

Reset

Corporate social responsibility in the global electronics supply chain

Reset

Corporate social responsibility in the global electronics supply chain

Colophon

Title	Reset. Corporate social responsibility in the global electronics supply chain.
Date	October 2009
Text	GoodElectronics Pauline Overeem & CSR Platform (MVO Platform)
Design	Annelies Vlasblom
Editing	Elise Reynolds
Photos	Chris Gregerson (page 5), International Metalworkers' Federation/Manfred Vollmer (page 19), Greenpeace/Kate Davison (page 55), Basel Action Network (page 65), Johan Spanner (page 83)
Printed by	PrimaveraQuint
ISBN	9789071284403

Contact details

GoodElectronics and the Dutch CSR Platform are hosted by SOMO

Sarphatistraat 30
1018 GL Amsterdam
Tel +31 (0) 20 6391291

GoodElectronics

info@godelectronics.org
www.godelectronics.org

CSR Platform (MVO Platform)

info@mvoplatform.nl
www.mvoplatform.nl

This publication is financed by the Dutch Ministry of Housing, Spatial Planning and the Environment (VROM).

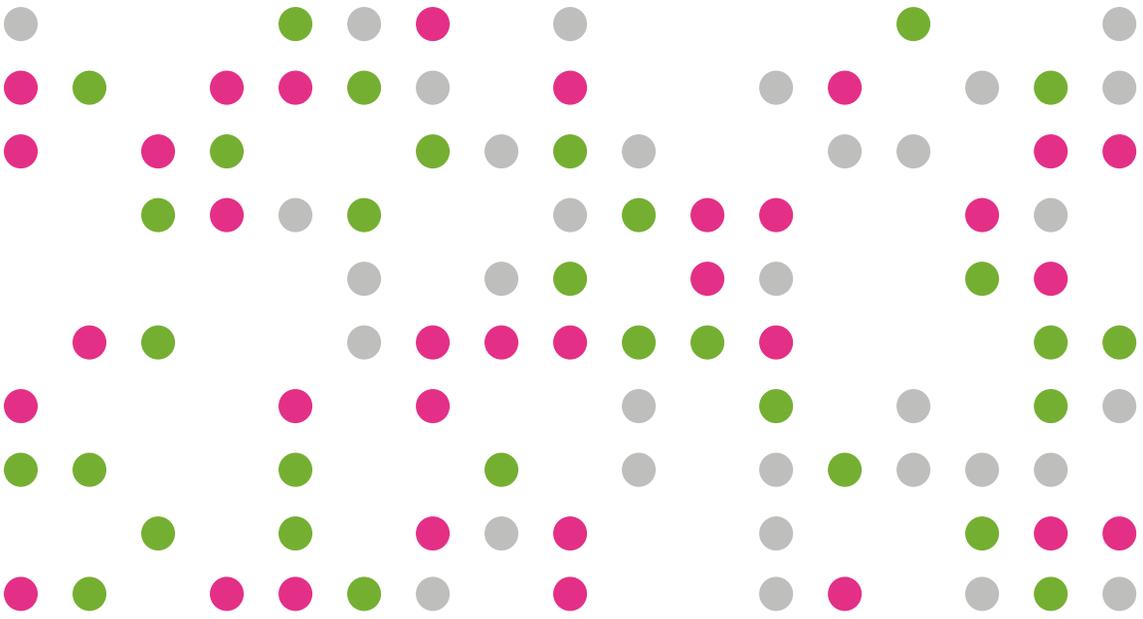
This publication is licensed under the Creative Commons Attribution-Non-Commercial 3.0 Netherlands License. It is possible to copy, distribute, and display this report and to make derivative works under the following conditions: 1) Attribution. You must give the original author credit. 2) Non-Commercial. You may not use this work for commercial purposes. For any reuse or distribution, you must make clear to others the licence terms of this work. Any of these conditions can be waived if you get permission from the Dutch CSR Platform. To view a copy of the licence, visit <http://creativecommons.org/licenses/by-nc/3.0/nl/> or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California 94105, US.

Table of contents

Part 1. Introduction	5
Introduction	6
Readers' guide	8
Basic operational principles	9
The global electronics industry at a glance	17
Part 2. Social aspects	19
Gender	20
Conflict commodities	23
Local communities	26
Organising and collective bargaining	28
Forced labour	30
Child Labour	34
Discrimination	36
Security of employment – precarious work	38
Occupational health and safety	40
Working hours	44
Wage	46
Home work	49
Migrant labour	51
Part 3. Environmental aspects	55
Energy	56
Carbon footprint – greenhouse gases	58
Pollution	62
Part 4. Economic aspects	65
Purchasing practices	66
Export Processing Zones	68
Taxation	71
Trade and dumping	75
Marketing and retailing practices	78
Public procurement	81
Part 5. References	83

Part 1.

Introduction



Introduction

This publication provides an overview of CSR issues that are relevant for the global electronics sector. It is a joint initiative by the Dutch CSR Platform (MVO Platform) and GoodElectronics. The publication is based on the 2007 CSR Frame of Reference published by the CSR Platform which reflects the Platform's vision on corporate social responsibility. The CSR Frame of Reference describes and defines basic standards and principles and gives an outline of operational principles essential for the implementation of an effective and credible corporate social responsibility policy.

The CSR Frame of Reference is a general document. In this publication the CSR Platform and GoodElectronics aim to apply the general standards and principles of the Frame of Reference to the electronics sector in particular. Several aspects (social, environmental and economic) in different phases of the supply chain (mining, manufacturing and disposal) are described from a corporate social responsibility perspective. This publication categorises the many problems that the sector still faces. Progressive initiatives that are relevant to business, government and civil society are presented, and concrete recommendations are formulated. Please note that this publication does not pretend to be exhaustive. The analyses and recommendations put forward derive from diverse civil society sources, including participants to the CSR Platform and the GoodElectronics network. Not all views are necessarily shared by all, however.

Among the most pressing issues is the lack of freedom of association and collective bargaining. The lack of observance of these enabling rights has a huge impact on the labour rights situation of workers in the global electronics supply chain. Long working hours, forced overtime and low

wages are no exception. Supply chain responsibility is a key concept when it comes to making companies deal with issues ranging from sourcing conflict commodities to responsible disposal of obsolete electronic equipment.

This publication reveals that corporate social responsibility is not yet part of what companies in the electronics sector consider as their core business. Although progress is made on some aspects, other aspects are not even being addressed yet.

A renewed and substantially strengthened effort on corporate social responsibility and accountability is urgently needed. Initiatives should be evaluated and improved constantly. A more serious involvement of civil society stakeholders, unions in the first place, is crucial.

The publication is intended for those interested in a more responsible and sustainable electronics sector: the electronics sector itself, as well as stakeholders who are working on improving labour and environmental standards throughout the sector. Hopefully, anyone interested in the progress in implementation of corporate social responsibility in the practice of a globalised complex supply chains will gain from this information, including companies in other sectors, policymakers and consumers who care to know more about the products they use daily.

The Dutch CSR Platform

The Dutch CSR Platform (MVO Platform) is a network of Dutch civil society organisations and trade unions that are working together to promote Corporate Social Responsibility (CSR).

The goal of the CSR Platform is to stimulate, facilitate and coordinate activities of the different organisations in order to reinforce each other's efforts. The emphasis of the CSR Platform lies on issues dealing with CSR in developing countries.

GoodElectronics

GoodElectronics is an international network bringing together NGOs, trade unions, labour rights groups, environmental organisations, academics, researchers, activists, etc with as common goal to contribute to sustainability and human rights in the global electronics sector.

Readers' Guide

This publication comprises four parts: Introduction, Social aspects, Environmental aspects and Economic aspects. Each thematic section consists of a number of chapters, each dealing with its own specific topic.

In the introductory chapter it is explained how this publication came about as an initiative of the Dutch CSR Platform (MVO Platform) and the GoodElectronics network. In a separate chapter the basic operational principles that the CSR Platform and GoodElectronics consider essential for the implementation of an effective and credible CSR policy are explained. These essential principles include supply chain responsibility, stakeholder involvement, transparency, reporting, and complaints procedures. In this chapter a critical view is taken of the effectiveness of the codes of conduct currently in use by electronics companies. Suggestions are also provided of how companies can further enhance their social and environmental performance, including investing in mature industrial relations, worker education and collaboration among buyers and suppliers. A final introductory chapter provides a brief overview of the current global electronics industry from a CSR perspective.

In the global electronics supply chain different phases can be distinguished. In this publication we speak of three different phases: the extractives phase – in which metals used in electronic products are mined; the production phase – during which electronic products are assembled and manufactured; and the disposal phase – during which redundant or obsolete products are disposed of. Each phase has its own visual symbol.

Extractives  Production  and Disposal 

For each of these three phases, social, environmental as well as economic aspects may be relevant, to varying degrees. Labour issues occur during each of the three phases.

By Social aspects we mean human rights and labour rights issues, with a chapter on conflict commodities as well as chapters on organising and collective bargaining, security of employment, discrimination and migrant labour, among others. Gender is discussed as an overarching theme – linked to the three distinct phases and a number of topics.

In the part on Environmental aspects, attention is paid to issues such as climate change, greenhouse gases, and pollution.

The part on Economic aspects deals with issues such as trade and dumping, taxation and purchasing practices.

Each chapter is made up of four paragraphs: Issues, Standards, Existing initiatives and Recommended steps. The first paragraph presents the issues inherent to the chapter's topic. The paragraph on standards gives the internationally adopted standards and accepted principles relevant for the topic of the chapter. Progressive initiatives that are relevant to business, government and civil society are presented in the third paragraph. In the last paragraph concrete recommendations are formulated.

As many issues are interrelated, there are quite some linkages between the different chapters, in some cases there may even be a slight overlap.

References of cited works are provided at the end of the text.

Basic operational principles

In the view of the Dutch CSR Platform (MVO Platform) and GoodElectronics, there are a number of general principles which are essential for the implementation of an effective and credible CSR policy. This chapter is based on the 2007 CSR Frame of Reference published by the CSR Platform as well as the joint vision of the participants of the CSR Platform on supply chain responsibility. GoodElectronics is approaching the electronics industry on the basis of the Common Demands, a set of principles elaborated and adopted by the participants of the GoodElectronics network in 2007.

Some elements are derived from recent proposals by John Ruggie, the Special Representative of the United Nations Secretary-General on business & human rights. Also included are recent proposals by the European Coalition on Corporate Justice (ECCJ) to improve corporate accountability for environmental and human rights abuses.

Concrete proposals towards the development and implementation of codes of conduct, remediation and complaint procedures were borrowed from the Clean Clothes Campaign.

The general principles on CSR formulated in this chapter are put in perspective by linking them to the current state of affairs in the electronics sector.

The CSR Frame of Reference is based on relevant internationally agreed standards, agreements, operating principles and processes. While international treaties, declarations, guidelines and covenants primarily define the social, ecological and economic responsibilities of governments, it is clear that they also have a direct and indirect bearing on companies. A primary normative basis can be found within the 1948 Universal Declara-

tion on Human Rights (UDHR). In the preamble of the Declaration, “every organ of society” (which includes the corporate sector) is called upon to take “progressive measures” so as to “promote respect for these rights and freedoms and secure their universal and effective recognition and observance”. Two other important standards should be noted. In the area of labour practices, the ILO Conventions provide an important normative basis, while the 1992 Rio Declaration on Environment and Development has a key role with regard to the environment.

In addition to the standards and treaties primarily oriented towards governments, international guidelines and standards that specifically address corporate responsibilities have also been developed. These include the OECD Guidelines for Multinational Enterprises and the ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy. The OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions deserves special mention. The International Organization for Standardization (ISO) is in the process of developing an International Standard providing guidelines for social responsibility. This guidance standard will be published in 2010 as ISO 26000 and compliance is voluntary. Although the guidance standard will not include requirements and will thus not be a certification standard, it may be a useful tool for companies interested to improve their CSR performance.

Due diligence and duty of care

An important concept advocated by John Ruggie concerns due diligence. Due diligence is presented as a comprehensive, proactive attempt to uncover human rights risks, actual and potential,

over the entire life cycle of a project or business activity, with the aim of avoiding and mitigating those risks (Ruggie, 2009). Four core elements of human rights due diligence are:

- 1 companies having a human rights policy;
- 2 companies assessing human rights impacts of company activities;
- 3 companies integrating those values and findings into corporate cultures and management systems;
- 4 and companies tracking as well as reporting performance.

Due diligence comprises reasonable steps by companies to become aware of, prevent, and address adverse impacts of their activities and relationships. These steps may vary depending on factors such as country context, the nature of the activity and industry, and the magnitude of the investment or exchange. Avoiding complicity is part and parcel of the responsibility to respect human rights, and entails acting with due diligence to avoid knowingly contributing to human rights abuses, whether or not there is a risk of legal liability. In short, both operating in contexts where abuses occur and the appearance of benefiting from such abuses should serve as red flags for companies to ensure that they exercise due diligence, adapted for the specific context of their operations (Ruggie, 2008).

A more stringent approach stipulates that parent companies should be held liable for the environmental and human rights impacts of their subsidiaries and the contractors which they have the right to control. A company should have a duty of care to ensure that human rights and the environment are respected throughout its sphere of responsibility. Companies should take reasonable steps to identify and prevent human rights and environmental abuses within their sphere of responsibility. Large companies should be required to report on their environmental and human rights impacts and risks: large companies should have clear standards to which they report risks and impacts of their activities within their sphere of responsibility (ECCJ, 2009).

Supply chain approach

International supply chains are becoming ever more complex as a result of the outsourcing of manufacturing and other business processes. Decisions to outsource activities are frequently motivated by the desire to save costs and spread risks. It is precisely for that reason that companies have to take extra care to avoid violations of CSR standards in their production and supply chains. Supply chain responsibility is a core concept for companies in this respect. Supply chain responsibility implies that a company does all it can to enable, promote and implement responsible business practices throughout its supply chain. The CSR Platform considers three positions to be important. Firstly, supply chain transparency and traceability are relevant. In order to flesh out supply chain responsibility it is necessary that companies are more open about the origin of their products and about how they deal with social problems occurring in their supply chains (their supply chain management). Secondly, it is important to promote supply chain responsibility, which companies are currently taking on voluntarily and on the basis of self-regulation, in order to make chains more sustainable. Governments and civil society organisations can stimulate companies in this respect in a large number of ways. Thirdly, it is necessary to legally anchor minimum requirements for supply chain responsibility in order to be able to tackle abuses and free riders (supply chain liability).

The notion of supply chain responsibility has only surfaced in the electronics sector pretty recently. Sony, for example, has been publishing environmental reports since 1994, but it is only as of 2000 that some electronics companies started looking at labour conditions in their supply chains (SOMO, 2009).

GoodElectronics and the Dutch CSR Platform expressly promote supply chain responsibility throughout the supply chain, or in other words for the overall production cycle of electronic equipment, from extractives to production to e-waste and recycling. Companies should not limit their

supply chain responsibility to the first tier suppliers only. At this moment, however, no company fully agrees with this principle.

Electronics companies are still far from transparent about their supply chains. A small number of companies (to date: Fujitsu, Dell and HP) have published concise lists of their first tier suppliers. This is a step in the right direction. However, essential information about the first tier suppliers as well as all information about further tier suppliers is not provided.

Electronics companies have been pressured to recognise their responsibility to extend supply chain management to include sourcing and mining of metals. Implementation of internationally accepted environmental, social and labour standards for achieving best practice in CSR throughout the supply chain is the key. The electronics industry as a whole consumes significant quantities of various metals (makeITfair 2008). A number of individual companies have started to heed this call. In June 2009, the industry's sustainability initiatives EICC and GeSI initiated a Supply Chain Mapping Project. This research project, commissioned to the American organisation Resolve, will investigate the supply chain for tin (solder), tantalum (capacitors and deposition targets), and cobalt (batteries and magnetic recording media) used in electronics. The purpose of this project is to 1) create a picture of the electronics supply chain for these metals; 2) assess suppliers' use of codes of conduct addressing social, environmental, health, and labour issues; and 3) identify the challenges of collecting this data and consider ways to enhance and maintain transparency of the supply chain (Resolve, 2009).

On the other end of the supply chain there are urgent issues to deal with as well. In accordance with the principle of Extended Producer Responsibility (EPR) companies are pressured to address the lifecycle issues of products – especially what happens to them at the end of their life. In other words, to develop and implement policies about how to deal with electronic waste (Greenpeace, 2006). A related concept promoted by Greenpeace

is Individual Producer Responsibility. IPR provides a feedback loop to the product designers of the end-of-life costs of treating discarded electronic products and thus an incentive to design out those costs (Greenpeace, 2009). Several companies have started taking initiatives in this field. In 2008, GeSI developed an end-of-life management tool that will be integrated into its existing E-TASC self-assessment questionnaire for suppliers.

Multi-stakeholder approach

Adopting a multi-stakeholder approach is an essential condition for a credible and effective CSR policy. One of the key elements is to identify all relevant stakeholders and the degree of their involvement and influence. Employees, trade unions, local communities, suppliers, individuals, civil society organisations and other relevant stakeholders should be involved in defining and implementing CSR policy and participating in external verification of the implementation of CSR programmes and policies.

In electronics there are no multi-stakeholder initiatives. Neither do the industry's sustainability initiatives engage with stakeholders on a structural basis. Individual companies as well as EICC and GeSi have been organising one-off stakeholder consultations, but generally in a top-down manner. In selected cases of labour rights abuses or environmental issues companies may have some contact with civil society organisations. The code of conduct of the EICC has been unilaterally developed by its corporate members – no stakeholders were involved. The same holds true for individual companies. Credible multi-stakeholder code initiatives, however, require companies, unions and NGOs to work together to promote improved labour practices through code compliance. Outside the electronics sector, in the garment and related consumer product sectors, such initiatives do exist, including the Ethical Trading Initiative in the UK, the Fair Wear Foundation in the Netherlands, the Fair Labor Association, and Social Accountability International in the US.

