under the age of 18 shall not perform work that is likely to jeopardize the health or safety of young workers."		
	Occupational and consumer health and safety risks	Nanotechnology	Nanotechnology (sometimes shortened to "nanotech") is the manipulation of matter on an atomic and molecular scale. Generally, nanotechnology works with materials, devices, and other structures with at least one dimension sized from 1 to 100 nanometres. The semiconductor industry is rapidly entering the era of nanotechnology.13 For example, it is possible to have a significantly higher density of bits on a chip with nanotechnology than what currently exists in complementary metal-oxide semiconductors. Since their discovery, questions have been raised about whether nanoscale materials may constitute a health threat for consumers and workers exposed to them.	168, 470	Mediating Institution

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			Ultrafine nanoparticles, especially those which are free floating as opposed to fixed, may cause respiratory and cardiovascular problems. They may also reach vital organs via the blood stream, and possibly damage tissue. A recent study shows long, thin carbon nanotubes may be as harmful as asbestos if inhaled in sufficient quantities. Regulatory pressure will most likely increase over the next few years as consumers and workers are increasingly exposed to manufactured nanoparticles. The health risks of nanoparticles could be an ongoing source of litigation and reputational risk for the ICT hardware industry (comparable to asbestos for other industries). Nanotechnology may also present opportunities for the sector. Examples for usage include energy efficient batteries, computer disk drives and flat panel displays. It could help reduce power consumption of ICT equipment. For example, switching off PCs would be encouraged due to an extremely fast power-up of the computer.		
	Product design	Environmental considerations	Environmental design needs to take into account the following factors: life cycle thinking aspects, material efficiency, energy efficiency, consumables and batteries, chemical and noise emissions, extension of product lifetime, end of life, hazardous substances/preparations, and product packaging.	112	Mediating Institution

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			The objective is to minimise the environmental impact throughout the life cycle of a product. ECMA-341 provides pragmatic guidelines on how to integrate environmental aspects in the product design and development processes. It covers, among other issues, energy and resource consumption, material content and selection, chemical and noise emissions, and end-of-life management.		
	Product stewardship	Restricted materials management and Life Cycle Assessment (LCA)	Product stewardship [including Restricted Materials Management, Life Cycle Assessment approach] percentage of products that comply with relevant legislation on chemical content; Percent of products for which lifecycle assessments have been carried out; Information on any eco-labels relating to product lifecycle assessment; Product environmental footprint including but not limited to CO2 emissions and water consumption throughout product lifecycle; Relevant information on product environmental impact in other phases of lifecycle (energy consumption and use; end of life - disposal, takeback programs) The reality is that the current trend for consumer products including electronics is quick planned obsolescence. Therefore, it is critical to understand the impact on the environment and driving that information to consumers to understand the impact of their buying behavior. Providing information by product is key to help consumers understand environmental impacts.	122	Mediating Institution

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			The EICC Code of Conduct, Environment Section, Provision 6 states: "Product Content Restrictions -- Participants are to adhere to all applicable laws, regulations and customer requirements regarding prohibition or restriction of specific substances, including labeling for recycling and disposal."		
	Water use rights	Local communities' water use rights	The role of business in the context of water has been controversial. The relationship a company has with water is complex, and can be divided in three different categories: · Companies as service-providers (e.g. water utilities). · Companies as users of water (This applies to almost all industries, however businesses producing water-based products or who use water intensively, such as silicon chip manufacturers, oil industry, beverage companies, or food- and feed processing industries, will face greater public scrutiny) · Companies as enablers of access to water (e.g. manufacturers of water and wastewater treatment equipment)

Water is essential for survival, to maintain life, to remain healthy, to produce food, and to clean the surroundings in which human beings live. If the right to gain access to water is not realised or if impediments to the realisation of that right are in place, there are implications for other rights, such as the right to an adequate standard of living, and the right to be free from discrimination. Water also plays an important role in many cultures and faiths therefore reduced access to water could also violate specific cultural rights. In addition it may have implications on a range of civil and political rights. The | 252 | Mediating Institution |

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			human rights implications of water related concerns therefore go beyond the immediate issue of access to water.		
Other	Closed-substance-cycle management	Return, recycle and reuse of used equipment	Promotion of possibilities to return, recycle and reuse used equipment measures aiming at closed-substance-cycle management measures to prolong the service life of products, for example through guarantees or the long-term availability of spare parts free return of used products and similar offers to customers measure The high level of innovation in the IT sector means that there is an ever-increasing amount of equipment in circulation. Due to improper disposal of this type of equipment, increasing quantities of toxic substances continue to enter the environment worldwide. This also means that the industry is losing not only valuable raw materials, but also components that could be built into new equipment at a relatively low cost. While the European Union, among others, has established the legal requirements for a system of closed-substance-cycle management to operate in the electrical industry, there are still major differences between companies with regard to the free return, recycling and reuse of used equipment.	405	Financial Markets & Information Users

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	Political accountability		There are various measures of political accountability that can be measured (contributions, disclosure, board oversight). Note that this topic is applicable to more than the three industries noted. Essentially the political accountability practices of any company that is owned by public stockholders. Political contributions, the amount of disclosure and board oversight are among the data items that would be helpful in a sustainability report. In making investment decisions (especially for investors interested in socially responsible investing) is would be helpful to understand how a given company is exposed to political risk (i.e. are they backing the winning candidate, are they subject to potential retribution, why do they find it necessary to make political contributions, etc.). I have found the information I reference to be helpful in constructing investment portfolios that take into account this attribute of sustainability. Since it is not currently an established parameter in the socially responsible investment industry (www.ussif.org), adoption by the Global Reporting Initiative would go a long way in moving the topic of political accountability forward.	394, 616	Financial Markets & Information Users

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	Supplier screening	Adherence to codes, regulations and policies in the supply chain	Supply chain code dissemination [including how member is ensuring at least Tier 1 suppliers understand and adhere to EICC Code] Percent of members adopting a common code of conduct; Process of assessing nonconformance to the Code (self-assessments, audits, corrective action plans); Percent of Tier 1 suppliers that have adopted the common code of conduct; Percent of suppliers being assessed against the code of conduct; Results of findings of code assessments; Process for supporting suppliers in becoming compliant with the code of conduct It is important for the electronics supply chain to be following a common code in order to drive improvements at the broadest level possible. A common code also provides a singular foundation for other programs, such as a common audit protocol. This allows facilities to focus on CSR improvements and not spending time on reacting to multiple codes and associated tools. The EICC Code of Conduct, Management Systems Section, Provision 12 states: "Supplier Responsibility -- A process to communicate Code requirements to suppliers and to monitor supplier compliance to the Code." The EICC Code of Conduct also states in the introduction that "Participants must regard the Code as a total supply chain initiative. At a minimum, Participants shall also require its next tier suppliers to acknowledge and implement the Code."	122	Mediating Institution

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		Environmental and labor conditions	Effective implementation of environmental standards and monitoring of supplier compliance in such areas as the use of hazardous materials and fair working conditions in emerging economies are particularly relevant for the sector.	460	Financial Markets & Information Users
Technology Hardware and Equipment					
Environmental	Hazardous materials		Eco-design: Ericsson recycles 90% of its discarded equipment, exceeding compliance on the WEEE directive. Treating life-cycle assessments as integral to its R&D, Ericsson works on improving energy efficiency, phasing out hazardous substances and facilitating end-of-life treatment. The company is now ranked second worldwide in Greenpeace's last assessment, (10/2010) Guide to Greener Electronics.	479	Business
	Plastics use and management		Plastic, a valuable material, can generate significant positive, or negative, impacts on economy, environment and society. Plastic should be treated as a resource and managed judiciously.