Corporate governance

Companies need effective and transparent corporate governance in order to operate properly and be trusted to do so by third parties. Corporate governance brought into alignment with CSR, as well as other criteria, is a vital condition in this regard. The company board should ensure that CSR activities and responsibilities are incorporated explicitly in corporate policy and that mechanisms and management systems are developed that are conducive to creating a relationship of mutual trust between the company and the society in which it operates. Remuneration of board members should be linked to targeted achievements in the field of CSR.

Analysis of risks and consequences

Companies should gain an understanding of the social, environmental and economic conditions in any given country, region and/or sector in which they operate. Companies should also analyse the consequences of their business activities in the supply chain and/or the community so that their business operations can fully comply with CSR standards. Solid analyses of the risks and consequences of their business practices allow companies to set priorities and identify which CSR elements are particularly at risk. This will include information on how these risks may be avoided, or what plan may be developed in order to achieve compliance with these standards within a reasonable timeframe.

To take into account the consequences of their business practices throughout the supply chain, electronics companies should carry out country-level risk assessments, for each country or region where they are producing or sourcing from. Next, efforts to mitigate these risks need to be undertaken. Public reporting on the risk analysis as well as the mitigation of risks should be part and parcel of the process. Some good practices exist: Apple has formulated clear policy regarding the recruitment and treatment of migrant work-

ers, on the basis of a focused risk assessment. Other companies have looked into the situation in China where independent unions are not allowed, which undermines the freedom of association and collective bargaining. To respond to this situation policies regarding alternative workers' representation have been developed.

Developing policy: codes of conduct and sector-based initiatives

The responsibility assumed for CSR by a company should be reflected in its policy as expressed in a code of conduct and action plan. In order to avoid a plethora of codes, each defined by an individual company, this is best achieved through a cross-sector approach, in which sector-level or product-level agreements are made with the entire industry and in consultation with relevant stakeholders.

A good code meets certain requirements: it should be comprehensive, meaning that it should apply to all workers affected by labour practices for which the company has some measure of responsibility. This includes all workers employed directly by the company as well as employees who work in the company's supply chain, regardless of their particular status or relationship to the company. Women workers, migrant workers, and other specific groups of precarious workers should be explicitly covered. A code should be credible, meaning it should include all provisions based on the ILO Core Conventions, the Tripartite Declaration of Principles, as well as other important workplace issues that are addressed by the Universal Declaration of Human Rights.

To be a useful tool, the company's code should be circulated among its employees and the employees of its suppliers, the code should be available to the public on request, and should be accessible on the company's website. Efforts should also be made to ensure that workers are informed and aware of the code, ideally through explanatory training courses. The code should, for example, be posted in a prominent place in the workplace in

the first language(s) of the workers in the respective country and copies of the code should also be made available to the workers who make the company's products. It is also important to provide a picture version of the code for illiterate workers (Clean Clothes Campaign, 2008).

Some individual company codes set higher standards – examples are the codes of Apple and HP which contain stronger worded clauses regarding freedom of association and collective bargaining for example.

Implementation: management system, internal monitoring

The first step is for companies to monitor their own practices in order to establish whether these are consistent with their internal CSR policies, goals and implementation plans. As is customary

in quality assurance and environmental management systems, a CSR management system will consist of an explicitly defined corporate policy and processes for ensuring compliance with the standards. Such a system should also include self-monitoring processes to ensure that companies themselves can demonstrate whether and/or to what extent they are acting in line with the standards introduced, and what corrective measures they must take in order to eliminate any non-compliance.

External verification

Independent verification processes are the final building block of an effective CSR policy. The quality, usefulness and credibility of a company's efforts, as well as the management systems and processes it has introduced, are strengthened by independent verification of its CSR programme.

The Electronics Industry Citizenship Coalition (EICC) is an industry initiative promoting a code of conduct for global electronics supply chains to improve working and environmental conditions. The EICC membership is available to electronics manufacturers, software firms, ICT firms, and manufacturing service providers, including contracted firms that design, manufacture, or provide electronic goods. The EICC code of conduct claims to provide guidelines for performance and compliance with critical CSR policies. EICC provides tools to audit compliance with the code, and helps companies report progress.

Global eSustainability Initiative (GeSI) members are companies or organisations that, as a principal part of their business, provide a service for the point to point transmission of voice, data or moving images over a fixed, internet, mobile or personal communication network, or are suppliers of equipment which is an integral component of the communication network infrastructure. GeSI has deployed initiatives on climate change, supply chain, energy efficiency, e-waste and public policy.

About 45 companies, both brand name companies as well as suppliers, have adopted the EICC code of conduct. Many more have developed their own company code. In some cases the individual company codes have supplemented the EICC code by adding clauses on labour rights. Still, in most cases, the above formulated code requirements are not met. The EICC code of conduct falls well short of what is considered to be the threshold standard for a code of conduct. The EICC code is not based on international standards such as the ILO conventions, but merely refers to the Universal Declaration of Human Rights and the Ethical Trading Initiative as its sources. Moreover, the EICC code does not include full references to the right to organise and bargain collectively and the right to a living wage. Neither does the code set a clear maximum on normal working hours and overtime hours (SOMO, May 2009).

Independent verification is more than a technical matter merely requiring the involvement of one or several experts. All those directly involved, for example the employees or the local community, should be able to verify the extent to which a given company's CSR policy is being implemented and enforced. Such independent verification should be conducted by an organisation without links to the company that is trusted by all relevant stakeholders.

Remediation

An effective monitoring programme is likely to discover some violations of the company's code of conduct and/or local labour law, since few factories are free of violations. The proper way to deal with reported non-compliance is not to cut off relations with the concerned supplier. Companies should work with factories and stakeholders to correct identified problems.

Electronics companies are taking steps towards establishing monitoring programmes, but generally speaking this is still far from common practice in the electronics industry today. In many cases, the monitoring element merely amounts to buying companies requesting their suppliers to fill out a self-assessment questionnaire or to superficial visits by the company's itself. When external verification is done, it is often limited to irregular visits of auditors who provide snapshots of conditions at the time of their visit – and no indication of the conditions before or afterwards. These external auditors are working for commercial firms and are not necessarily well equipped to engage with stakeholders. The electronics sector admits that there is a problem with the quality and credibility of audits and auditors, especially when it comes to performing workers' interviews (EICC, 2009). The industry sees a solution in training and certification of EICC auditors. There is no mention of independent auditing, participation of local stakeholders (NGOs, trade unions) in audits, or off-site interviews with workers.

Transparency and reporting

Companies are expected to be transparent about their policy and to report on their CSR performance. The following are key transparency and reporting principles:

- Reports are relevant, intelligible, accurate, complete and balanced. Other important elements are: adequate explanation, comparability over time, comparability with affiliated firms (subsidiaries and suppliers), topicality and timeliness.
- Supply of information, for example background information for labels or quality marks and information made available to the general public.
- Disclosure of data and consultation.
- Right of access to information for stakeholders, for example consumers, about the origin and production processes of products and services.

Some electronics companies make use of the Global Reporting Initiative guidelines for disclosure on economic, social and environmental performance. In July 2003, the Global Reporting Initiative released a pilot version of the Telecommunications Sector Supplement as an attempt to provide sustainability reporting guidance to the telecom sector that is helpful to service providers and manufacturers alike. This Sector Supplement covers Internal Operations (specific practices related to managing the organisation's facilities and infrastructure); Providing Access (approaches to ensuring equitable access to telecommunication products and services); and Technology Applications: (indicators to cover the impacts of telecommunications products and services). Some indicators of the Sector Supplement are more relevant to equipment manufacturers, others are better applicable to service providers. Since the telecommunication sector also interfaces with the wider information technology sectors, some of the indicators and commentaries may have application beyond the telecommunication companies, according to GRI. The Telecommunications Sector

Supplement was developed through a working group including industry and stakeholder groups, including the Global e-Sustainability Initiative (GeSI).

Complaints procedure

The implementation of a CSR policy will involve creating channels for complaints from employees, consumers and other stakeholders, so that these stakeholders may at all times report alleged violations of CSR standards. Individuals providing information on a company's operations should not subsequently suffer disciplinary action, discharge or discrimination. Companies should therefore have transparent and effective procedures for handling complaints from employees, consumers and other stakeholders, and they should cooperate in resolving differences quickly and fairly without introducing unnecessary costs, charges or other obstacles. Such complaint mechanisms should be secure, anonymous, confidential and independent.

Again, some initiatives have been deployed by individual companies, like setting up hotlines, but generally speaking effective complaint procedures are non-existent. Among EICC member companies, establishing hotline and complaints procedure is still at the pilot-project stage. Where attempts have been made, it did not rise above internal complaint procedures, meaning that hotlines or complaints boxes are managed by the factory management. The electronics sector has not yet facilitated independent, external complaints mechanisms. In this scenario a NGO or a trade union that has the worker's trust will run the hotline and will help to establish discussion mechanisms with the factory management.

In-factory workers education

Workers must be enabled to monitor their own working conditions and to discuss collective interests with the management in their factories. This is especially important in regions and countries

where unionisation is low or where there are no trade unions. Worker education on labour rights is a useful tool to this end. Different types of education can be distinguished including education on labour legislation for rank and file workers, and training of workers with an interest in representation and/or trade union officials, equipping them to organise and represent workers. To secure the sustainability of the training programme local stakeholders should be involved. Trainers necessarily have to be independent from the factory management and have to relate to the workers' interests. Worker education can have direct added value for companies as it makes code implementation efforts more sustainable. The costs of supply chain management should reduce as increased communication between management and workers helps to solve difficulties on a day-to-day basis. The need for auditing as well as self-assessment should therefore be reduced on the long term. It will help to decrease labour disputes and wildcat strikes as well as employment turnover. It is important to involve suppliers and buyers: buyers have a crucial role in motivating suppliers for worker's training. Worker's training can help increase transparency and quality of the communication between the supplier and buyer.

Worker's education remains rare in the electronics sector. Up to this date, only Hewlett Packard has made an attempt at facilitating independent worker's training courses. Apple has realised a training programme in China, but this was characterised by a top-down approach, without participation of independent local NGOs.

Collaboration among buyers, suppliers, NGOs and trade unions on a national or regional level

Companies should facilitate workplace dialogue between employer and formal workers' representatives. Additionally, complementary forms of collaboration among buyers, suppliers and civil society organisations on a regional or national level can be set up. Early involvement of brand

name companies and suppliers with trade unions and civil society on a local level is advisable, before any conflicts over labour or environmental issues occur. Making contact and building trust among civil society and corporate representatives is key.

Mature systems of industrial relations – International framework agreements

Notwithstanding the potential for progress through involving stakeholders more directly in code enforcement, which has yet to be fully exercised in the electronics industry, there are also some very vocal proponents of an alternative solution; they claim the code monitoring approach will be inadequate anyway. Mature Systems of Industrial Relations (MSIR) are the alternative promoted as a means to move beyond what are viewed as ineffective mechanisms of social compliance (ie, auditing, verification and reporting) and to empower local actors and local labour institutions in countries where existing systems of industrial relations are weak or absent. Central to this approach is an understanding that progress in the advancement of core labour standards in producing countries needs to surpass the limited impact (and, businesses would argue, costs) of self-regulatory mechanisms and be rooted in freedom of association, dialogue and collective bargaining (Gregoratti and Miller, 2009). Unfortunately, positive models of mature industrial relations whereby electronics workers are members of national unions and engage in collective bargaining on wages and conditions with their employer are few and far between in the sector. The greatest incidence is to be found in the European operations of European companies where workers are directly employed: a category of electronics production employment which is rapidly vanishing (Gregoratti and Miller, 2009).

Critical elements of an MSIR approach are the need to rationalise all current codes into one code, encompassing the ILO core labour standards; the replacement of social auditing with mature

industrial relations at factory level; and the key role of effective recognition of freedom of association and the right to organise as enabling conditions. It is interesting to note also that the ILO's guidelines for buyers participating in the Better Work programme require them to stop company auditing in areas covered by the programme and focus on supporting collaborative improvement planning. As the MSIR approach develops in conjunction with the policy of global unions to pursue International framework agreements and to develop relationships between global retailers, brand-owners and their affiliates throughout their supply chains, it is argued that MSIR needs to be embraced by suppliers in the sector as much as by buyers (Holdcroft, 2009).

The global electronics industry at a glance

For the purpose of this overview, the term electronics sector refers to a broad spectrum of information and communication technology companies producing a wide variety of electronic goods. These goods include computers, office equipment, lap tops, mobile phones and other communications equipment, consumer electronics (such as mp3-players, webcams and game consoles), semiconductors (chips), and miscellaneous electronic components, or in other words: any product with a circuit board.

At least until the third quarter of 2008, the global market for electronics products was a strong growth market. From \$1.4 trillion in 2004, the market has grown at an average rate of about 12.6% per year, to an estimated \$2.0 trillion in 2007. October 2007 prognosis expected the global market to reach approximately \$3.2 trillion by 2012. Industrial products, computer electronics and semiconductors accounts are the key sectors. However, the current economic crisis is having its effect on the electronics sector as well, although it is difficult to predict how exactly. Some segments of the market, including the PC market, are expected to suffer a serious decline. Other segments, however, are expected to do much better, including the sales of notebooks and specific segments of the mobile-device market such as smartphones (BCC Research, 2007).

Historically, the electronics industry has seen competition between the USA (Silicon Valley) and Japan. Since its start, the electronics production base has diversified. In the Asian-pacific region, China, Japan, South Korea, Malaysia, Singapore, Taiwan and the Philippines are the eight largest producers of electronics products. Indonesia, Vietnam and India are on the rise. Outside this region, Mexico is an important electronics produc-

tion country, as well as several Eastern European countries including Hungary, Poland and the Czech Republic.

Electronic equipments are highly complex constructions consisting of a wide range of diverse components. A typical computer, for example, is made up of an external keyboard, casing and screen, as well as internal circuitry and wiring including printed wiring boards (PWBs), semiconductors, hard drives, interface sockets, cables, etc, many of which are themselves composed of numerous individual parts. The manufacture of this type of equipment is a truly global industry.

The electronic products supply chains form an intricate web, with brand name companies that have many suppliers, who in turn have multiple suppliers themselves. These buying companies may themselves also be component suppliers, as is the case with Hitachi or ASUS, for example. Outsourced production of small components for handsets can stretch into supply chains of nearly a dozen companies. In total, these complex supply chains encompass thousands of companies. A remarkable characteristic of this supply chain is the uneven distribution of market power, skewed in favour of the big brand name companies (SOMO, 2008). 75% of the multi-billion mobile communications industry is in the hands of just five companies (Motorola, SonyEricsson, Nokia, Samsung and LG) (Consumers International, 2009). A similar picture emerges for the computing industry, with HP, Dell, Acer, Fujitsu, Lenovo as well known players.

A related common characteristic of the electronics sector is that production is outsourced, or subcontracted. Up to 75% of global electronics production has now been outsourced from Origin-

nal Equipment Manufacturers (OEMs) or brand-name companies such as Hewlett Packard, Dell and Apple, to contract manufacturers (CMs) (IMF, 2009). For the mobile phone industry the extent to which brand companies outsource final products varies between more than 60 percent (Sony Ericsson) and less than 35 percent (Nokia) (SOMO, 2008). At the level of the contract manufacturers, there is significant market concentration, with five major CMs producing electronic products for all the major brands. These five are: Flextronics (Singapore), Foxconn (Hon Hai) (Taiwan), Celestica (Canada), Sanmina SCI Corporation (USA) and Jabil Circuit (USA). Despite being for the most part unknown to the general public, the largest contract manufacturers are themselves major multinational companies that have seen extraordinary growth. The current number of hard disk drive (HDD) suppliers worldwide is reduced to five only – Seagate, Western Digital, Hitachi (owns the former disk manufacturing division of IBM), Samsung, and Toshiba – which leaves computer brands little choice.

To a large extent, the components used in the manufacturing of computers are interchangeable. Manufacturers do not incur significant costs when switching basic component suppliers. As a result, supplier power is low (SOMO, 2009).

A major element of the manufacturers' strategy to attract business from the brand name companies is to locate in countries where wage costs are lower, resulting in a virtual race to drive down labour costs. As competition to take over manufacturing for the brand name companies has intensified, production has moved from countries that were once considered sufficiently low cost, such as Mexico, to ever cheaper locations (IMF, 2009). Companies in search of lowest production costs and maximum flexibility are attracted by Export Processing Zones or Special Economic Zones established by governments to expand their comparative advantages over other production countries.

Despite, or even as a result of the economic downturn, the electronic products market can

be defined as an aggressive order market, where demand may change on a daily basis. As a result, workers at all tiers are expected to be highly flexible, in terms of working hours and overtime.

In terms of consumption, China and India are the obvious growth markets for electronic (consumer) goods.

Worldwide this entire sector employs millions of people, both skilled and unskilled workers. Around the world there are an estimated 70 million metal-workers (IMF, 2005).

Generally speaking jobs in the electronics sector are characterised by low pay, substandard working conditions, excessive working hours and are only offered as short-term contracts, often via employment agencies. The majority of workers engaged in electronics production today are young women.