A disclosure on management approach for plastics, including governance, strategy, risks, opportunities, considering: opportunities for product redesign, increasing recycled content, implementing reclaim and/or reuse which could attract economies, brand loyalty, investment, employee goodwill, and; risks to the business, stakeholder health, environment and society (including reputational/social license to operate, regulatory, investor, insurer, and liability risks) for plastics that are directly harmful to stakeholders, or indirectly through plastics being wasted/littered. | 353, 367 | Civil Society Organization |

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			Performance indicators regarding the types and volumes of plastics being used, collected and/or distributed downstream; the portion that is made of post-consumer-recycled, bio-based, biodegradable, compostable, and/or oxobiodegradable material; the ratio of expected life-span of plastic products/packaging in contrast to the duration of their intended use; these volumes broken down by end of life disposition. Most of this disclosure can be captured through the existing GRI framework (e.g. GRI G3 EC9, EN1, EN2, EN22), but commentary is needed to ensure disclosers appreciate the materiality of plastic; other questions can be added to the framework. Refer to the Plastic Disclosure Project (www.plasticdisclosure.org) for more details on the suggested questions. PDP will align its questions to GRI G4 to assist disclosers. Plastic are in high use in these "activity groups", and can have significant positive, or negative, impacts on the economy, environment and society: Economics: There are significant cost savings available to organisations that treat plastic as a resource (e.g. through redesign, use of recycled content, reclaiming, etc.) and risks of increased direct costs (regulation, liability, cost of capital, insurance) to organisations that do not lead in this area as well as indirect economic costs to impacted industries (e.g. food production, tourism). Environment: Plastics that are wasted or littered become extremely harmful to the environment, which will have a material effect on biodiversity and the global food chain, both nearby and		

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			far outside the local area of operations. Society: Some plastics are harmful to stakeholders during manufacture, use and/or disposal (e.g. due to phthalates, BPA), impact the wellbeing of society (e.g. effect of litter on community spirit and their interest in sustainability). While a valuable invention, which benefits society in many ways, the negative impacts associated with society's growing use of plastic are not fully recognised. Roughly 85% of plastic used in products and packaging is not recycled, and most plastic produced in the last 60 years still remains in the environment today. Discarded plastics persist in the environment for dozens or hundreds of years, accumulating across the globe, often out of sight of the producers and users. The direct physical impacts of plastic are significant to the organisation in increased costs or missed opportunities, and related economies (e.g. over $1.2bn in annual damages to ocean-related industries in Asia-Pacific), the environment through harming habitats and species, and to stakeholders health when exposed to the chemical ingredients; and are magnified if fragmentation of the plastic occurs, making it available for ingestion to additional species, who adsorb the chemical ingredients and/or the toxins carried on the plastic. These negative impacts could be avoided and turned into positive impacts, if plastic was treated as a resource to be managed judiciously (e.g. the US economy lost $8.3bn worth of plastic packaging in 2010) - "It is not good business practice to throw away valuable resources".		

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	Energy efficiency of end products	Life Cycle Assessment (LCA)	Eco-design: Ericsson recycles 90% of its discarded equipment, exceeding compliance on the WEEE directive. Treating life-cycle assessments as integral to its R&D, Ericsson works on improving energy efficiency, phasing out hazardous substances and facilitating end-of-life treatment. The company is now ranked second worldwide in Greenpeace's last assessment, (10/2010) Guide to Greener Electronics.	479	Business
			Green ICT

Information technology -- IT Sustainability -- Guidance for the Development of Energy Efficient ICT Products | 313 | Mediating Institution |
| | Emissions to air - GHG emissions | "Clean-rooms" | The ICT Hardware sector consumes significant amounts of energy, resulting in considerable CO2 emissions. The sector uses "clean-rooms" in many industrial applications, which are very energy intensive. | 479 | Business |
| | | Management and reduction strategies | The 'enablement' potential of "smart" ICT based solutions – how the ICT sector enables other sectors of the economy and society at large to improve their efficiency and performance.

Environmental impact, in terms of GHG emissions generated and avoided (balance), due to specific ICT based solutions which integrate elements such as equipment, networks and software.
Type of smart services/solutions implemented and made available to businesses, institutions and society such as cloud computing, healthcare delivery, educational delivery, travel substitution (e.g. audio/video conferencing), dematerialization (e.g. on-demand | 197, 198 | Mediating Institution |

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			services), e-government, etc. It's about the role of ICT in driving the sustainable future and creating smart growth opportunities in a low-carbon economy, and as such is part of the core business of ICT companies that develop the integrated solutions mentioned above. It represents at the same time a challenge and a competitive advantage for the sector vs. other industry sectors. Measuring both the positive and negative impacts of ICT based solutions in terms of GHG emissions may not be easy. Existing methodologies, which were developed recently, provide good guidance but are quite complicated to use. However dematerialization alone, i.e. substituting or eliminating the need for an emissions-intensive product or process, has an abatement potential of 0.5 Gt CO2eq by 2020, and the use of the services that make such dematerialization possible (e-commerce, telecommuting, audio- and video-conferencing, etc.), is constantly increasing with a direct impact on revenues for companies and savings for society and the environment.		
	Electronic waste (e-waste)	End-of-life products - Disposal, recycling and reuse	Ericsson leads e-waste recovery. Discarded electronic equipment provides materials that if extracted and recycled can be reused and sold again, generating significant life-cycle cost savings. Ericsson's global application of the EU e-waste Directive through offering free take-back of decommissioned equipment in all of its 175 operating countries and above minimum required	521	Business

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			waste recovery rates (75% vs. 95% in 2009) gives the stock pole position in e-waste recovery efforts.		
			Eco-design: Ericsson recycles 90% of its discarded equipment, exceeding compliance on the WEEE directive. Treating life-cycle assessments as integral to its R&D, Ericsson works on improving energy efficiency, phasing out hazardous substances and facilitating end-of-life treatment. The company is now ranked second worldwide in Greenpeace's last assessment, (10/2010) Guide to Greener Electronics.	479	Business
	Chemical emissions	Electronic equipment	Chemicals such as benzene can be found in electronic equipment

Electronic equipment is composed of substances which can release chemical emissions which passed certain rates can be harmful to human health or the environment. | 111 | Mediating Institution |
| Social | Corruption | | Alcatel-Lucent pays US $137million to settle US bribery case
The French-based firm was accused of bribing government officials in Costa Rica, Honduras, Malaysia and Taiwan. The US Justice Department said the bribes were paid by Alcatel before it bought US-based company Lucent Technologies in 2006. The Securities and Exchange Commission said Alcatel's controls were "lax". Alacatel-Lucent had already made provision for the settlements in 2009 and said the cost would not affect its 2010 results. The news boosted the firm's shares, which rose as high as 1.8% in thin trading, making it one of the biggest gainers on the Paris stock market. The SEC said | 479 | Business |

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			Alcatel's subsidiaries "used consultants who performed little or no legitimate work to funnel more than US $8million in bribes to government officials in order to obtain or retain lucrative telecommunications contracts". The payments, made between December 2001 and June 2006, were either undocumented or improperly recorded as consultancy fees, the US authorities said. The head of the SEC's enforcement division, Robert Khuzami, said Alcatel and its subsidiaries had failed to investigate numerous "red flags" indicating that some employees were using "sham consultants". "Alcatel's bribery scheme was the product of a lax corporate control environment at the company," he added. US officials said Alcatel had admitted earning about US $48.1million in profits as a result of the payments. Alcatel agreed to pay US $92million to settle criminal charges brought by the Justice Department under the US Foreign Corrupt Practices Act, plus a further US $45million to settle civil charges brought by the SEC. The violations came to light following a joint investigation by agencies in the US, France and Costa Rica.		
	Customer privacy	Personal information management	PRIVACY: Article 12 of the UDHR states that "No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honor and reputation. Everyone has the right to the protection of the law against such interference or attacks." Many ICT companies hold significant amounts of personal information about users (e.g. call records, caller	14, 200	Mediating Institution