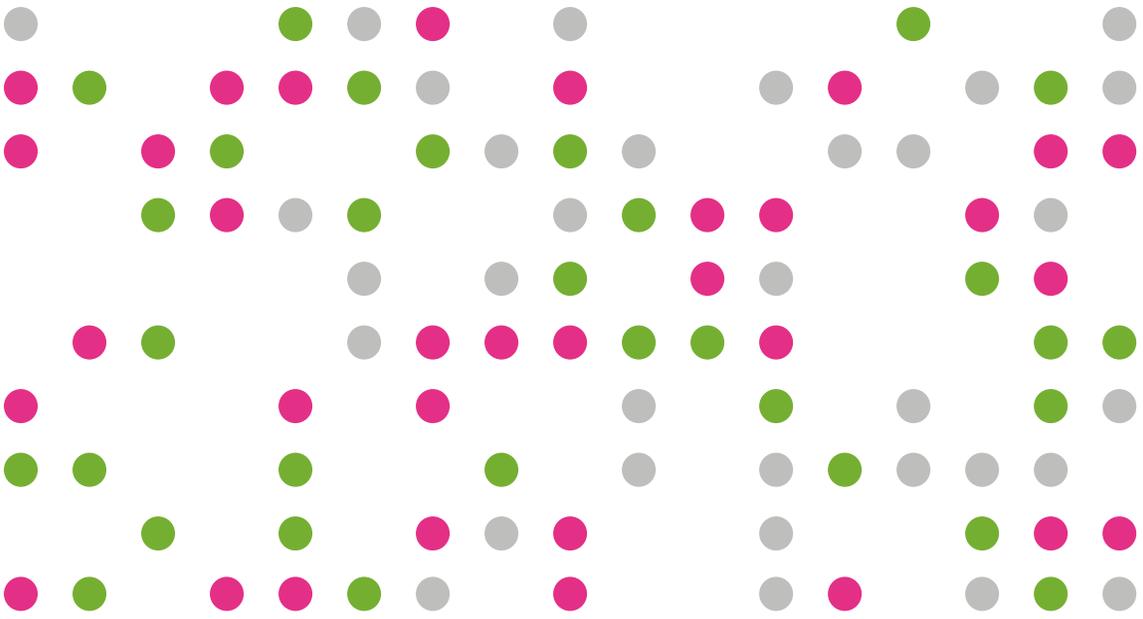
This is topped off by a traditional hostility to unions by the major companies in the sector, low unionisation levels, and low job security due to the high numbers of workers who are employed under temporary contracts, either directly by a company or through labour agencies.

This has led to abuses, with risks and costs passed down the supply chain: sub-standard working conditions and inadequate environmental standards at some suppliers are tarnishing the perceived clean image of the industry. The economic crisis is making things worse: factories are closing down or are relocated to regions where labour is cheaper still; regular workers are increasingly replaced by contract workers; more workers are being hired through labour agencies instead of directly by producing companies.

Beyond supply chain issues, there are further unresolved problems relating to the use of substances which are hazardous to the environment and human health as well as to systems for taking back and recycling old appliances, which are often still inadequate.

Part 2.

Social aspects





Gender

Issues

Globalisation has led to the feminisation of labour, especially in export sectors, such as electronics and garments. According to the ILO, women made up 40.5% of the global labour force in 2008 (ILO, 2009). Women also make up the majority of informal sector workers. Entering the labour market has brought women greater economic independence, greater equality in the household and personal empowerment. Gender, however, influences labour practices in countless ways – ideas about the jobs women can do, how they should do them, their wages, their relationship to employers and the law. It is important to be clear about the gendered nature of the processes that underpin the current global industry, as these processes facilitate rights violations (Clean Clothes Campaign, 2006). More strongly put, gender discrimination forms the basis for women’s employment conditions in the global economy. Measures to improve labour standards that do not challenge the underlying causes of gender discrimination risk upholding gender divisions and oppression. This applies to the formal economy, but is particularly true for the informal economy.

In most cases, women are the main producers in the so-called “care” economy – meaning they are “producing” the bulk of the care for their families,

their households, the elderly, and even in their communities. That in itself already means they have lives different from those who don’t take on those (usually unpaid) jobs, for example in terms of the time spent on those tasks, in terms of their health, etc. (Clean Clothes Campaign, 2006). On top of this, women are also participating in the cash economy – performing paid jobs. Being active, in a labour union for example, is an additional, often burdensome task.

Women are made to pay the social costs of flexible labour markets at the expense of their own health, gender equality and their families’ future prospects. Missing from official statistics, these costs are effectively a hidden subsidy to the brands in whose supply chains women work (Oxfam, 2004).

Cultural factors hinder women’s mobility and limit their access to jobs. In many countries and cultures girls have limited access to education and as a result are less equipped to apply for higher-level, better-paid jobs.

Women workers make up the bulk of the labour force in the global electronics supply chains, particularly in the manufacturing phase. While mining is predominantly a man’s job, women are also amply represented in the disposal phase. In

Everything from the level of payment and how quickly a worker is paid, to the terms of your job – such as lack of a contract, no medical or maternity leave, no right to organise, or no pension, down to the way a supervisor speaks to or touches a worker – is informed in part by gender-based notions of what is acceptable. If you consider what this means in relation to the stress created by job insecurity and by verbal and physical harassment, the malnutrition created by low pay, the exhaustion that results from forced overtime, and the inability to do anything about unsafe working practices and environments, then the roll-out effect on a woman’s health and that of her children is immediately evident (Clean Clothes Campaign, 2006).

manufacturing, women are often employed on a temporary and part-time basis. Manufacturing of electronic products and components predominantly takes place in special economic zones. The vast majority of workers employed in such zones are women; a few years back an estimated 70-90% (GWIT, 2003). Moreover, the labour force in such zones is to a large extent made up of migrant workers. Migration is more demanding on women workers, precisely because of their caring responsibilities.

Women have a marginal position in trade unions and institutions dealing with labour policies. Traditionally, labour unions have a male-dominated leadership and are not focused on organising women workers or taking up gender issues. Worse, trade unions in some cases reproduce the norms and behaviour that treat women as a subordinate category (Franck, 2008). Women regard unions with a scepticism. As freedom of association is not well protected throughout electronics supply chains, women workers' rights are very poorly protected, particularly in economic processing zones. Unions are aware of this situation and are working on it. In 2005, for example, the International Metalworkers' Federation Congress made the decision to mandate the inclusion of women on the IMF Executive Committee.

It is argued that women workers are preferred because they are seen as a cheap workforce and perceived as more docile than men. Also their nimble fingers would make them more fit for assembly work. Arguably, women are perceived as more suitable than men for detail work because they are seen to have 'natural' traits, such as manual dexterity ('fast fingered women'), patience, a tendency to be meticulous, and docility (Fox, 2002). These allegedly innate feminine characteristics are required to manipulate intricate wires and repeat the same finite number of tasks all day (Ferus-Comelo, 2006).

Women workers are discriminated against in many ways:

- Women earn less than men – even for same or similar work (ILO, 2008).
- In general, women are more likely than men to be hired on short-term, seasonal or casual terms and thus work without the protection that comes with long-term contracts.
- The organisation of work in export-oriented manufacturing is not tailored to the lives and responsibilities of women workers; long working hours; remuneration below a living wage; forced overtime; late nights shifts; irregular working hours and changing shifts, etc. have a disproportional effect on women.
- Women workers receive less training and promotion – managers and supervisors are generally men.
- Women are less easily employed after giving birth or a starting family. Single women are preferred over married women.
- Specific benefits for women workers (maternity leave etc.) are often not well arranged for.
- Women sometimes have to undergo forced pregnancy tests.
- In terms of occupational health and safety, the needs of women are insufficiently taken into account. Often, workers are not allowed to sit during working hours or to use the bathroom when needed. From a reproductive health point of view this is particularly detrimental for women workers, causing bladder infections and worsening menstrual pains. For fear of losing their jobs, women will put off informing their employer of their pregnancy, with the risk of working longer hours and further into the pregnancy than is good for mother and child. Also, working with chemical substances is particularly hazardous for pregnant or nursing workers. In the manufacturing of electronic equipment as well as during the disposal of electronic waste, women workers get into contact with toxic materials, risking a range of serious health risks such as cancer, miscarriage and birth defects (Ladou and Bailar, 2007).

- Women workers are exposed to intimidation and abuse, sometimes with a sexual slant, by superiors and co-workers, as well as while travelling between work and home, especially late at night or early in the morning.

Most codes of conduct do not include gender aspects. If reference is made to gender issues it is under ‘non discrimination’; more specific gender issues such as childcare and reproductive rights are not covered. Another limitation of codes of conduct is that they only apply to the upper tier of a buyer’s value chain. In this way, a considerable portion of (women) workers are not reached.

Standards

- ILO Discrimination (Employment and Occupation) Convention No 111.
- ILO Equal Remuneration Convention No 100.

Existing initiatives

- ‘Gender equality at the heart of decent work’, an ILO Campaign in 2008-2009 on gender equality and the world of work. Objectives of the campaign: increase general awareness and understanding of gender equality issues in the world of work; highlight the specific linkages between gender equality and securing decent work for all women and men; promote the ratification and application of key ILO gender equality labour standards; and advocate the importance of overcoming existing barriers to gender equality as beneficial for all.

Recommended steps

- Comply with all applicable laws, nationally and internationally accepted standards on gender equality, whichever offer greater protection.
- Get informed about gender issues and acquire an engendered understanding of labour and social issues throughout the supply chain.

- Contribute to the reform and engendering of labour standards as well as of company and industry codes of conduct.
- Organisation of code monitoring in an engendered manner. Make sure audit teams have a gender balance that matches that of the workforce.
- Fight discriminatory policies and practices that put women in a lesser position.
- Promote equal opportunities in the workplace throughout the supply chain.
- Consider affirmative actions to accommodate the specific position of women workers, especially in view of their family and care responsibilities. These could include preferential transfer of temporary contracts to regular contracts and the extension of employment benefits, such as paid maternity leave, annual leave and sick leave.
- Reorganise working hours and shifts to meet women’s requirements.
- Adjust duties and workload of women during pregnancy and breastfeeding.
- Allow women workers regular toilet breaks; and nursing women workers breast-feeding breaks.
- Ensure workers have access to childcare facilities.
- Facilitate education for worker’s children.



Conflict commodities

Issues

Wars need money. Natural resources such as timber, diamonds and minerals play an increasingly prominent role in providing this money, which is often used to fund armies and militias who murder, rape and commit other human rights abuses against civilians. Global Witness defines conflict resources as natural resources whose systematic exploitation and trade in a context of conflict contribute to, benefit from or result in the commission of serious violations of human rights, violations of international humanitarian law or violations amounting to crimes under international law.

Companies operating in or sourcing from conflict zones can face a number of specific human rights risks. The electronics industry as a whole consumes significant quantities of various metals sourced from conflict areas. Tin (solder), tantalum (capacitors and deposition targets), cobalt (batteries and magnetic recording media), tungsten (circuit boards) and gold (motherboard contacts) are important.

As a result of developing notions on extended supply chain responsibility beyond the first or second tier suppliers, electronics companies are increasingly acknowledging that the mining phase is part of their supply chain.

Human rights risks that companies operating in or sourcing from conflict zones should take into account include:

- The expelling of people from their communities.
- Forced labour and other forms of workers exploitation, including child labour.
- The handling of questionable assets.
- Illicitly made payments, such as bribes.
- The abusive engagement of security forces.
- The trading of goods in violation of international sanctions.
- Allowing the use of company assets for human rights abuses.
- Directly or indirectly providing the means to kill and financing international crimes.
- Contributing to a climate enabling sexual violence against women.

Standards

- The Extractive Industries Transparency Initiative (EITI) sets a global standard for transparency in oil, gas and mining. The EITI is a coalition of governments, companies, civil society groups, investors and international organisations. The EITI is a standard for companies to

Ores mined in the Democratic Republic of Congo include cobalt, (cobaltite), tin (cassiterite), tantalum (coltan) and tungsten (wolframite), and gold. These resources have fuelled one of Africa's most brutal wars and have contributed to grave human rights abuses by Congolese and foreign actors. Politicians, military and militia groups have plundered the country's natural wealth and used it to enrich themselves at the detriment of the population. The frequent use of child soldiers and the brutal sexual violence against women characterise this conflict (The Enough Project, 2009). This said, an overly facile equation of mineral export wealth and war-fighting capacity should be avoided. Reform of the natural resource sector in the DRC in the sense of ending the trade in natural resources or bringing it under government control does not equal peacebuilding (Pole Institute, 2009).

publish what they pay and for governments to disclose what they receive. The EITI, in a nutshell, is a globally developed standard that promotes revenue transparency at the local level.

Existing initiatives

- makeITfair is a European project focusing on the electronics industry, especially on consumer electronics like mobile phones, laptops and MP3 players. makeITfair publishes information on the use of metals in computers, mobile phones and cars, and has released a List of Principles on the extractive phase of the electronics supply chain.
- In June 2009, EICC-GeSI initiated a Supply Chain Mapping Project, in response to makeITfair campaigning pressure. This research project led by Resolve. will investigate the supply chain for tin, tantalum and cobalt used in electronics. The purpose of this project is to create a picture of the electronics supply chain for these metals; assess suppliers' use of codes of conduct addressing social, environmental, health, and labour issues; and to identify the challenges of collecting this data and consider ways to enhance and maintain transparency of the supply chain.
- Raise Hope for Congo, a campaign by the Enough Project, lobbies companies to under-sign the Conflict Minerals Pledge.
- Fatal Transactions is an international network of NGOs that believe that the natural richness of Africa, be it gold, diamonds, oil or copper,

can be a motor behind development and stability instead of a source of conflict. Revenues from natural resources often stimulate or continue conflict and human rights violations and threaten the just established fragile peace. In the mean time only companies, some individuals and corrupt governments profit while the local population hardly benefits from their countries' natural wealth.

Recommended steps

- Extend supply chain management to include the sourcing and mining of metals. Electronics companies should create a tracing system paired with credible monitoring of the system by independent third parties.
- Demonstrate, with credible written evidence, the exact origin of mineral supplies, the routes they have taken and the identity of those involved in the chain of custody, including intermediaries or third parties who have handled them.
- When sourcing from conflict or high-risk zones, exercise stringent due diligence regarding mineral suppliers. Companies should find out exactly where the minerals were produced (not only the broad geographical area, but the precise location and mine), by whom they were produced and under what conditions (including use of forced labour, child labour, health and safety and other labour conditions) (Global Witness).
- Refuse to buy minerals if such information is not available or if there are indications that the minerals have passed through the hands of

In August 2008, the UK trading company Afrimex was condemned for breaking the OECD Guidelines by sourcing minerals from a Congolese war zone. In the Afrimex case, the UK National Contact Point (NCP) – the British government body which considers complaints brought under the OECD Guidelines for Multinational Enterprises – affirmed that Afrimex initiated demand for minerals from a conflict zone and used suppliers who had made payments to RCD-Goma. It concluded that Afrimex had failed to contribute to sustainable development in the region and to respect human rights. The NCP also stated that Afrimex applied insufficient due diligence to the supply chain, sourcing minerals from mines that used child and forced labour (Global Witness, 2008).

warring parties, benefited them in other ways, or otherwise involved human rights abuses.

- In extreme situations, consider a ban on sourcing from conflict areas where there is a likelihood of money or services directly or indirectly supporting rebel groups or state actors committing war crimes and other serious human rights abuses (Global Witness, makeITfair).
- Work to make the trade in minerals from conflict zones more transparent, thereby assisting the formalisation of the sector (Resource Consulting Service). This would also benefit artisanal miners.
- Address resource-related conflicts in a way that tackles their particular character: in other words, by proactively addressing the trade that underlies the war, as well as the war itself.
- Ensure investment in the natural resource sector is equitable, sustainable, transparent and non-corrupt, and brings long-term benefit to the state and the population, thereby helping to prevent the seeds of future conflict (Global Witness). Support livelihoods and economic opportunities for miners, including artisanal miners (Enough Project).
- Call for a public statement of concern denouncing the injustices occurring at the extractive phase (makeITfair).
- Positively contribute to reforming international policy, especially pushing for the international community, at UN level, to adopt a definition of conflict resources which could be used to trigger action to prevent natural resources from fuelling conflict, and which could form the basis of revised national laws allowing people who trade in conflict resources to be prosecuted (Global Witness).



Local communities

Issues

Companies have an enormous impact on the rights of individuals and communities. Allegations of human rights abuse are particularly high in the extractive industry. Mining sites are often established in rural areas where people live and work. Also, manufacturing facilities as well as e-waste dismantling sites or dumping grounds are often set up in the close vicinity of human settlements. The rights and livelihoods of local communities are not necessarily well served with the introduction of such economic activities. Communities have been forcibly removed from their lands to make way for extractive or manufacturing activities. The social and environmental impact of mining, but also of manufacturing and irresponsible e-waste disposal on local communities can be most disrupting. Agricultural fields, forests and sources of water are destroyed by contamination, pollution or overuse. Often it concerns marginalised peoples, including in some cases indigenous peoples, with very inadequate access to social services, including poor access to justice. Land rights of (indigenous) people have been violated, their ancestral domains not being well protected. As a result, traditional livelihoods are endangered.

Moreover, the arrival of well-resourced companies seeking to win over local communities can also lead to increased violence and social conflict, as some people are excluded from the benefits of economic development. This can be exacerbated by the lack of transparency in the way companies award community contracts and payments. Affected communities are frequently denied access to information about the impact of company operations and excluded from participating in decisions that affect their lives, increasing insecurity and deprivation. When human rights abuses do occur, governments cannot or will not hold companies to account. States have privatised many state services including the right to education, health, and water. However, states often fail to ensure that companies deliver these services without discrimination (Amnesty International, 2009).

In the case of large scale mining operations, small scale artisanal miners are often obliged to make way. Military and paramilitary oppression by state and private forces, acting on behalf of mining companies, is a serious issue. It happens that mining laws are changed to accommodate the interests of mining companies, while protocols protecting indigenous peoples and the environment continue to be diluted (Mines and Communities, 2008).

In 1959, the Dutch manufacturing giant Philips Electronics set up a manufacturing plant in Pamplona, Las Piñas, in the Philippines, to produce light bulbs and (later) consumer electronics. The factory was closed in 1995 but 12 years later residents living in communities around the Philips plant were shocked to learn that the water in their wells was contaminated. Philips admitted to using a highly toxic chemical known as TCE, (trichloroethylene), a solvent used mainly to remove grease from metal parts at the Las Piñas plant. The use of TCE, a highly toxic chemical linked to cancer and other serious health effects, was banned globally under the Montreal Protocol in the early 1990s. Two years after the initial disclosure of TCE contamination, the residents of the affected areas still do not have a clear picture of the extent and impact of the contamination, reports the Philippines NGO Kaisampalad.