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			locations, payment details) and are required to allow "lawful intercept" (e.g. real time surveillance, or the provision of analysis and evidence) for law enforcement agencies. Providing assistance to law enforcement agencies can have positive consequences for human rights (e.g. when information is used to tackle violent crime) or negative consequences for human rights (e.g. when information is used in a human rights violation by government). Therefore it is important that companies describe their policies and processes to assist law enforcement agencies, and describe their approach in high risk markets. This can also include important data about scale and response - e.g. number of requests received, % complied with - and accompanying narrative. We live in an age where more and more of our personal information is held on our behalf by companies (e.g. cloud computing) or where the use of common ICT services results in companies necessarily holding vast amounts of personal information. This is massively increasing the significance of privacy as a human right - but also the responsible or irresponsible stewardship of this personal information can have a material impact on other human rights, such as security of person, especially in the context of company relationship with law enforcement agencies in high risk markets. This makes privacy material to stakeholders (it's their right to privacy) and to business (since being a trusted host of data is important market positioning).		

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			The existing GRI Guidelines do not reference privacy in the list of potentially relevant human rights, which is a massive omission given that privacy is a human right. While privacy does have a disclosure item in the "product responsibility" section, this only covers the security aspect of privacy (i.e. whether there are any security breaches) and not the human rights issue of how personal information is shared with law enforcement agencies, especially in high risk locations. In addition, it is worth noting that Privacy is generally applicable, rather than specific to ICT companies, given the amount of personal information all types of company hold these days (think retail, banking, travel, etc)		
	Access to content management	Censorship and privacy	Bridging the communication divide can also result in socio-political, censorship and privacy issues, which can result in loss of business, reputational damage, and/or give rise to consumer boycotts and loss of privacy. The ongoing debate about China's civil rights practices led to Google's withdrawal from that country in January 2010. As a result, Motorola had to postpone the release of its Google powered Droid Smartphone series in China. Similarly, Nokia Siemens faced significant backlash both within Iran and European markets when the company was accused of supplying the equipment to enable the Iranian government to monitor and suppress the content of individuals' communications in the aftermath of Iran's controversial presidential elections in 2009. In the area of personal data protection, Blackberry-maker Research in Motion is battling a three-year dispute in regions that include Saudi Arabia, UAE and	479	Business

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			India, which are demanding access to the BlackBerry communication of its residents, citing threats to national security.		
		Freedom of expression	The impact of the ICT on human rights has been well documented in the supply chain with regards to manufacturing, but we are increasingly seeing impacts on freedom of expression and privacy by companies in telecommunications and internet services. As ICTs are increasingly part of our everyday lives, companies must assess and report on their impact on freedom of expression and privacy and report accordingly. Companies often face complex dilemmas in fulfilling the corporate responsibility to respect these rights as they often demand nuanced understanding of the rights themselves and the local context in which a company operates. Transparency and reporting of these dilemmas is important, especially the amount of requests companies receive to block, remove or filter content, deactivate accounts or suspend services. Companies must also be clear on their policies of collecting, storing and sharing user data to avoid violating the right to privacy. Technology often develops faster than laws can be enacted to regulate and companies are often left to their own devices to assess the legality of a government request and their own action. There is a lack of accountability in the ICT sector, which reporting could improve. ICT companies want to know what "good"	63, 257	Mediating Institution

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			behaviour looks like and are crying out for structured, sector specific reporting mechanisms which reflect challenging human rights such as freedom of expression and privacy. ICTs have had an enormously positive impact on human rights, incorporating the full spectrum of economic and social, civil and political rights. However, companies face increasing challenges in dealing with dilemmas around the impacts of FOE and privacy as technology develops and penetration increases. The events of the Arab Spring highlighted the role companies have played, both in enabling and restricting communications at critical moments. The disconnection of telecommunication and internet services during the revolution in Egypt was unprecedented in its scale, but governments often turn to private companies to suspend ICT services during times of protest or elections. There are increased concerns over privacy as more personal information is collected, stored and shared by private companies. There has been increased surveillance in both democratic and non-democratic countries, which has raised questions over the 'dual use' capabilities of software and its misuse, which can violate FOE and privacy. As more individuals turn to the internet to express their views, the State's relationship with dissidents has come to the fore, but this time involving the private sector, whose technologies are being used to disseminate information as well as to identify and persecute dissidents.		

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			FREEDOM OF EXPRESSION: Article 19 of the UDHR states that "everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers."	14, 200	Mediating Institution
			Internet companies come under significant pressure from governments to remove or block access to content generated by users. Similarly, telecommunications companies can come under significant pressure to restrict communications, especially during times of crisis, conflict or unrest. Methods requested can include the filtering or blocking of SMS messages or the suspension of mobile services. Therefore it is important that companies describe their policies and processes to assist law enforcement agencies, and describe their approach in high risk markets. This can also include important data about scale and response - e.g. number of take down requests received, % complied with - and accompanying narrative describing the response.		
			We live in an age where the right to freedom of expression is increasingly taking place on private networks and mediated by private companies. In other words, the approaches taken by private companies to content restrictions can have a material impact on our ability to realize our human right to freedom of expression. This makes freedom of expression material to stakeholders (it's their right to freedom of expression)		

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			and to business (since being a trusted host of content is important market positioning). The existing GRI Guidelines do not reference freedom of expression in the list of potentially relevant human rights, which is a massive omission given that freedom is a human right - indeed, significant recent events (e.g. the Arab Spring) have been driven by the right to freedom of expression. Unlike privacy, freedom of expression does not have a disclosure item in the "product responsibility" section of the GRI either - freedom of expression seems to be the forgotten human right!		
	Customer information	Hazardous substances and energy-saving options	Customer information on potential energy savings and hazardous substances Solutions for relevant customer information on potential hazards. Solutions for relevant customer information on energy-saving options The internet has significantly increased the opportunities for customers to find out about the environmental advantages and disadvantages of products. Nonetheless, companies are urged to improve and expand their own information channels over and above the statutory minimum requirements. The relevant data needs first and foremost to be easily accessible, intelligible and comprehensive.	405	Financial Markets & Information Users

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	Green IT	Environmentally friendly practices in manufacturing, product use and electronic waste	Green IT is an associated industry trend, and refers to the efforts deployed by companies to integrate environmentally friendly practices in the manufacturing process, the product use stage (energy efficiency) and the management of electronic waste, including the presence of hazardous substances in most devices.	479	Business
	ICT based solutions and innovation	Energy efficient solutions	The ICT sector holds many of the keys to reaching our climate goals by innovating solutions to mitigate greenhouse gas emissions and increase energy efficiency. Technologies that enable smart grids, zero emissions buildings, and more efficient transport systems are central to efforts to combat climate change. IT energy-related 'smart' solutions have the ability to put consumers in command of their electricity use and pave the way for dramatic improvements in energy efficiency and use of renewable energy The level of disclosure of investment in emission reducing solutions is disappointing	224	Civil Society Organization
Other	Corporate governance	Executive Board compensation	Executive board compensation and ROE chosen as pricing factor. High profile securities fraud fines (USD 0.6bn, Goldman Sachs vs. SEC), record ESG related provisions (USD 20bn, BP oil spill) and questionable compensation schemes (18.7% of US TARP used for bonus payments) may suggest need for a general corporate governance review.	521	Business