Standards

- United Nations Declaration on the rights of indigenous peoples.
- ILO Indigenous and Tribal Peoples in Independent Countries Convention No 169.

A key element of both the UN Declaration and the ILO Convention is the principle of free, prior and informed consent of indigenous peoples for companies to start their operations. This form of consent requires the participation of indigenous peoples at all stages in the decision making, planning, implementation, and evaluation of any activity that affects their rights and interests. Their consent must be sought and obtained without recourse to coercion. The process of obtaining consent must allow sufficient time for all concerned to learn about the process, obtain information, engage in full discussion, and reach an agreement. All relevant information must be made available to the community. Consent must be clearly demonstrated, in keeping with the decision making structures of the indigenous peoples involved

Existing initiatives

- Mines and Communities exposes the social, economic, and environmental impacts of mining, particularly as they affect indigenous and land-based peoples. The organisations and individuals behind Mines and Communities demand far greater accountability and transparency on the part of the minerals' industry. The key demands are encapsulated in The London Mining Declaration, originally launched in 2001 and revised in 2008.

Recommended steps

- Comply with all applicable laws, nationally and internationally accepted standards on community rights, whichever offer greater protection.
- Apply the principle of free, prior and informed consent to all communities that are likely to be affected by business operations.
- Refrain from operating in places where communities are opposed to corporate presence. In this sense 'community consent' may be a stronger norm than the increasingly heard phrase 'social license to operate'.
- Where applicable, ensure that an agreement is reached with communities on just and fair compensation of losses suffered.
- Where possible, ensure that communities are offered the option of return.
- Contribute to putting in place a system of regulation that ensures redress for those affected and prevents the pursuit of profit at the expense of human rights.
- Inclusion of such standards and principles in company or industry codes of conduct that cover the entire supply chain.

The Bushveld Igneous Complex is an important reservoir of platinum group metals in South Africa. The company Anglo Platinum is operating a mine in Potgietersrust, in the Northern Limb of this region. To allow for an intended output increase to approximately 12,190 kilograms per annum, Anglo Platinum required the resettlement of three local villages with a total population of 17,000 people. In 2001, the village of Ga Pila was removed. The villagers are now living in poor conditions at a nearby farm. According to a South African NGO: "Ga Pila residents were subjected to forced removals like those in the time of apartheid". The people of the two other villages, Ga Puka and Ga Sehaolelo, have continued their protest against the planned removal by Anglo Platinum (SOMO, 2007).



Organising and collective bargaining

Issues

The global electronics sector provides millions of jobs, mainly in developing countries. Whereas electronics production falls largely within the formal economy, informalisation is undermining compliance to labour standards. Equally, employment in the informal economy – such as the mining of metals used in electronic equipment and the disposal of electronic waste - is mainly precarious. Both formal and informal workers are in the main unorganised; the levels of unionisation in the electronics industry are very low.

The very nature of precarious employment constitutes an obstacle to electronics workers exercising their right to freedom of association, for the same reasons that such workers the world over remain un-unionised: temporary workers have no guarantee of remaining in the workplace for an extended period (although many in fact do); agency workers have an indirect employment relationship with the company they work for; legislation or union statutes prevent contract workers from joining the same unions as the permanent workforce; unions find it hard to make contact with such workers who are likely to be on different pay and conditions from the permanent workforce; and of course the biggest barrier of all: workers' fear of loss of current or future employment.

Freedom of association and collective bargaining are known as enabling rights, because they give workers tools to monitor their own workplace and to negotiate with management on the improvement of working conditions. This standard is routinely denied in both law and practice.

It is also one of the most difficult human rights standards to monitor.

Discrimination of workers who openly join a union or attend union activities is frequently observed. Workers are subject to dismissal, discrimination, harassment, intimidation or retaliation because they join a trade union or participate in trade union activities.

As a consequence, workers are unable to defend their rights and interests. Flexible, insecure, informal, precarious and migrant workers have very limited possibilities for collective action or power to negotiate with employers. Notably, women workers are overrepresented in these categories. Dialogue between companies and organised labour is all but absent at national and international levels. Additional factors are the structure and complexity of electronics supply chains. The main barrier to organising and collective bargaining is the traditional hostility towards unions on the part of the major companies in the electronics sector. Precarious employment practices are introduced precisely to prevent workers unionising. The assumption seems to persist that admitting a trade union will lead to business closures.

Standards

- ILO Freedom of Association and Protection of the Right to Organise Convention No 87.
- ILO Right to Organise and Collective Bargaining Convention No 98.
- ILO Workers' Representatives Convention No 135.
- ILO Declaration on Fundamental Principles and Rights at Work.

Existing initiatives

- ILO Better Work Programme, a partnership with the International Finance Corporation. The main aim of Better Work is to improve labour standards in global supply chains.

Recommended steps

- Comply with all applicable laws, nationally and internationally accepted standards and industry standards on organising and collective bargaining, whichever offer worker greater protection.
- Inclusion of such standards and principles in company or industry codes of conduct that cover the entire supply chain.
- Write freedom of association and the right to organise and bargain collectively into the contract between buyer and suppliers.
- Enhance a positive corporate understanding of social dialogue and the role and the activities of trade unions.
- Make use of social dialogue to improve working conditions in the electronics sector.
- Facilitate capacity building of trade unions and employers throughout the supply chain for meaningful social dialogue at plant level, as well as at national and international level.
- Support the ILO's Better Work Programme.
- When sourcing from a country where freedom of association and collective bargaining are restricted by law (eg, China), take specific steps to encourage decent working conditions.
- Adopt and post a "Freedom of Association Policy" for all facilities. This policy should be read aloud to all employees at least once (for example, by a supervisor during a morning meeting) and it should be posted in the local languages within easy view in several popular locations around the factory grounds.
- Do not assist, inhibit, or interfere in any way with the formation of a union.
- Refrain from forming an employee committee or joint labour-management committee in such a manner that it undermines the role of any duly registered union at that factory.
- Refrain from intimidation, harassment, demotion, transfer, promotion, or termination of workers based on their association with a union.
- Refrain from discriminating between or express favouritism to one union or another, especially at factories where there is more than one legally registered union.
- Provide opportunities for unions to disseminate information regarding freedom of association and unions (such as billboard space for posting information or a space near the factory entrance or exit where information can be distributed).
- Assist with dues check-off if a union requests it. If there is more than one union present at a factory where check-off is taking place, and if one or more of those unions alleges that the records management is using to manage the check-off process do not reflect workers' free choice, then there should be a verification process to ensure that workers have freely authorised the union and management to deduct dues from their wages. This process of verification needs to be independent, transparent and credible.
- If a union forms, enter into good faith negotiations for a collective bargaining agreement. If a factory has more than one union the legal obligation of management is only to negotiate with the majority union, but management should make every effort to consider the minority union's opinion as well.
- Moves to trim production methods should not intensify pressure on workers or contribute to undermining freedom of association and collective bargaining agreements.



Forced labour

Issues

Globalisation and the growing links across countries and firms have raised forced labour and trafficking in persons as significant issues within global supply chains. Forced labour and human trafficking are truly global phenomena, affecting all countries in the world today. Forced labour is defined as all work or service which is exacted from any person under the menace of a penalty and which the person has not entered into of his or her own free will. It occurs where work is forced by the state or by private enterprises or individuals who have the will and power to impose on workers severe deprivations, such as physical violence or sexual abuse. Forced labour can include practices such as restricting people's movement; withholding wages or identity documents to force them to stay on the job; or entangling them in fraudulent debt from which they cannot escape. Forced labour is a criminal offence and a violation of fundamental human rights.

Some signs pointing at the possibility of forced labour are:

- Indebted workers. Workers who are or may become indebted can become coerced into working for a particular employer to repay the debt.
 - Prison labour. Use of prison labour is not necessarily forced labour. However, prisoner workers should be hired to companies only on a voluntary basis, and conditions with regard to wages, benefits and occupational safety and health should be comparable to conditions for free workers.
 - Exploitative practices such as forced overtime or the lodging of deposits (financial or personal documents) for employment.
- Migrant workers are particularly vulnerable to forced labour.
 - Workers working without a contract, who are more likely to not know their rights, including their right to leave their employment.

These phenomena are not uncommon to the global electronics supply chain. In the extractives phase, in particular in conflict areas, forced labour is frequently observed. Prisoners, villagers held hostage by rebel groups, impoverished farmers, are among the groups of miners that are involved in the mining of metals used in electronic equipment. In the production phase it frequently happens that the fear of dismissal drives employees to work overtime beyond what is allowed by national law. In other cases, workers may feel obliged to work above the legal maximum because this is the only way they can earn the minimum wage (for example, where remuneration is based on productivity targets). In these cases, although workers may in theory be able to refuse to work, their vulnerability may mean that they have no choice and are therefore obliged to do so in order to earn the minimum wage or keep their jobs, or both. This then becomes a situation of imposing work under the menace of a penalty and can, thus, be considered forced labour (ILO, 2008).

This case study focuses on allegations of forced labour in factories in China and on the actions taken in response by one major US electronics company. The factories in question were owned by two different companies and both were assembling separate products for the US multinational. One factory in particular attracted greater criticism in the media. The descriptions of working conditions ranged from workers who were forced to work very long hours, live in cramped and insufficient accommodation, forced to pay for accommodation and food, and prevented from leaving the facility. In addition, there were allegations of child labour in the manufacture of some products, and use of disciplinary actions which involved workers being made to stand still for long periods. The allegations first appeared in a report which was not available on the Internet but which included some pictures of factory conditions that were later reproduced in the international press. The story was first published by a UK paper and then, shortly afterwards, by a business journal in China.

Business responses to the issue

The US company in question responded with a statement within 3 days of the above-mentioned allegations. It stated that the company was taking steps to investigate the situation and that it took the allegations seriously. The US company took steps to investigate the allegations through extensive factory visits and worker interviews. It published a report on its website within six weeks of the initial media coverage. In the report, the company states that an audit team sent to the factory was made up of staff from its human resources, operations and legal departments, and that the evidence gathered was cross-checked against many sources of information from employees, management and staff records. It also points out that, in auditing for forced labour, security records were checked to look for false identification papers. The report goes on to summarize findings related to the working and living environment, compensation, overtime, and worker treatment. Although the company report states that there was no evidence of forced labour or child labour, it made public the observation that the company's own weekly limit on hours worked, as stated in the company's code of conduct, was being exceeded. The company stated that, as a result of its findings, the supplier was changing its policy to ensure compliance with the weekly overtime limits. In addition, the company noted that improvements to the sleeping facilities were required but that the supplier was in the process of acquiring more land to build further facilities. The supplier in question was quoted as having opened the factory to its customer and provided access for the audits to take place. It is noteworthy that this supplier is a significant company in the industry and has grown rapidly in recent years. The supplier was quoted as being satisfied that the US company's report cleared up the allegations about working conditions in their factory. It is also quoted as saying that the incident resulted in the company reflecting on being more open about its business than it had previously been. It is interesting to note that the Business and Human Rights Resource Centre, which has a policy of requesting responses from companies cited in human rights abuse allegations, records this particular case in its summary as having been resolved prior to the company responding. It is the only case which appears with this indicator.

Initial lessons from the issue

The US company in question was using around 15% of the total workers employed by the factory in China. The same factory was being used by other major high street electronics brands although there is little mention of these companies' reactions to the story. Nevertheless, this percentage share did not limit the access the company had in producing its audit findings. The story also highlighted the Electronics Industry Code of Conduct, a sector-specific tool and initiative which brings together over 40 (as of September 2008) companies working in the electronics industry. This initiative is aimed at improving working conditions in the industry supply chain. At the time the story was published, the

China-based supplier was a member of the EICC but the US company was not. However, in its report detailing the audit and its findings, the latter indicated that it would be joining the EICC. Shortly after the publication of the company report, a related human rights issue was highlighted by the international media, involving the journalists who had initially published the story in the British and Chinese press. A wholly-owned subsidiary of the subcontractor based in China took legal action on grounds of defamation against the journalists in their own personal capacity. The lawsuit demanded a large sum of money and once the court accepted the case, the journalists' assets were frozen. The paper in question stood by its journalists and criticised the action being brought. There followed requests from press freedom NGOs to both the supplier and to the US company asking them to act so that the case could be dropped. The US company said that it was working behind the scenes to help solve the issue. The case was dropped shortly thereafter. This case demonstrates that by acting quickly and being thorough in their response, the company quelled concern about the particular working conditions involved in the manufacture of key products. In addition, when the story took a different turn and moved into the sensitive political field of press freedom, it seems that the company was prepared to remain involved. Nevertheless, the case highlights the difficulties in ensuring compliance with company codes in situations where there is extensive outsourcing. The US company's decision to join the EICC demonstrates again the added value of working in cooperation with other companies facing similar difficulties which may be seen as endemic to the industry (ILO, 2008).

Standards

- ILO Declaration on Fundamental Principles and Rights at Work.
- ILO Forced Labour Convention No 29.
- ILO Abolition of Forced Labour Convention No 105.
- ILO Private Employment Agencies Convention No 181.

Existing initiatives

- The ILO Special Action Programme against Forced Labour has released a series of recommendations to strengthen employers' activities against forced labour.

Recommended steps

- Comply with all applicable laws, nationally and internationally accepted standards on forced labour, whichever offer greater protection.
- Develop company policies to act as guidelines on recruiting (migrant) workers. Clarify that

the policy applies to all entities involved in a company's product and supply chains.

- Have a clear and transparent company policy, setting out the measures taken to prevent forced labour and trafficking. Train auditors, human resource and compliance officers in means to identify forced labour in practice, and seek appropriate remedies.
- Ensure that all workers have written contracts, in language that they can easily understand, specifying their rights with regard to payment of wages, overtime, retention of identity documents, and other issues related to preventing forced labour.
- Ensure wages are paid regularly and methods of payment are prohibited that deprive workers of the genuine possibility of terminating employment. Wage payments shall not be delayed or deferred such that wage arrears accumulate. Wages shall be paid directly to the worker and should be paid in legal tender, or by cheque or money order where permitted by law, collective agreement or with the consent of the worker. Payment in the form of vouchers, coupons or promissory notes is prohibited.

- Establish a company policy on overtime that clearly states it will only be undertaken voluntarily. Train human resource personnel and supervisors on this policy. See to it that work or service outside normal daily working hours shall not be imposed by exploiting a worker's vulnerability under the menace of a penalty.
- Use only recruitment agencies that are licensed or certified by a competent authority.
- Ensure that private employment agencies do not engage in fraudulent practices that place (migrant) workers at risk of forced labour and trafficking for labour exploitation.
- Ensure that fees or costs related to recruitment are not borne by workers but by the contracting company.
- Promote agreements and codes of conduct by industrial sector, identifying the areas where there is risk of forced labour, and take appropriate remedial measures.
- Contribute to programmes and projects to assist, through vocational training and other appropriate measures, the victims of forced labour and trafficking.
- Build bridges between governments, workers, law enforcement agencies and labour inspectorates, promoting cooperation in action against forced labour and trafficking.
- Address the root causes that can lead to persistent use of overtime; for example, consult with buyers on questions related to production requirements and deadlines.



Child labour

Issues

In developing countries one often sees children working. Some of these children might do their work proudly, others are little more than slaves. But what all of them have in common is that they are missing out on education and time to play. Child labour is not just a consequence of the low wages of parents. In fact, children working depresses the wages and employment opportunities of their parents. A child who spends even part of the day working, instead of going to school, remains under-educated or uneducated and is condemned to badly paid jobs. Companies increasingly seek well educated employees and will not invest in countries where the population is lacking even the most basic educational qualifications. Children's rights are human rights. Children have the right to be free from child labour and the right to education. But rights also imply that others have duties. Companies have obligations to contribute to the realisation of internationally-recognised rights (Stop Child Labour, 2008).

Child labour is found throughout the global electronics supply chain, especially in the mining and disposal phases. In manufacturing, child labour may not seem to be a widespread problem, although production workers as young as 15 years old have been spotted. Children partake in the mining of metal used in electronic equipment, for example in cobalt, tin and coltan mines in the Democratic Republic of Congo. Children work in the electronic waste disposal, for example in Ghana and China. The working conditions in these sectors are most appalling, even more so for children.

Standards

- UN Convention on the Rights of the Child.
- ILO Minimum Age Convention No 138.
- ILO Worst Forms of Child Labour Convention No 182.

Existing initiatives

- Stop child labour – School is the best place to work. The Stop Child Labour campaign is a joint lobby, education and awareness raising campaign that seeks to eliminate child labour through the provision of full time formal education. The Stop Child Labour campaign has developed an action plan for companies to combat child labour.
- The International Finance Corporation (IFC) is a unit of the World Bank that provides project advice and funding to companies - typically for major projects. The IFC has developed an extensive policy on CSR and also provides advice on the implementation of fundamental labour standards including child labour. In its 20-page Good Practice Note 'Addressing Child Labor in the Workplace and Supply Chain', the IFC spells out several recommendations for combating the 'harmful' types of child labour.

Recommended steps

- Comply with all applicable laws, nationally and internationally accepted standards on child labour, whichever offer greater protection.
- Make explicit in policies and codes of conduct that all forms of child labour prohibited by the two ILO Conventions (138 and 182) will

be proactively prevented and, if nevertheless found, be combated and eliminated.

- Make explicit in contracts with suppliers that they must eradicate child labour and realise labour rights across all sub-contracted operations.
- Ensure that children hitherto employed at the company's own plants or service operations, and/or in out-sourced or sub-contracted operations across the entire supply chain, are transferred to free, full-time regular education.
- Make sure that young people aged 15 to 18, who are allowed to work according to international agreements, are not engaged in the worst forms of child labour as specified in ILO Convention 182. At least comply with agreements - required by the Convention - between governments, labour unions and industry umbrella associations on hazardous, dangerous work.
- Involve staff and suppliers in combating child labour: inform them and involve them in the company's action plan against child labour.
- Collaborate and team up with other segments of society, for example local and/or national governments, to achieve full-time schooling for former child labourers up to the age at which they are allowed to work under Convention 138 or national law.
- Make a special effort where needed to address the specific challenges faced by children from groups suffering discrimination and other marginalised groups so that they too can make the transition from work to school.
- Verify the authenticity of birth certificates and lobby jointly with other parties for the establishment of reliable birth registration systems in areas where these are absent.
- Combating child labour must always go hand in hand with compliance with the ILO's other core labour standards and other broadly agreed workers' rights.
- Work with trade unions both to tackle child labour and to make sure that labour rights are implemented.
- Pay a procurement price to suppliers enabling them to avoid using child labour and to

employ adults (or youngsters older than 14 or 15) instead, offering them decent pay and conditions. If needed, also adjust other elements of the company's sourcing policy with a view to implementing the company's 'no child labour' policy and ensuring that fundamental workers' rights are complied with.

- Whenever possible, try to transfer the job hitherto done by children to their parents or other close relatives, or offer the parents alternative suitable employment.
- Create, independently or working with others, facilities such as crèches and daycare centres for employees, to help them keep their children out of the child labour market.
- Invest in a credible management system to combat child labour. This includes: pro-active investigations into child labour in the supply chain, a solid self-monitoring system and complaints mechanism, reporting and transparency on policy and practice, third-party monitoring and verification, and involving those directly concerned and/or affected.



Discrimination

Issues

ILO Convention 111 defines discrimination in respect to work and employment as ‘any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction or social origin, which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation’. The UN Global Compact further defines discrimination in employment and occupation as “treating people differently or less favourably because of characteristics that are not related to their merit or the inherent requirements of the job. These characteristics commonly include: in the national law, race, colour, sex, religion, political opinion, national extraction, social origin, age, disability, HIV/AIDS status, trade union membership, and sexual orientation.’ It is agreed that all workers should enjoy equal rights. Yet workers throughout

the world continue to be subject to discrimination. In the global electronics sector discrimination is an issue too.

Women, migrants and young workers are often subject of discriminatory policies and practices. Gender and migrant labour issues are described in separate chapters. Other forms of discrimination that occur in electronics manufacturing include discrimination on the basis of age and marital status. Young workers are preferred above married people. The bulk of the labour force is made up of young, single women. A serious form of discrimination concerns the unequal treatment of trade union members. When applying for a job, workers are interrogated about their trade union sympathies and actively discouraged to join a trade union. Membership is too often a reason for harassment or even dismissal. In the mining and disposal phases, the effects of societal discrimina-

A very specific form of discrimination concerns caste-based discrimination. Caste-based discrimination is a form of discrimination, prohibited by international human rights law, that globally subjects an estimated 260 million people to discrimination on the grounds of work and descent. This form of discrimination is an entrenched human rights violation, which is mainly found in South Asian countries but also occurs in communities in Japan, Yemen, some African countries and Diaspora communities. Victims suffer a hidden apartheid of segregation, modern-day slavery and other forms of discrimination as a result of having been born into a marginalized group or caste. Caste discrimination constitutes one of the most serious and widespread global human rights challenges today, affecting large proportions of societies in many regions of the world, and continues to function as a deeply rooted system of grave human rights violations. Caste-based discrimination includes discrimination in employment where people affected often serve in low level positions and suffer from both open and ‘hidden’ discrimination, drastically affecting their ability to amass and provide for their families. The number of foreign companies operating in and sourcing from India and other South Asian countries is increasing, and the majority of these companies will have limited knowledge of the scope and dynamics of caste-based discrimination. An intrinsic element of South-Asian and other societies, caste-based discrimination and exclusion is often invisible to the outsider. As a consequence, companies may unknowingly contribute to and benefit from caste-based discrimination and exploitation (IDSN 2009). That goes for electronics companies too.

tion and exclusion are also visible. It is generally the people with less chances on the labour market that end up in the lower strata of the informal sector, doing unskilled, low-paid and hazardous work.

Discrimination of particular groups of workers may have its effect in a whole range of labour conditions. A number of aspects are to be taken into account when analysing a situation of discrimination, including hiring procedures, job allocation, (in-)equal opportunities, dismissal, remuneration and benefits, training and career development, harassment and abusive treatment, segregation and exclusion in the workplace, as well as the (in-)accessibility of grievance procedures.

Standards

- ILO Discrimination in respect of employment and occupation Convention No 111.
- ILO Equal remuneration for men and women workers for work of equal value Convention No 100.

Existing initiatives

- The Dalit Discrimination Check is a tool developed specifically to help companies prevent discrimination and exploitation of Dalits in their Indian operations and suppliers. The tool is designed as a comprehensive checklist consisting of self-guided questions and indicators that highlight possible violations. The tool provides simple descriptions of what the components of Dalit discrimination looks like in the business context, and allows managers to check their company's policies, procedures and performance (Danish Institute for Human Rights 2008).
- The Ambedkar Principles form a set of employment and additional principles on economic and social exclusion formulated to assist all foreign investors in South Asia to address caste-discrimination (IDSN, 2006).

Recommended steps

- Comply with all applicable laws, nationally and internationally accepted standards on discrimination, whichever offer greater protection.
- Take full responsibility for the workforce, both direct and sub-contracted, including the supply chain.
- Get informed about the risks and occurrence of discriminatory policies and practices throughout supply chains.
- Fight discriminatory policies and practices that put women, migrant workers, young people and other vulnerable components of the labour force such as victims of caste-based discrimination in a disadvantaged position.
- Promote equal opportunities in the workplace throughout the supply chain.
- Get acquainted and work with specific anti-discrimination principles and tools, such as the aforementioned Dalit Discrimination Check and the Ambedkar Principles.
- Consider forms of affirmative action to answer to the specific position of disadvantaged workers.
- Contribute to improve unionisation rates among women, migrant workers, young workers and other disadvantaged groups.



Security of employment – precarious work

Issues

The majority of activities in the global electronics sector are part of the formal economy. That is to say that these activities are taxed, government monitored and socially and legally regulated by societal institutions. However, informal workers make an important contribution to the electronics supply chain, especially in the mining and disposal phases. These workers do not enjoy any form of social or legal protection to shield them from the harsh implications of illness, disability or unemployment. Long working hours, meagre pay, exploitation, discrimination, etc. are no exception for mine workers and informal waste workers.

Moreover, employment in the manufacturing phase is increasingly characterised by informalisation. Other terms for the same and related processes are casualisation or contractualisation of employment. The common feature: it makes employment increasingly precarious. The employment practices associated with precarious work include:

- direct hire on temporary labour contracts for fixed or limited term or fixed task;
- hiring in labour via employment agencies or labour brokers;
- contracting out functions to other companies (off-site or on-site);
- personal labour contracts as bogus 'self-employed' workers;
- the replacing of regular contracts by renewable, short term contracts. A company may for example employ a minimum of skilled workers and hire other workers, often less skilled and cheaper, on a contractual basis, dealing with fluctuations by adding workers on a short term basis;
- abusive probationary periods;

- disguised employment training contracts;
- on call/daily hire;
- illegal or involuntary part-time work;
- home working (IMF, 2007).

It is estimated that currently in many instances 50% of the labour force in a given electronics factory consists of contract workers, and at times even up to 90%. Within the broader metal sector the electrical & electronic industries stand out as the industries which have been more affected than others by the informalisation of employment (IMF, 2007).

While labour flexibilisation may have a positive ring to it, especially for employers, the reality is that for workers it oftentimes means increasing insecurity of employment, income and livelihood. Wages of contract workers are generally significantly lower. Contract workers can lay no claim to employment rights which means: no paid sick leave; no holidays; no annual leave; none or smaller allowances for transport or energy costs; none or lesser annual bonuses or incentives for diligence since these are usually granted only to regular workers, etc. Workers employed through an employment agency are treated differently for the same work. Apart from being paid lower wages, these workers also have to pay for safety clothing and medical tests, while for regular workers the employer would bear such costs. A company can terminate the services of a contractual or temporary worker at any time. Often access to social services is limited as well.

The current global economic downturn, exacerbates the precarious situation of workers. Again, women are being disproportionately affected as the first jobs to be cut have been those primarily held by women.

Standards

- ILO Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy, articles 24-28.

Existing initiatives

- International Metalworkers Federation (IMF)
“Precarious Work Affects Us All” is a global union campaign to stop the rise in precarious employment and regain power and justice for working people.
 - European Metalworkers federation (EMF)
“For more secure employment - against precarious work”.
- The objectives of both campaigns are:

- Precarious work does exist, wages and conditions must be equal to those of regular workers and full coverage of social security should be guaranteed;

- workers should be directly hired and indirect employment discouraged;
- basic job security has to be guaranteed, as well as full protection in the field of health and safety.

Recommended targets

- Comply with all applicable laws, nationally and internationally accepted standards on employment security, whichever offer greater protection.
- Ensure suppliers have legal contracts and recognised employment relationships with their employees that are in accordance with their national law and good practice.
- Treat casual or temporary workers equally to regular workers.
- Provide regular employment to workers in the supply chain.
- Commit to converting temporary contracts into regular contracts.
- Include employment agencies in codes of conduct and make employment agencies comply with the code of conduct.
- Restrict the use of temporary/contract employment to cases of genuine need. Potential or actual fluctuations in production do not automatically sanction the use of temporary/contract work. Setting a proportional maximum of contract workers may be necessary.
- Protect historically established social benefits of workers in their supply chains such as annual leave, severance payment, maternity benefits and profit sharing.

Women make up the bulk of temporary and contract workers in export oriented global supply chains. The increasing informalisation of labour leaves a growing number of women workers outside welfare and social protection regimes. There are indications that women remain in precarious employment longer than men. The erosion of working conditions for precarious workers is having a severe impact on families. Without permanent employment and lower wages, planning to have children becomes more difficult and taking time off in case of illness or for vacations is less easy. As women are often the main breadwinners the importance of women's income to families should not be underestimated. Unpredictable work hours, conflict over the division of household tasks, relationships under pressure, domestic violence, increased stress, negative health implications and prematurely forced independence for children are reported consequences of women's precarious employment (Farley, 2009).



Occupational health and safety

Issues

Occupational health and safety issues are present throughout the supply chain. Many health and safety hazards occur during the extraction of primary materials used in electronics equipment. In most cases, mining is strenuous, backbreaking and dangerous work. Basic safety measures are often lacking and a wide range of health hazards are linked to toxic materials, dust, confined spaces and working in hot, cold or wet conditions. Equipment may be minimal or broken. Ergonomic problems may be considerable. Medical or health facilities are very often inadequate or simply absent. Hazardous situations are even more likely to occur in informal mining, or illegal mining in conflict areas, where any form of regulation will be absent.

Production workers in the electronics industry usually work in seemingly clean and relatively noise-free environments. Microchips, for example, are manufactured in temperature- and moisture-controlled aseptic 'clean rooms' in which the air is filtered and workers wear special garments. Nevertheless this work still poses many health threats. Several processes in electronics manufacturing, eg, soldering, doping, photolithography, electroplating, vapour deposition, etching and crystal polishing, involve working with hazardous substances. Reportedly, between 500 and 1,000 different chemical are used in the semiconductor industry, including carcinogens such as solvents, arsenic-based substances, and heavy metals like cadmium and lead (HESA newsletter, 2008). Soldering liquids contain resins, metallic salts or fluorine borates. Cleaning agents can consist of metallic dust or halogen or non-halogen organic solvents. Dopants such as diborane, arsine and phosphine are considered the most potentially

dangerous group of chemicals in the electronics industry. Acids include hydrofluoric acid, which represents one of the most serious acute environmental and health risks (CBI, 2008). Workers can be exposed to electromagnetic fields as well as to ionising and non-ionising radiation (HESA newsletter, 2008).

There are many health problems that can result from working in this industry: breathing in chemical fumes and vapours or metallic dust may cause respiratory problems. Contact with cleaning agents may cause burns, eye irritation and skin diseases such as eczema. Accidental release of dopants may damage the nervous system and red blood cells, cause cancer or even death. Chronic effects of acid contamination may be lung cancer, bone damage and erosion of teeth. Overexposure to solvent vapours may cause headaches, fatigue, and drowsiness, lack of co-ordination or unconsciousness. Long-term exposure to solvents may cause liver and kidney failure (CBI, 2008).

Women workers in the electronics industry are faced with specific health concerns. In the 1980s and 1990s, rumours and reports abounded about the damage to women's reproductive health caused by chemicals in the semiconductor industry. Prolonged and irregular menstruation cycles, reduced fertility and increased risk of spontaneous abortions were among the reported effects. Glycol ethers, chemicals then widely used as solvents in the semiconductor industry, were singled out. While most semiconductor manufactures have since then gradually reduced their reliance on glycol ethers, the industry is still using other reprotoxins (HESA newsletter, 2008).

In a groundbreaking article published in 2007 the serious health concerns of semiconduc-

tor workers have been documented, detailing cancer and reproductive health hazards (Ladou and Bailar, 2007). Several epidemiological studies done in the US in the 1980s all found high rates of miscarriages among semiconductor workers. IBM maintained a Corporate Mortality File which documented that, over a 30-year period, IBM workers with exposure to chemicals died younger and more frequently from toxic-related cancers than the national average (Clapp, 2006). The Scottish Health and Safety Agency conducted a health study of workers at National Semiconductor in Scotland and found disproportionately high rates of cancer among them. In 2005, after years of resistance, the American Semiconductor Industry Association has commissioned Vanderbilt University to conduct a chip industry worker health study to assess the cancer risk to semiconductor workers. The results are expected in 2009 (Business Wire, 2005).

Ergonomic problems arise as a result of the strict working regimes that are oftentimes imposed on workers. Where 'standing operations' policies apply, for example, workers are not allowed to sit down. In some cases, companies even dictate the pace at which workers have to walk, under penalty of a disciplinary measure of some sort.

Research demonstrates that part-time workers with no job security are more likely to develop physical and mental health problems than regular workers. Migrant workers often have limited or no access to health insurance or health services. The handling of electronic waste is associated

with considerable health hazards, especially in the case of the informal and unregulated waste disposal that often takes place in developing countries. Many of the electronic products contain countless hazardous chemicals and materials and therefore the recycling and disposal of e-waste poses a threat to the environment and to human health. In known e-waste dumping grounds in Nigeria, Ghana, China and India electronic waste is taken apart at open-burning sites. Toxic metals found in soil and sediment samples in Ghana include lead in quantities as much as 100 times above levels found in uncontaminated samples. In the Ghanaian samples other chemicals such as phthalates, which interfere with reproduction, and high levels of chlorinated dioxins, known to cause cancer, were found as well. The exposure of workers and bystanders to hazardous chemicals may be substantial. In areas in other countries where e-waste recycling takes place, increased exposure to toxic chemicals has been reported for workers and/or local residents, including for chlorinated dioxins and furans (PCDD/Fs), certain PBDEs, and the toxic metal lead (Greenpeace, 2008).

Standards

- ILO Occupational Safety and Health Convention No 155.
- European Commission Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS). The major provisions include that Member States shall ensure that,

In 2004, an outbreak of cadmium poisoning cases occurred in four subsidiary factories of Gold Peak Batteries in mainland China as well as in Hong Kong. One case concerned the cadmium poisoning of workers of the Gold Peak Batteries plant in Hong Kong. Another case concerned the cadmium poisoning of workers at JetPower, a Gold Peak subsidiary based in Shenzhen, China. For years now, workers have been campaigning for fair compensation. Cadmium is a toxic heavy metal and an important constituent of nickel-cadmium batteries as produced by GP Batteries. Cadmium is a known human carcinogen that causes damage to lungs, kidneys and bone tissue in case of long-term exposure. Gold Peak Batteries has long-established supply agreements with some of the world's biggest consumer brands. Its (rechargeable) batteries and components are found in cordless and wireless phones, toys, power tools, and are sold across the world (Globalization Monitor, 2009).

from 1 July 2006, new electrical and electronic equipment put on the market does not contain any of the six banned substances: lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE), in quantities exceeding maximum concentration values.

- European Commission Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).
- European Commission Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators
- Directive 2006/121/EC of the European Parliament and of the Council concerning Registration, Evaluation, Authorization and Restriction of Chemical substances (REACH), entered into force on June 1, 2007. The aim of REACH is to further improve the protection of human health and the environment through the better and earlier identification of certain chemical substances. It is legislation from the European Union, and applies to all suppliers (inside and outside Europe) that want to sell, import or manufacture chemicals and/or products containing certain chemicals in the European Union. Part of REACH is a list of Substances of Very High Concern (SVHC). Critical note: the effect of REACH is not yet known and the process of prioritising and reviewing substances may take decades.

- Occupational Health and Safety Assessment Series (OHSAS 18001) - an international occupational health and safety management system specification.

Existing initiatives

- Silicon Valley Toxic Coalition and the International Campaign on Responsible Technology, 1970s pioneers in addressing occupational health impacts and community health issues in Silicon Valley, California, US.
- PHASE Two, People for Health and Safety in Electronics, a campaign launched in 1997 by Jim McCourt.
- The Asian Network for the Rights of Occupational Accident Victims (ANROAV) has a focus on electronics workers' health and safety.
- The New England Lead-Free Electronics Consortium - a collaboration of industry, government, and academia, launched by the Toxics Use Reduction Institute (TURI) and the University of Massachusetts Lowell to help the electronics industry find alternatives to lead.
- The Agreement on Minimum Requirements for Plant Level Joint H&S Committees, concluded between ArcelorMittal and the International Metalworkers Federation, June 2008.
- The European Work Hazards Network has included workshops on electronics health and safety at its conferences.