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		Gender participation on governance bodies	GOVERNANCE / EUROPE: boardroom lady boom: is it possible without quotas? On 22 June, the CapitalCom agency published its 2011 survey into the boardroom gender mix of CAC 40 companies, with fairly encouraging results: the proportion of women on the board has doubled in recent years, from 10.5% in 2009 to 20.8% in 2011. In January, the French parliament adopted legislation imposing quotas for the proportion of women on the board of major companies. Under the measures, the development of female board membership is mandatory and gradual: 20% for listed groups, public companies of an administrative, industrial and commercial nature by January 2014, rising to 40% by January 2017. The law also stipulates that companies with no women present on their board must appoint at least one within six months of it being on the statute books (voted on 13 January 2011). In France, some 2,000 companies are affected (the 650 largest listed firms and companies with more than 500 employees and those generating sales in excess of €50bn). In terms of sanctions for noncompliance, appointments that run counter to the parity principles are to be declared null and void and attendance fees are to be temporarily suspended. At the European level and at the instigation of the Vice-president of the European Commission, Viviane Reding, the European parliament will decide in March 2012 on whether to adopt common legislation on this matter (a	389	Financial Markets & Information Users

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			mandatory proportion of women in decision-making positions of 30% in 2015 and 40% in 2020). This will depend on the level of improvement seen based on the selfregulation of European companies, in accordance with the equality initiative adopted by the European Commission in December 2010 and the European parliament resolution of 17 January 2008 calling for the Commission and member states to promote a balance between women and men on company boards, particularly where member states are shareholders. Europe as a whole illustrates the degree of hesitation between a soft-law approach and conventional legislation (quotas in this instance), but it is clear from the experience at national level that the second method tends to get much better results.		
	Supplier screening	Environmental, social and labor conditions	Sustainable procurement which integrates requirements, specifications and criteria that are compatible and in favour of the protection of the environment, of social progress and in support of economic development Risk identification process Supplier Relationship Management practices Specific initiatives carried out at individual level or in cooperation with other stakeholders (such as other enterprises involved in the process, NGOs, international organizations, etc.). Policy on conflict minerals. Results and areas for improvement.	333, 414	Mediating Institution

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			Due to its nature, an ICT supply chain includes several environmental impacts that have to be managed properly (i.e., wastes, use of hazardous materials, energy consumption, CO2 emissions, etc.). Such impacts can be managed adopting responsible procurement processes and practices, and establishing effective cooperation with suppliers. Furthermore hi-tech equipment (finished or parts/sub-assemblies) is normally sourced from countries where the cost of labour is lower and the basic CSR principles and labour standards may not be applied. Some of the minerals that are widely used in electronic equipment (Tantalum, Tin, Tungsten and Gold) are mined in conditions of armed conflict and human rights abuses, like in the DRC. It is part of companies' risk management to make sure that goods and services are sourced in a responsible manner. CSR risks can affect business continuity, reputation, revenues, stock value, compliance, etc. of an enterprise which in turn can have consequences across the whole value chain. Even a relatively small supply chain disruption caused by a localized event may have consequences across the global economic system, (WEF, 2008). Vulnerabilities to the supply chain are generally poorly understood and managed. Partly because the risks are obscured, as customers may be indirectly exposed to a global risk disruption through a complex range of sub- supplier arrangements.		

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			The objective of responsible enterprises is to create long-term value for their stakeholders by doing business in a sustainable way: sustainable procurement is one of the practices that can enable value creation.		
		Labor conditions in the supply chain	On 9 and 10 May 2012, GoodElectronics and makeITfair organised a Round Table on workers' rights in the global electronics sector with representatives from the electronics industry and civil society organisations (CSOs) from around the globe. About 80 participants came together to exchange information and discuss the key topics of temporary labour and wage issues in the global electronics industry. There were exchanges on migrant labour, the position of employment agencies, living wages, engagement between electronics companies and CSOs, and much more. Discussions took place in the context of the overarching themes of freedom of association and the right to collective bargaining. The May 2012 meeting followed a first Round Table that makeITfair and GoodElectronics organised in May 2009. The May 2009 meeting enabled a diverse group of participants to bring their own often diverging analyses to the table. The meeting's report presented proposals concerning a range of topics, including the need to work towards formal social dialogue, as well as structural stakeholder consultation and collaboration between the industry and CSOs, in particular also on training projects.	429	Civil Society Organization