The recycling of printed circuit boards in Guiyu, China, a village intensely involved in e-waste processing, may present a significant environmental and human health risk. To evaluate the extent of heavy metals (Cd, Co, Cr, Cu, Ni, Pb, Zn) contamination from printed circuit board recycling, surface dust samples were collected from recycling workshops, adjacent roads, a schoolyard and an outdoor food market. ICP-OES analyses revealed elevated mean concentrations in workshop dust (Pb 110000, Cu 8360, Zn 4420, and Ni 1500 mg/kg) and in dust of adjacent roads (Pb 22600, Cu 6170, Zn 2370, and Ni 304 mg/kg). Lead and Cu in road dust were 330 and 106, and 371 and 155 times higher, respectively, than non-e-waste sites located 8 and 30 km away. Levels at the schoolyard and food market showed that public places were adversely impacted. Risk assessment predicts that Pb and Cu originating from circuit board recycling pose potentially serious health risks to workers and local residents of Guiyu, especially children, and warrants an urgent investigation into heavy metal related health impacts. The potential environmental and human health consequences caused by uncontrolled e-waste recycling in Guiyu serve as a case study for other countries involved in similar crude recycling activities (Leung, 2008).

Recommended steps

- Comply with all applicable laws, internationally and nationally accepted standards and industry standards on occupational health and safety, whichever offer workers greater protection.
- Set minimum standards in every site as well as in the facilities of suppliers.
- Recognise that trade unions and worker safety representatives have a vital role to play in improving health and safety.
- Allocate trade unions and workers safety representatives inspection powers and the right to be consulted on occupational health and safety matters.
- Commit to form joint management/union health and safety committees with at least 50% participation of workers.
- Allow such committees the authority to control investments in occupational health and safety measures or to stop production in specified situations, as defined by national legislation
- Commit to provide workers with intelligible information, and training and education programmes, specifically targeting new employees and women workers.
- Allow workers to raise health and safety matters anonymously, without fear of reprisal
- Ensure maintenance controls and cooperate with labour and safety inspections.
- Minimise fumes, vapours, dust production, noise, etc.
- Ensure high quality protective clothing and gear including gloves, earplugs etc. are made available free of cost for all workers, including contract workers.
- Ensure warning notes or information on safe handling methods are posted and visible for all workers.
- Ensure manufacturing facilities are equipped with sufficient lightning, systems for ventilation and extraction.
- Establish systems to deal with uncontrolled emissions of toxic substances, ie, emergency procedures, warning systems, evacuation plans, including information for the community where production facilities are located.
- Provide first-aid facilities.
- Ensure medical care is provided to victims of occupational accidents.
- Ensure fair compensation of victims of occupational accidents.
- Commit to the phasing-out of hazardous chemicals. Commit to toxics use reduction strategies.
- Commit to the design of products with greater life spans, that are safer and easier to repair, upgrade and recycle.
- Practice transparency about occupational health issues.
- Collaborate with large-scale surveys - including substantial samples of exposed workers - regarding the exposure to toxic products and other occupational health issues in electronics manufacturing.



Working hours

Issues

Long working hours and forced overtime work are widespread phenomena in the global electronics sector. This damages people's health and undermines family life (ETI). In the computer manufacturing industry, for example, excessive compulsory overtime is found, coupled with non-payment of this overtime. In the Philippines, Thailand and China working hours can run to 12-hour working days, and weeks without a day off; amounting to working weeks of 7x12 hours= 84 hours. This is way over the maximum of what is internationally accepted, ie, 48+12=60 hours per week and at least one day off every 7 days (SOMO, 2009).

There is a pertinent relation between overtime and low wages. The minimum wages paid for normal working hours become in fact a ceiling, keeping

workers in a poverty trap. Under these conditions, workers will want to work every extra hour they can.

Refusal of overtime is often not an option anyway. Workers refusing overtime run the risk of being punished or even fired.

As argued in the chapter on gender, overtime is an important gender issue. Women workers in particular have difficulties in making arrangements for child and family care, especially at short notice, and have to juggle work and domestic responsibilities.

Electronics companies do acknowledge that long working hours, forced overtime and non-payment of overtime are unacceptable, but so far are failing to effectively address problems.

The EICC has identified a number of root causes that impact work hours through input of its members, benchmarking research, and detailed analysis completed by the EICC Working Hour Task Force. The following areas were identified for focus given the fact that EICC members have greater sphere of influence or ability to control them.

For brands:

- ad-hoc orders which are difficult to plan for and may require short term ramp ups;
- ongoing fluctuation in customer demand, as well as non-linear orders, which create supplier difficulties in responding to volume changes;
- lack of customer awareness of how their decisions impact the downstream supply chain;
- potential lack of alignment between business decisions and CSR;
- strong pressure from brands to suppliers for cost reduction across the supply chain;
- cost reduction strategies may not be aligned to CSR.

For suppliers

- inconsistent messaging and inability to push back on customers for fear of damaging relationship;
- lack of effective tools to manage and control working hours across the supply chain;
- Lack of clear business case for implementing change (EICC Working Hours Task Force, 2009).

The problem is that codes of conduct do not provide for a clear cap on working hours and overtime, or measures against forced overtime. As codes of conduct lay down the standards that buying companies expect from their suppliers, this is a clear message about what is expected from manufacturers.

Standards

- ILO Observance of maximum number of working hours Convention No 1.

Recommended steps

- Comply with all applicable laws, international accepted standards and industry standards on working hours, whichever offer workers greater protection.
- Ensure that a regular workweek shall not exceed 48 hours.
- Ensure that workers are provided with at least one day off after six consecutive days of work, as well as public and annual holidays. Ensure that overtime work shall under no circumstances exceed 12 hours per employee per week.
- Ensure all overtime work is voluntary and shall not be demanded from workers on a regular basis.
- Ensure workers throughout their supply chain are provided with written and understandable information about their employment conditions, including working hours, before entering employment.
- Ensure that the wages for a normal working week amount to a living wage.
- Reimburse all overtime work at least at such a premium rate as required by law. In those countries where a premium rate for overtime is not legally required, companies are to ensure that workers are compensated for overtime at a premium rate of at least 150% of their regularly hourly compensation rate.
- Include the above clauses into their codes of conduct as well as in company level collective bargaining and industry framework agreements.



Wage

Issues

In many countries, minimum wages set by the government fall far short of what many estimate to be a living wage. Minimum wages are generally low, often too low to sustain a decent livelihood. Signs of poverty wages include taking on extra work, eg, homework or another factory job (ETI, 2008), or even children being forced to work. The relation between wages and overtime is strong. This is certainly the case for many workers in electronics supply chains. A living wage means that wages and benefits paid for a standard working week must always be sufficient to meet the basic needs of the workers and their families, such as housing, clothing, food, medical expenses, education, and additionally provide some discretionary income (savings). A living wage must reflect local conditions and may therefore vary from country to country or even region to region (Clean Clothes Campaign, 2008). In other words, a 'needs based minimum wage' (Asia Floor Wage Coalition, 2005).

In addition to being generally too low, legal minimum wages are often taken as standard or even a maximum, instead of being taken as a floor. So, even when buying companies are encouraging their suppliers to pay workers their statutory entitlements (the national minimum wage, plus any additional benefits such as sick pay, overtime pay and pension contributions), workers still have huge problems to eke out a decent living for themselves and their families. There is still no systematic payment of a living wage to the vast majority of

workers in global supply chains, even in the first tier of supply chains. In many countries the situation is worsening as the cost of staple foods and fuel escalates (ETI, 2008). The current economic downturn is not making things any better.

An additional worrying aspect is that women workers generally earn less than their male colleagues and equal pay for equal work is not yet a reality (ILO, 2008).

One reason for low wages in export-oriented manufacturing sectors is the very low level of unionisation and consequent absence of any form of collective bargaining, while workers and employers bargaining freely is the most sustainable and legitimate way of calculating and maintaining a living wage (ETI, 2008). In this absence, the statutory minimum wage therefore becomes the sole norm for wage setting (Asia Floor Wage Campaign, 2005). As with other labour rights, workers are often afraid to fight for better wages, for fear they might be fired or the factory might pack up and move to a country or region where wage levels are lower and workers are even less demanding.

Often, workers are uncertain about their actual wages, as written contracts and regular pay slips may not be provided, or may be incomprehensibly framed, especially for illiterate workers. In computer manufacturing in China, excessive and unjust wage reductions are applied when workers make mistakes or are too late for work (SOMO, 2009).

Violations of wage and benefit also emerged as a key area of non-conformances and included instances of paying workers less than the required wages, overtime premiums, and imposing disciplinary wage deductions. This emerged from the results of 36 of the second-round pilot shared audits completed by the EICC in 2007 and 2008 (EICC, 2008).

Buying company pricing and retailing policies are very important to any discussion on living wages. Brand name companies speak with suppliers about comparative wage rates across their supply chain as an element of competition. Yet there is a sharp discrepancy between the pricing policies of brands and what they expect local factories to pay their workers (JO-IN, 2005). This pressure on prices is huge in the garment sector and the same goes for the electronics sector. The argument that is used by the industry to counter demands for higher wages is that the margins available to industry do not allow increase in wages. This argument does not hold true when manufacturing activity and labour costs are located within the totality of the supply chain. Arguably, if customers would pay a fair price, the ability of the supply chain to absorb wage increases at the manufacturing end would increase very substantially (Asia Floor wage Coalition, 2005). Retailer policies are therefore directly relevant for discussions on wages.

Standards

- UN Declaration of Human Rights, article 23, paragraph 3.
- ILO Tripartite Declaration of Principles, article 34.
- ILO Minimum Wage Fixing Convention No 131.

Existing initiatives

- ETI living wage project in Bangladesh.
- The JO-IN ‘wage ladder’ approach. The ‘wage ladder’ tool offers a pragmatic benchmarking system for charting factory progress in improving wages (JO-IN, 2008).
- The Asian Floor Wage Coalition. The proposal for an Asian floor wage was developed by union leaders, international NGOs and activists in India, later in Asian countries and internationally.

Recommended steps

- Comply, as a floor, with all applicable laws, regulations and industry minimum standards regarding wages.
- Accept as a principle that workers shall have the right to a living wage.
- Include these standards and principles into codes of conduct, buying practices, as well as into collective bargaining and framework agreements.
- Find out what wage benchmarks exist in the sourcing countries as well what workers in the supply chain are being paid, while taking into account non-monetary benefits (food, transport, housing, medical care), as well as social security and tax payments.
- Ensure that throughout the supply chain wages and benefits paid for a standard working week shall, as a floor, be sufficient to meet basic needs of workers and their families and provide some discretionary income.
- Jointly agree upon the definition and a way of calculating and maintaining a living wage with concerned stakeholders including workers’ representative organisations.
- Make sure the living wage principle applies to all workers of the workforce in the supply chain.
- Take a step-by-step approach to raising wages, like the JO-IN ‘wage ladder’; allowing wage levels to be plotted over time against various objective criteria.
- Be clear about how the wage increases will be paid for (increasing prices for consumers, absorbing costs by increasing internal efficiency, increasing overheads or improving productivity).
- Ensure the level of wages and benefits are reviewed on a regular basis.
- Refrain from making deduction from wages for disciplinary purposes.
- Ensure workers throughout their supply chain are provided with written and understandable information about their employment conditions, including wages and benefits, before entering employment.

- Ensure that workers are provided with the particulars of their wages for the whole pay period each time they are paid; that remuneration is rendered in a manner convenient to workers, either in cash or check form; and that wages and other benefits are paid on a regular and timely basis.
- Engage in a coordinated effort with governments to support the drive of suppliers for productivity aiming for stable, long-term buyer-supplier contracts.
- Advocate and/or support advocacy towards national governments for increases in the minimum wage consistent with ILO Convention 131.



Home work

Issues

Home working is a form of employment undertaken by people either in their homes or in their yards, garages or fields nearby for a cash income. Home working is found in many different sectors of industry, all over the world. However, it is generally hidden and home workers are rarely acknowledged as part of the workforce or counted in official statistics. Trade unions are often not able to organise and protect home workers. Women constitute over 90% of all home-based workers worldwide. Pay and conditions are often well below minimum or average levels (HomeWork Worldwide, 2009).

Home workers make up a flexible workforce; often they are piece-rate workers, who usually have no guarantees of a regular flow of work, low rates of pay, no social security and little health and safety protection. When they are sick or too old to work they have no sick pay or pension. Any hazards from the work affect all members of the home worker's family including young children and elderly people. Home working increases the risk of child labour, as children may be involved when work is brought into the home. Home-based work is almost always informal, in the sense that it takes place outside formal systems of labour or social regulation.

Home work is usually found in labour-intensive parts of the production process, with relatively simple machinery being used. The work done by home workers is often similar to that done by factory workers, except that the workplace is the home. Sometimes home workers get work directly from a factory and know their employer. More commonly, they receive work from a subcontractor or intermediary and may not even know details of their main employer.

Home work appears to be on the rise around the world, because of shrinking formal employment opportunities and competitive pressures in the global economy leading to more outsourcing and subcontracting.

In the case of electronics, various forms of home working occur. The mining phase, the extraction of metals used in electronic products, is to a large extent part of the informal economy. Labour laws do not apply, labour inspection is a fiction. Parts of the extractives process can be described as home work, for example when miners have set up their homes at mining sites as is often the case in African countries. In the manufacturing phase, a number of products and processes are done by women at home, including the assembly and soldering of printed circuit boards; assembly of switches and cables or other assembly work with small components. Often the work is manual, but sometimes small tools are used and in the case of soldering, a soldering iron. This type of home working is not limited to developing countries, but has been found in the UK as well, for example. The recycling of e-waste, including the dismantling of computer parts, is also typically done by home workers, eg, in China and Indonesia.

Standards

- ILO Home work Convention No 177.
- Accompanying Recommendation No 186.

Existing initiatives

Home Workers Worldwide (HWW) is a UK-based organisation set up to support the movement of home-based workers around the world. Since the 1970s, there has been a growing movement to

organise for visibility and recognition, to improve working and living conditions. HWW exists to support this movement and to help it grow.

Recommended steps

- Recognise that home workers, as well as other categories of informal workers such as artisanal miners, are part of the supply chain workforce.
- Map cases of home working in corporate supply chains and identify the home workers' main employers.
- Ensure that home workers working in supply chains are entitled to the same minimum rights as other workers.
- Include ILO Convention 177 in company codes of conduct.
- Ensure home workers are brought within the scope of workers organisation and collective bargaining.
- Facilitate the inclusion of ILO Convention 177 into framework agreements.
- Publicly promote full ratification of ILO Convention 177, adaptation of national policies on home working, and the setting of minimum wages for home workers.



Migrant labour

Issues

Poverty is the major reason behind the movement of work-seekers from one country or region to another. Besides migration from poor to rich countries, poverty also fuels movements from one developing country to others, or within countries. Over the past decades there has been an increase in labour migration. This increase is related to the rise of economic inequality and increasing economic insecurity, as well as the consequences of political and armed conflict. The increasing informalisation of and competition within the global economy has led to more flexible labour markets and the demand for cheap labour, triggering migration.

Currently, labour migrants represent roughly 200 million people, or about three percent of the world population, an increasingly vital part of the global workforce. 90 million people migrate for work globally every year and an increasing percentage of those workers are moving between emerging economies (BSR, 2008). Today, around half of the world's migrants are women (OSCE, 2009). The feminisation of migration is a global trend; more women are migrating and the demand for workers in female-dominated sectors in countries of destination is ever-increasing. Male migrants often leave behind wives and families who have to fend for themselves, depending on unstable, insecurely transmitted funds.

Migrant workers form a vulnerable segment of the workforce in global value chains, but have nevertheless received little specific attention. Migrant labour also can be found in all phases of the electronics sector, including the mining of metals, the manufacturing of equipment, and the disposal of electronic waste.

Migrant workers provide a hardworking labour force in labour-intensive industries, but they are also isolated and often heavily indebted. Reports of abuse, forced labour and human trafficking are increasingly common. Companies seem to prefer migrant workers to local workers, as they are often less articulate in claiming their rights. Lack of knowledge of the local language and local employment conditions prevent migrant workers from enforcing their rights and from seeking assistance. Migrants are likely to fall prey to unscrupulous recruiters, transportation companies and employers. Sometimes, migrant labourers are issued the wrong visa – business visa instead of work visa, for example, causing them trouble in looking for work. Sometimes, workers are required to lodge identity papers (such as passports, travel or residency permits) with their employer which puts them in an excessively dependent relation to their employer. Due to these handicaps they are disadvantaged on the labour market. Where national or local workers may decline to work for low wages or in lesser working conditions, migrants have less choice (La Strada, 2008). A widespread tendency

The Mexican labour rights organisation Cerejal supports workers in the electronics sector. The Mexican electronics manufacturing industry is employing a considerable number of migrant workers. Labour rights organisation Cerejal estimates that nearly 50% of the workers of the Mexican electronic industry are internal migrants, often on their way to the United States. Workers are known to come from different southern Mexican provinces.

is to regard migrants as a complementary labour force, and to assign them to the jobs with the least attraction for nationals. As a result, migrant workers have become akin to other sourced commodities, with a premium on price over rights and protections (BSR, 2008). Migrant workers are vulnerable to the seasonality of the demand for work. When orders are low, migrant workers who are often on temporary contract are the first to lose their jobs. In short, migrant workers are the quintessential precarious workers.

Migrants may have difficulties adapting to the new societal environment and stand out for that. As such they are an easy target for discrimination. Illegal or irregular migrants suffer from fear and stress – fearful to be found out by the immigration police, or to fall ill – as they often do not have medical insurance. Living conditions of migrant workers are often unsatisfactory. Low incomes, high rents, housing shortages, the size of migrants' families and local prejudice against foreign elements in the community are the main factors which combine to cause a serious accommodation problem. Often, migrants even pay more for housing provided by the employer. Most migrants are unaware of the human rights protection and fundamental freedoms which they

are guaranteed under international treaties and national laws (UNHCHR, 2009).

There are, in certain cases, bilateral agreements between states covering migrant labour. Overall, current regulation in emerging economies largely fails to adequately protect (migrant) contract workers. In some countries, laws mandate differential treatment of migrant workers. In others, no legal regulations are specific to migrant workers and are rarely enforced in favour of their protection. Export Processing Zones (EPZs) and Free Trade Zones (FTZs) often have independent legislation regarding worker rights and protections, which usually fall short of protecting migrant workers. Companies' Codes of Conduct generally do not include clauses on agent fees, legal status, minimum length of service etc, all of which are important to migrant workers. Apple's supplier code is an outstanding exception.

Typically, migrant workers incur debts to cover travel expenses, visa costs, recruitment fees, obligatory health checks. In addition of that, migrant workers are faced with non-payment of wage supplements, bonuses and wage refunds, as well as with unlawful wage deductions.

In the Czech Republic, Vietnamese (electronics) workers are easily laid off – once laid off, it is hard to find a new job, as migrants usually have visas for business license holders and are not entitled to work elsewhere. Formally, migrant workers lose their work visa and residence permit when they are laid off. Therefore, migrant workers try to keep their job regardless of circumstances, which makes them extremely vulnerable to abuse by their employers, such as forced overtime (La Strada, 2008).

In its Supplier Responsibility 2009 Progress Report, Apple writes about migrant labour: Our most significant discovery involved recruitment practices in which our suppliers had hired workers from one country to work in factories in another country. Of the 83 facilities audited, we found six facilities where these contract workers stated they had paid recruitment fees that exceeded the applicable legal limits—often requiring them or their families to incur a debt. We classified this overcharge as a core violation, our most serious category of violation, since these workers may not feel at liberty to leave employment until the debt is paid. In addition to demanding reimbursement, Apple has updated its Code to require that suppliers take responsibility for the entire recruitment process, including the recruitment practices and fees of labour agencies in the workers' home countries (Apple, 2009).

Standards

- ILO Migrant Workers (Supplementary Provisions) Convention No 143.
- ILO Forced labour Convention No 29.
- ILO Abolition of Forced Labour Convention No 105.
- ILO Private Employment Agencies Convention No 181.
- UN International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families.

Existing initiatives

- Business Social Responsibility (BSR) works with its global network of more than 250 member companies to develop sustainable business strategies and solutions through

consulting, research, and cross-sector collaboration.

- La Strada International is a network of independent human rights NGOs aiming to prevent trafficking in human beings with a focus on women in Central and Eastern Europe. The primary goal is to improve the position of women and to promote their universal rights, including the right to choose to emigrate and work abroad and to be protected from violence and abuse.
- Global Forum on Migration and Development (GFMD).
- Tenaganita – protecting the rights of women and migrants in Malaysia. Tenaganita's mission is to undertake research, advocacy and action to prevent, solve and address grave abuses that happen to migrants and refugees.

In Malaysia, the authorities have a stake in the trafficking of workers. Migrants obtain work permits through employment agencies, permits which are approved by the government. At the Malaysian end companies only need to state that they want to have an X number of workers to get an X number of permits. This system is being misused as importing workers is a profitable business. Employment agencies are easily tempted to make money out of labour migration and look the other way when it comes to enforcing obligations under the contracts between workers and their intermediaries. Cases are reported of corrupt officials working hand in glove with unofficial intermediaries. One of the injustices migrant workers face for example in Malaysia is the deduction of levy from their wages. The levy (1800 MYR, or about €357 per year) is a tax, supposedly to be borne by the employer to discourage them from hiring migrants. However, almost all employers deduct this levy from the migrant workers, effectively making it a tax on them. As many migrant workers work only part time, this is felt as a disproportionate deduction (Tenaganita, 2009).

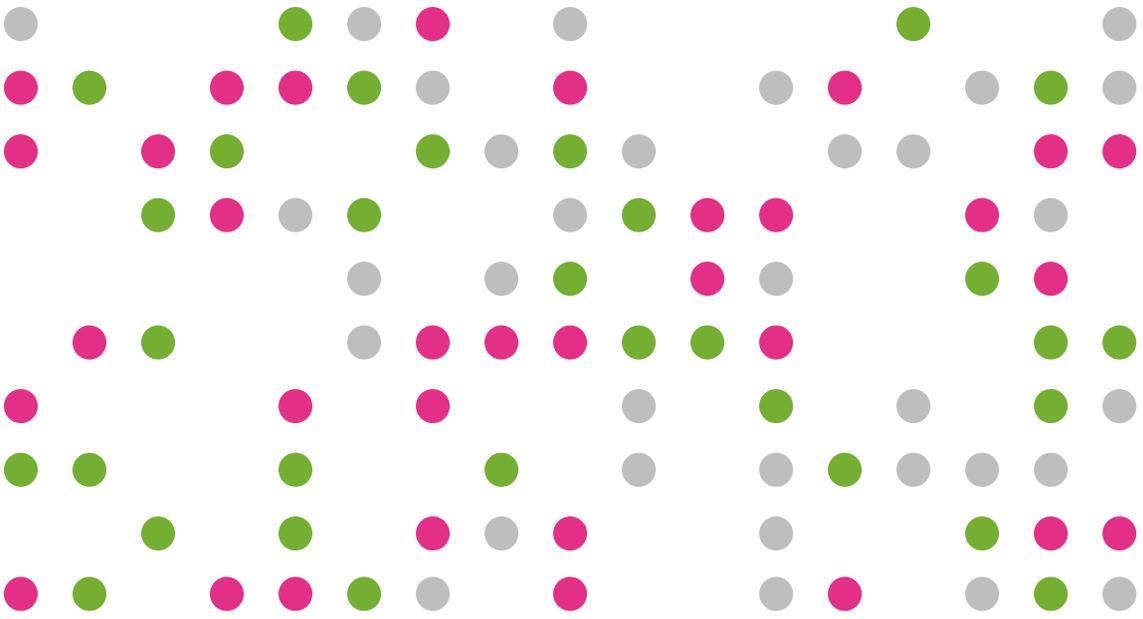
Flextronics provided seed money to help the Beijing-based Culture and Communications Center for Facilitators (CCCCF), an NGO committed to migrant worker issues, set up the Zhuhai Social Work and Education Development Center for Facilitators (SWEDCF). This centre, in the vicinity of the Flextronics industrial park in Zhuhai, aims 'to enhance migrant talents, give them a sense of belonging in the community, help them assimilate into society, provide them with case and group counselling, and train up more volunteers for community work to create a harmonious society.' Launched in May 2009, SWEDCF is the first officially-registered, non-governmental organisation in China that is sponsored by a private company and backed by the Chinese government. In conjunction with the launch of the Centre a seminar on migrant worker issues was conducted (Flextronics' email message to GoodElectronics, 26 June 2009).

Recommended steps

- Comply with all applicable laws, nationally and internationally accepted standards on protection of migrant workers, whichever offer greater protection.
- Develop and implement ethical recruitment policies incorporating specific notions concerning migrants and women (OSCE, 2009).
- Gain a more complete understanding of the use of migrant labour within the supply chain, including migrant workers' countries of origin, recruitment process and terms of employment, through (field) research and conversations with suppliers.
- Conduct a risk assessment of the supply chain examining the use of migrant labour and determine the level of protections in place for migrant workers in policies and implementation: by government and regional bodies; under existing codes of conduct.
- Integrate greater protections for migrant workers in the supply chain and engage directly with suppliers on training and verification.
- Contribute to informing migrant workers about their rights and the general conditions in the country or region of employment, as well as on visa procedures, wages and working conditions.
- Develop and implement anti-discrimination protections for migrant workers in the supply chain:
 - migrant workers should be provided the same terms and conditions of employment as non-migrant workers;
 - migrant workers shall not be required to lodge identity papers with their employers. Employers may provide safekeeping of such documents;
 - ensure suppliers are taking responsibility for the payment of all legally allowed fees and costs. Such fees and costs, including health check, visa, work permit or registration fees, may not be passed on to employees in any form such as wage deductions, garnishments, 'levies', 'deposits' or 'guarantee monies';
- ensure that migrant workers have employment contracts, and that suppliers comply with local law regarding minimum length of service, duration, renewal or other terms of such contracts;
- make sure the terms of policies regarding migrant workers are aptly communicated to the workers concerned.
- Include such protections into codes of conduct. See for example the policies developed by Nike (Nike, 2009) and Apple (Apple, 2009).
- Include (migrant) workers employed by employment agencies into collective bargaining agreements.
- Make sure migrant worker issues are addressed by auditing activities, and that migrant workers are adequately included in audit interviews.
- Employ on-site migrant worker coordinators who speak the languages of both the migrant workers as well as the factory management.
- Support programmes strengthening the rights of migrant workers such as the funding of community centres catering to the needs of migrant workers.
- Include migrant labour issues in CSR reporting.

Part 3.

Environmental aspects



Energy

Issues

The environmental impact of electronic products is huge. Some factors to take into account are eg, the effects of the irresponsible mining of precious metals required for electronic products, or the pollution caused by toxic chemicals used during manufacturing. Life Cycle Analysis (LCA) shows that one of the most critical factors is the massive consumption of energy during mining, component manufacturing and recycling of electronic equipment. One of the factors contributing to this high level of energy consumption is the obsolescence of electronic equipment. In developed countries, mobile phones have a life cycle of less than two years; the average lifespan of computers has dropped from six years in 1997 to just two years in 2005. (Greenpeace). This obsolescence has two sides: 'planned' and 'perceived' obsolescence. Planned obsolescence refers to the fact that this type of equipment is not designed to last. The 'perceived' obsolescence adds to this; influenced by marketing and retailing practices consumers are convinced they need new stuff all the time, as a consequence they keep on replacing 'obsolete' products with newer models. (Story of Stuff, 2007). The overall use of electronic products is supposed to increase in the coming years, due to various factors, like the continuing multiplication of products per household, the increase of computer and television screen sizes, and the switch to high energy consuming high definition.

Then there is the high energy consumption of electronic products itself. Again, this relates to

insufficiently sustainable design of electronics devices. Most products are burning up at least half as much power when idle as when they are flat out. Machines with external power supplies draw current, even when the device itself is switched off. Cathode ray tube screens consume power continuously, compared to flat screen monitor that consume little or no energy when in stand-by mode. Typical 'thick client' hardware has much higher energy consumption than 'thin client' hardware. Another factor that comes into play is the substantial increase of the number of data centre over the past decades. Data centres nowadays are full up with energy consuming hardware. Storage technology is becoming the biggest energy consumer in contemporary data centres. The cooling of such data centres is highly energy consuming.

Careless consumer behaviour is not helping. Mobile phone chargers are left plugged in. Computers are left on when, instead of being turned off. Some estimates claim that as much as 60% of the capacity of every disk that is used to store business information contains stale, duplicated or otherwise useless data as a result of poor data discipline (Greendata, 2009).

Slowly, companies are developing policies on energy efficiency as part of their environmental policies, focusing on reducing the energy needed to manufacture and use their products. These policies are generally limited to the companies' own operations – a supply chain view has not yet taken root here.

Nokia has worked out that, if 10% of worldwide mobile phone subscribers unplug their charges once their mobile phone is fully charged, enough energy would be saved to supply 60,000 European homes with energy for a one year (Consumers International, 2008).

Standards

- Regulation (EC) No 106/2008 of the European Parliament and of the Council of 15 January 2008 on a Community energy-efficiency labelling programme for office equipment.
- Directive 2005/32/EC on the eco-design of Energy-using Products (EuP).

Exiting Initiatives

- Various voluntary environmental performance eco-labels have developed criteria for lower energy consumption during use and standby of electronic appliances, including the Global Ecolabelling Network (GEN) and the European Ecolabel (Green Flower). GEN is a third party programme that awards a license that authorizes the use of environmental labels on products indicating overall environmental preferability of a product within a particular product category based on life cycle considerations. GEN has eg, formulated Core Criteria for personal computers, and encourages its members to consider inclusion of these core criteria in their own programme criteria documents and processes. The European Eco-label has developed criteria for personal and portable computers.
- Energy Star standard, a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy, is helping to protect the environment through energy efficient products and practices. Other well-known eco-labels include TCO, an eco-label for IT products and the Blue Angel. The Energy Star energy standard is increasingly taken as a minimum requirement.
- Greenpeace Guide to Greener Electronics with specific criteria on energy use. Again, the Energy Star standard is taken as a benchmark.
- The Green Grid is a voluntary global corporate consortium that is developing standards to measure data centre efficiency, which includes both the facility and the IT equipment inside of it.
- The Green Data project argues that the most intelligent and strategic approach to slowing

the acceleration of power consumed by data centres is to manage data better.

- The Dutch ICT trade association ICT-Office has developed an action plan to contribute to improve energy efficiency, by joining the Multiple Year Energy Efficiency Agreement (MJA) established by the Dutch Ministry of Economic Affairs in July 2008. ICT companies subscribing to the objectives of this Agreement, commit to make an effort to improve their annual energy efficiency with 2%, to bring about a 30% energy use reduction in 2020 compared to the 2005-level.

Recommended steps

- Comply with the highest international standards regarding energy use.
- Improve and promote energy efficiency – in the own operations and throughout the supply chain.
- Increase and promote the amount of renewable energy¹ – used in the own operations and throughout the supply chain.
- Invest in design for sustainability or design for recycling. More specifically, improve the energy efficiency of new models of specified products, taking the latest Energy Star standards as a reference.
- Develop innovative solutions enabling other sectors, industries and companies to reduce their energy use. Promote energy saving attitudes among users of electronic equipment.
- Reform data centres. Apply rigorous data discipline. Choose smart, energy-efficient cooling systems.

¹ “Renewable Energy Sources (RES)” shall mean renewable non-fossil fuels (wind, solar, geothermal, wave, tidal, hydroelectric installations with a capacity below 10 MW and biomass which means products from agriculture and forestry, vegetable waste from agriculture, forestry and from the food production industry, untreated wood waste and cork waste) as in the definition used in the Proposal for an EU Directive on the promotion of electricity from renewable energy sources in the internal electricity Market - (<http://www.recs.org/doctree/EU%20documents/RES-electricity%20directive.pdf>).



Carbon footprint – greenhouse gases

Issues

The so-called greenhouse gases (GHG) are a by-product of land-use changes, burning fossil fuels, biomass burning and other industrial processes. Power generation and transportation score high in GHG emission. Carbon dioxide (CO₂) is the principal greenhouse gas, PFCs or per fluorocarbons form another class of potent GHG. Greenhouse gases are at the root of far-reaching climate changes, most importantly the warming of the climate. This warming-up is evident from numerous observations. Further effects of even moderate warming may include sea level rise; massive releases of greenhouse gases from melting permafrost and dying forests; more extreme weather events such as heat waves, droughts and floods; increased risks of flooding and erosion; natural systems will be threatened; and an increase in existing risks of species extinction and biodiversity loss. The greatest impacts will be on the poorer countries least able to protect themselves from rising sea levels, spread of disease and declines in agricultural production (Greenpeace, 2009). Scientists and economists, including the eminent Intergovernmental Panel on Climate Change (IPCC), show that the temperature rise will need to be halted well below 2°C (IPCC, 2007). A 25-40% reduction in industrial country greenhouse gas emissions by 2020 is recommended to avoid dangerous climate change, taking 1990 emission levels and Business as Usual (BAU) growth as benchmarks. Carbon and climate change are serious issues, with critical commercial, financial, operational and brand implications. Therefore for companies to manage carbon and climate change in their supply chains is not an option, it is basic business sense. There are financial and business implications in not doing it (Carbon Disclosure Project, 2009). A company's carbon footprint is

the total set of directly and indirectly caused GHG emissions. Increasingly, a supply chain view is taken.

The information and communication technologies sector is estimated to contribute between 2-3% of worldwide greenhouse gas emissions. As the industry continues to develop globally, this is set to increase further. Emissions from the sector are estimated to rise significantly over the coming years – from 0.5 GtCO₂e today to 1.4 GtCO₂e in 2020 under BAU growth (Climate Group, 2008). This concerns energy efficiency of products and services in the first place. However, supply chain emissions from activities such as processing, packaging and transportation often exceed those arising from an individual purchasing company's own operations (Carbon Disclosure Project, 2009). Looking at the carbon implications of raw materials, production and disposal of electronics products, throughout the different tiers of the supply chain, by making a Life Cycle Analysis, again gives another picture.

The ICT industry clearly has a responsibility to contribute to the much needed reduction of GHG-emissions. This can be done by increasing the energy-efficiency of products and services and by making use of renewable energy sources. It has been calculated that ICT companies can help cut projected GHG emission by 15% by 2020. ICT companies could deliver approximately 7.8 GtCO₂e of emissions savings in 2020 based on a Business as Usual (BAU) estimation. In economic terms, the ICT-enabled energy efficiency translates into approximately €600 billion (\$946.5 billion) of cost savings. A huge influence ICT companies can have on climate change would be by enabling energy efficiencies in other sectors. For example by enabling smarter transport, building energy

efficiency, smart power grids, and power transmission and distribution (T&D). In this way, carbon savings five times larger than the total emissions from the entire ICT sector could be delivered in 2020 (Climate Group, 2008). Moreover, by taking a supply chain approach – companies setting reduction goals throughout their supply chain in collaboration with their suppliers – significantly higher reduction goals can be achieved.

An increasing number of ICT companies, including HP, Nokia, Microsoft, Sun, Cisco and Ericsson, Google, Dell, IBM and Lenovo, have already said (through the Global e-Sustainability Initiative, GeSI, or through the Climate Group) that they are able to provide solutions that will reduce projected GHG emissions by 15% by 2020 through IT enable solutions. Companies are already focusing on product and service innovation, for example by making their own operations, data centres and product lines more energy efficient. Companies, however, are mainly focusing on their own operations. Taking a supply chain view is still rare.