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			The 2009 meeting called upon the electronics industry to upgrade existing codes of conduct, by following International Labour Organization (ILO) conventions on freedom of association and collective bargaining, and by including clauses on living wages, labour agencies and migrant labour. One proposal was for companies to gear up their purchasing practices, for instance, by including penalties and financial incentives for their suppliers and by developing an in-depth cost-benefit analysis of electronics production. It was suggested that this would pave the way for defining the business case for a living wage. Another set of proposals concerned the problem of temporary labour. It was suggested that companies should provide quantitative data at the factory level on the percentage of workers recruited and hired by labour agencies and think of an acceptable ratio of regular to temporary workers. In the opinion of makeITfair and GoodElectronics and the participating CSOs, too little progress has been made on these important dossiers since 2009. Major labour rights problems still persist on the work floor, and the ways forward that were identified in 2009 have not yet been put into practice. While individual companies and industry initiatives have made efforts to address labour rights violations, these steps have been inadequate and insufficient. Worse still, the main focus remains on code compliance. Codes of conduct often use weak language, do not cover all relevant issues, monitoring is limited in scope, and enforcement of corrective action plans is		

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			poor. Code compliance does not answer to the real needs regarding workers' rights in the global electronics supply chain.		
			Working conditions in the supply chain supplier standards regarding working conditions supplier monitoring / audits regarding working conditions approach to address working conditions in the supply chain (termination of the supply relationship in the case of violations vs. supportive mea For some years, the entire IT sector has been undergoing a large-scale outsourcing process: An increasing number of producers are transferring their production to low-wage countries or commissioning suppliers based in these countries to manufacture their products. This means that there are hardly any manufacturing plants for the hightech industry remaining in high-wage countries. However, the enormous price pressure is exacting a toll: abysmal working conditions and inadequate environmental standards in some suppliers in South-East Asia and Mexico are tarnishing the perceived clean image of the industry. Working conditions in the IT sector's highly diverse supply chain very rarely conform to international standards. Employees in low-wage countries (for example in China, Thailand, Mexico and the Philippines) still have to contend with poor healthcare provision, huge amounts of compulsory overtime and pay that is below the minimum wage.	405, 406	Financial Markets & Information Users

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			One aspect that can be given a positive rating is the degree of transparency shown by some companies in their reporting on labour standards in their own supply chains. Apple, for example, publishes an annual Supply Chain Report containing detailed descriptions of abuses that have been uncovered.		
			On the other hand, as companies in the communication equipment sector move production to these markets, or rely on outsourced production, they are exposed to risks associated with labour conflicts in low-cost countries. Pressure on prices has shifted sourcing to lower cost labour zones such as India, China and South Korea. Labour violations and sweatshop-like conditions are not as common in this industry as in consumer product manufacturing (clothes, toys) due to their higher requirements for labour skills and more sophisticated production equipment.	479	Business
			Supply Chain Turnover of suppliers in percent How do you ensure that your suppliers adhere to a standard of ESG compliance similar to that of your company? When assessing the performance of your procurement and purchasing functions: Do you incetivise your procurement management for the selection of ESG-performing suppliers even if you might have to carry a premium over less expensive suppliers?	153	Financial Markets & Information Users

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colspan="6"	**Semiconductors and Semiconductors Equipment**				
Environmental	Energy efficiency of end products	Chips and processors	The main issues include energy-efficient production processes and low energy consumption chips and processors.	460	Financial Markets & Information Users
	Hazardous materials	Mercury, PVC, bromated flame retardants (BFRs), coltrane, polycyclic aromatic hydrocarbons (PAHs)	Use of hazardous material - Amount of mercury used in products Use of hazardous material - Amount of PVC used in products Use of hazardous material - Amount of bromated flame retardants (BFRs) used in products Use of hazardous material - Amount of coltrane used in products Use of hazardous material - Amount of polycyclic aromatic hydrocarbons (PAHs) used in products	153	Civil Society Organization

[1] All references can be found at https://www.globalreporting.org/reporting/sector-guidance/Topics-Research/Pages/default.aspx

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