Standards

- The United Nations Climate Change Conference in Bali in 2007 culminated in the adoption of the “Bali Road Map”, which includes the Bali Action Plan that charts the course for a new negotiating process designed to tackle climate change.
- The Greenhouse Gas Protocol (GHG Protocol) is a widely used international accounting tool for government and business to understand, quantify, and manage greenhouse gas emissions. The GHG Protocol serves as the foundation for multiple GHG standards and programmes in the world – including the International Standards Organization (ISO). In 2001, the Greenhouse Gas Protocol Corporate Standard, was published. Since then the GHG Protocol has built upon the Corporate Standard by developing a suite of calculation tools to assist companies in calculating their greenhouse gas emissions and additional guidance documents. The Carbon Disclosure

Company pledges

- **Dell has pledged to reduce operational carbon intensity by 15% by 2012, based on 2007 levels, and to further reduce worldwide facilities' GHG emissions by 40% by 2015. Dell maintains that it has already achieved carbon neutrality in its global operations.²**
- **HP's goal is to reduce energy consumption and the resulting greenhouse gas (GHG) emissions from HP-owned and HP-leased facilities worldwide to 16% below 2005 levels, by the end of 2010³.**
- **IBM set itself an aggressive “second generation” goal: to reduce the CO2 emissions associated with its energy use 12% by 2012 against a 2005 base year through: a) energy conservation, b) use of renewable energy, and/or c) funding an equivalent CO2 emissions reduction by the procurement of Renewable Energy Certificates (RECs) or comparable instruments⁴.**
- **Vodafone: Cut emissions by 50% by 2020 (from the 2006/07 baseline). This target will be achieved principally by improvements in energy efficiency and increased use of renewable energy. In addition, as part of its climate change strategy, Vodafone will be focusing on developing products and services which will help customers limit their own emissions⁵.**

² http://i.dell.com/sites/content/corporate/corp-comm/en/Documents/Dell_CR_Summary_Report_FINAL.pdf

³ <http://www.hp.com/hpinfo/globalcitizenship/gcreport/energy/operations/greenhouse.html>

⁴ http://www.ibm.com/ibm/environment/climate/co2_secondgoal.shtml

⁵ http://www.vodafone.com/start/media_relations/news/group_press_releases/2007/01.html

Project and the Global Reporting Initiative are using the GHG Protocol Corporate Standard.

- The ISO Standard 14064-1:2006 is based upon the GHG Protocol Corporate Standard. This standard specifies principles and requirements at the organisation level for quantification and reporting of greenhouse gas emissions and removals. It includes requirements for the design, development, management, reporting and verification of an organisation's GHG inventory.
- The 1997 Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialised countries and the European Union for reducing GHG emissions. Countries must meet their targets primarily through national measures. However, the Kyoto Protocol offers countries an additional means of meeting their targets by way of three market-based mechanisms: emissions trading ("the carbon market"), clean development mechanism and joint implementation. The Kyoto protocol covers six greenhouse gases — carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydro fluorocarbons (HFCs), per fluorocarbons (PFCs), and sulphur hexafluoride (SF₆).
- The United Nations Framework Convention on Climate Change (UNFCCC). This international environmental treaty sets an overall framework for intergovernmental efforts to tackle climate change. 192 countries have ratified the Convention and it entered into force on 21 March 1994.
- The 1972 Declaration of the United Nations Conference on the Human Environment, or Stockholm Declaration, was adopted on 16 June, 1972 by the United Nations at the 21st plenary meeting as the first document in international environmental law to recognise the right to a healthy environment.

Existing initiatives

- Carbon Disclosure Project
- EICC Carbon Reporting System for Electronics Companies, an industry-wide system for tracking carbon footprint of supply chains.
- Greenpeace COOLITCHALLENGE, a campaign to turn IT industry leaders into climate advocates and solution providers.

Recommended steps

- Comply with all applicable laws, nationally and internationally accepted standards on greenhouse gases emission reduction, whichever sets the highest target.
- Integrate the measuring, management and reduction of GHG emissions and climate change impacts into mainstream business processes, by formulating a clear business case.
- Set specific, concrete GHG emission reduction targets, in both absolute and intensity terms.⁶ Companies to be specific about what gases they attempt to reduce (CO₂, PFC or other gases) and what phases of their supply chain they are focusing on, their own operations as well as first and second tier suppliers.
- Transparently and publicly report upon targets, efforts and progress of GHG emission – in all areas of company operations, including first and next tier suppliers. Provision of aggregate carbon emission estimates, that is total company emissions. Be clear about what is included in their GHG data. Data to be provided in a similar format as provided by competing companies to allow for comparison with peers.
- Participate in the Carbon Disclosure Project and the CDP annual survey.
- Participate in the EICC Carbon Reporting System for Electronics Companies.
- Source items which will help shrink the carbon footprint. Choosing less carbon-intensive products is a good first step. Work with and involve suppliers.

- Look into capturing and sequestering CO₂, methane, and other greenhouse gases that would normally be released to the atmosphere.⁷
- Electronic sector leaders to call upon world leaders to deliver a climate saving deal – at the UN Climate Summit in Copenhagen in December 2009, as well as beyond – and effectively influence urgent global climate regulation. Support for global mandatory reduction of GHG emissions. Heed the call of Greenpeace' COOLITCHALLENGE.
- Provide products and services to help customers (in the supply chain) reduce their emissions.
- Training of employees on climate change issues.
- Facilitation of improvements and GHG reductions in other sectors.
- Optional: work with tradable Renewable Energy Certificates (REC), also known as offsets.

⁶ Greenhouse gas intensity is the ratio of greenhouse gas emissions to economic output.

⁷ Carbon sequestration is a technique that consists of capturing carbon dioxide from man-made sources and permanently storing it somewhere other than the atmosphere (eg, terrestrial (biota), oceanic, or geologic sequestration).



Pollution

Issues

Throughout the life cycle of electronic products, pollution is an issue. For a start, in the extractives phase pollution is a real concern. In open pit mining, rocks and soil are simply blasted away in search of the required metals, producing an enormous amount of solid waste in the process. The pursued metal often only accounts for a very small percentage of the total extracted mass; to produce one ton of copper, for example, 110 tonnes of solid waste and 200 tonnes of overburden are generated. The waste may contain considerable concentrations of toxic substances such as arsenic and lead. These are either present in the upturned soil as natural impurities of the ore, or may be introduced as auxiliary substances to facilitate the extraction of the ore. Irresponsible mining may cause contamination or even the complete depletion of drinking water and other water sources essential for farming. Air pollution by dust exhausts is also frequently observed. Forest, farm- and pasture-lands may be usurped by mining sites and irrevocably turned into dusty, barren moon landscapes. When companies close down their mining operations they often do so without cleaning up the land. A problematic aspect concerns the difficulty in establishing the accountability of mining companies for collective environmental impacts, as these are notoriously difficult to attribute to one single company (SOMO, 2007).

Hazardous chemicals and materials are amply used in electronics products. The negative effects for human health are described in the chapter on occupation health and safety. Much less is known about environmental pollution at production locations. Preliminary research into printed wiring board (PWB) manufacture, semiconductor chip manufacture and component assembly, however, points to highly problematic pollution issues.

The electronics industry has high resource intensity, in terms of chemicals, energy and water demands. Hazardous or toxic substances include:

- brominated flame retardants (polybrominated diphenyl ethers (PBDEs), TBBPA as well as phosphorus based compounds (including TPP). Flame-retardants are chemicals added to a wide variety of materials, including casings and components of many electronic goods, to prevent the spread of fire;
- phthalates; widely used as plasticizers (softeners) in plastics;
- certain chlorinated solvents; containing dissolved photoresist mixtures;
- photo-initiator related chemicals;
- heavy metals including soluble copper;
- The process of creating circuits utilises complex photochemistry, ie, exploiting chemical changes through exposure to ultraviolet (UV) light. These processes create complex waste streams that include photoreactive chemicals. Spent Developing solution is one of the largest liquid waste streams generated by PWB manufacturing (Greenpeace, 2007).

Irresponsible waste management at production sites may cause environmental contamination through discharged wastewaters and sediments from discharge pipes/channels. Also at the level of common wastewater treatment plants (WWTP) that receive wastewaters from different plants contamination may occur. The discharged wastewater, even when treated, and treatment sludges/sediments of WWTPs often contain chemicals or heavy metals. Treatment processes may be able to degrade certain chemicals, but they are not effective at dealing with persistent organic chemicals and heavy metals in wastewaters. Ground water pollution is one of the main risks.

For some chemicals identified in waste streams very little information is available on their toxicity and environmental properties, presumably largely as a result of rapidly changing manufacturing processes and the chemicals employed within certain sectors. The possible impacts on human health and the environment due to the use and release of these chemicals, therefore, remain largely unknown (Greenpeace, 2007).

In the disposal phase chemicals risk being released to the environment without fitting precautions. One of the underlying problems is that electronic products are not designed for recycling. The lion's share of the materials in e-waste can hardly be re-used. Moreover, the methods applied to dispose of electronic waste are far from sophisticated, and that is not only in developing countries: plastic shredding, acid processing/leaching, open burning, residue dumping, land filling, incineration, stripping. According to the US Environmental Protection Agency, more than 4.6 million tonnes of e-waste ended up in US landfills in 2000. Toxic chemicals can leach into the land over time or are released into the atmosphere, impacting nearby communities and the environment. In many European countries, regulations have been introduced to prevent electronic waste being dumped in landfills due to its hazardous content. The exported waste does still end up in dumps. An estimated 10 to 20 percent of discarded computers in Hong Kong, for example, go to landfills. Substantial quantities of toxic heavy metals and organic compounds are released to the air, soils and water courses surrounding e-waste dismantling sites. In Guiyu, China, heavy metals contamination (cadmium, cobalt, chromium, copper, nickel, lead and zinc) from printed circuit board recycling may present a significant environmental risk (Leung, 2008). Further substances include tin and organic contaminants like brominated, chlorinated and phosphorus based mercury; cadmium; hexavalent chromium; polybrominated biphenyl (PBB); beryllium; gallium; polybrominated diphenyl ethers (PBDE), and antimony (Greenpeace, 2009).

Standards

Also see chapter on occupational health and safety.

- OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic; the OSPAR List of Chemicals for Priority Action (Update 2007); and the OSPAR List of Substances of Possible Concern (Update 2002, a revised list will be published in 2009).

Existing initiatives

Also see chapter on occupational health and safety.

- Promotion of producer responsibility. A 2006 report by Greenpeace and others, based on existing EPR programmes and anticipated EPR legislation, demonstrates that EPR laws – both those mandating substance bans and setting re-use/recycling targets – do indeed prompt positive product design change. In particular, individual producer responsibility policies turn out to be more effective in creating incentives for product design change, than policies requiring collective producer responsibility.'
- ISO standard 11469 Plastics -- Generic identification and marking of plastics products.

Recommended targets

- Comply with international and national legislation or established international standards regarding pollution, whatever offers the highest environmental protection.
- Embrace Individual Producer Responsibility – as a principle of product policy to address the lifecycle issues of products – and to show positive action in getting the own branded products back for reuse and recycling.
- Adopt a chemicals policy that is underpinned by the precautionary principle, meaning taking action to substitute/eliminate a suspect chemi-

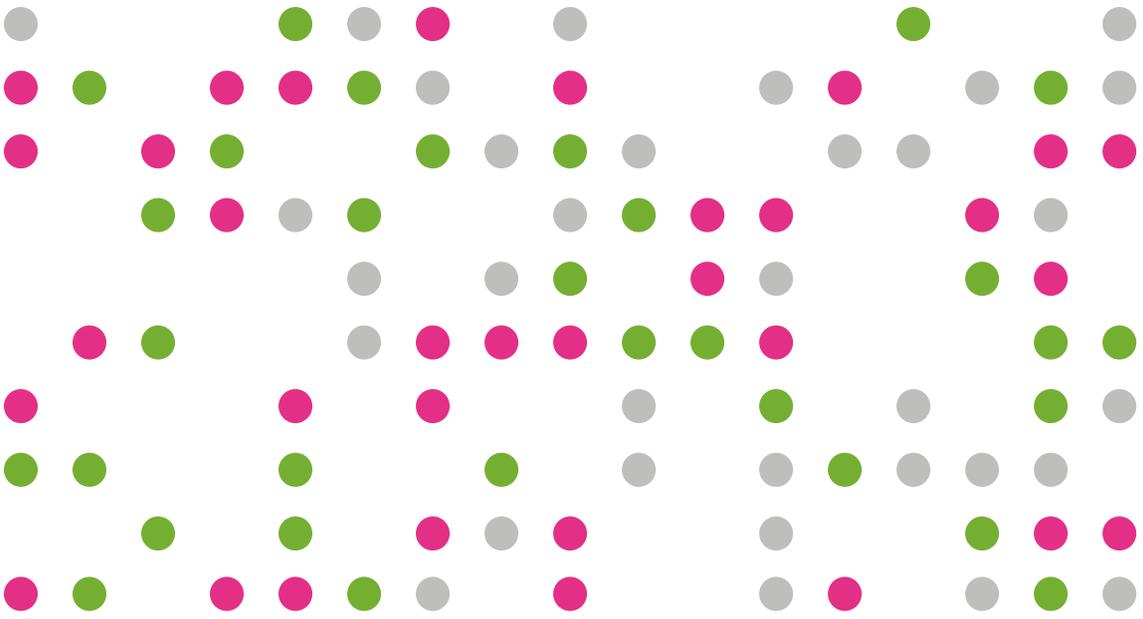
cal or group of chemicals, even if the scientific jury is still out on whether these chemicals are definitely causing environmental harm. Implementing a precautionary chemicals policy requires a system for collecting information on new suspect chemicals, and mechanisms for triggering corporate action to phase them out and begin looking for safer substitutes.⁸

- Commit to eliminating PVC and all BFRs in all applications, with a reasonable timeline by which phase out will be complete, or to those who have already fully implemented this commitment.
- Commit to eliminating all phthalates; beryllium, including alloys and compounds; and anti-mony/antimony compounds within a reasonable timeline.
- Design for disassembly and recyclability.
- Join the BAN e-Steward initiative or similar initiatives in other countries.
- Track toxic chemicals on process level, eg, by collecting Materials Accounting Data for each production process, to be able to identify opportunities for waste prevention and materials efficiency (Inform, 1997).
- Make lists of restricted/banned substances publicly accessible and describe how these requirements are enforced along the supply chain. In addition, provide lists of substances being considered for future restriction or elimination as well as information explaining the factors they consider to make these lists (Greenpeace, 2009).

⁸ Candidate chemicals for precautionary action are those whose intrinsic properties include carcinogenicity, mutagenicity or reproductive toxicity, chemicals that are persistent, bio-accumulative and toxic (PBTs) and those that are very persistent and very bio-accumulative (vPvBs). They can also include substances identified as having serious and irreversible effects to humans and the environment, for example certain endocrine disrupting substances (substances disturbing the body's hormone system) (Greenpeace, 2009).

Part 4.

Economic aspects





Purchasing practices

Issues

One of the factors that contribute to the harsh working conditions in many sectors in developing countries is the pressure exerted by companies throughout the supply chain (retailers and brands as well as first and further tier suppliers) on lead times and prices. This pressure means that suppliers need to speed up production outputs, cut down on labour costs, and demand longer working days. This may also cause wages to fall below the cost of living. This causes social hardships for the workers concerned (Procure IT fair, 2009). At the same time, buying companies increasingly demand their suppliers to comply with labour standards. This is happening in the electronics sector as in other sectors. Companies should address the conflicting logic of pursuing lower prices and shorter delivery times whilst simultaneously pursuing compliance with labour standards. In a competitive market, standards which place significant additional costs on factories may serve to undermine - rather than support - the type of improvements that the standards are designed to bring about. Under pressure to cut costs or to source sufficient quantities, buyers sometimes buy from outside the standards they require. This sabotages the whole relationship, undermining trust and confidence, leading to mistrust of standards or a temptation to 'fake' compliance (Traidcraft, 2008). Also, when the buying company constantly shifts its orders, suppliers may feel that there is no incentive for making the required improvements (Clean Clothes Campaign, 2008). These are consequences of the arbitrary or unfair use of the purchasing power or influence of buying companies, while instead of inhibiting, purchasing practices should enable suppliers to be decent employers.

Standards

- Unidroits Conventions, including the Convention relating to a Uniform Law on the Formation of Contracts for the International Sale of Goods.

Initiatives

- The Responsible Purchasing Initiative. This initiative is coordinated by three European fair trade organisations and explores how it is possible to improve the impact of purchasing activities on the lives of people in developing countries, by looking at the roles of EU businesses, public authorities and consumers.
- The Chartered Institute of Purchasing and Supply (CIPS) is an international organisation, based in the UK, serving the purchasing and supply profession. Dedicated to promoting good practice, CIPS provides a wide range of services for the benefit of members and the wider business community.

Recommended steps

- Comply with international and national legislation or established international standards, whatever offers the highest social and environmental protection.
- Develop an ethical purchasing code and integrate responsible purchasing practices into the code of conduct.
- Enter into honest contracts based on the Unidroits Conventions.
- Establish close cooperation between the internal procurement department, the corporate social responsibility department and suppliers.

- Look into shortening the supply chain with an eye to reducing supplier's transaction costs
- Foster continuity in trading relationships with individual suppliers. As well as helping with traceability, knowing their suppliers puts companies in a better position to understand their problems and work together towards improvements (Traidcraft, 2008).
- Develop a contract or memorandum of understanding with suppliers specifying the length of the relationship or notice period required for termination of the relationship. This facilitates trust, loyalty and makes it easier to make positive long term investments (Traidcraft, 2008).
- Regularly assess the positive and negative impact of purchasing practices on all workers, take steps to remediate the negative impacts, and communicate the results of the assessment and remediation to workers throughout the supply chain, their representatives, and the public. Attention should be paid to the impact of purchasing practices on more vulnerable groups of workers, including women, migrants, contract workers and home workers (Clean Clothes, 2009).
- Apply reasonable supply lead times.
- Work out, together with suppliers, what would be a minimum sustainable product price. A sustainable product price enables the supplier to meet its costs of production, have sufficient capital for investment, comply with buyers' standards, and ensure that workers receive a living wage (Traidcraft, 2008). A minimum sustainable product price adequately supports the terms and conditions of a negotiated collective bargaining agreement (CBA). Where no CBA exists buyers should still follow fair sourcing and pricing practices such that suppliers are able to comply with internationally recognised labour standards and function with a reasonable enough margin through which meaningful collective bargaining can take place (Oxfam Australia and Clean Clothes Campaign, 2009).
- Look into the advantages and disadvantages of a preferential supplier policy. Explore incentives for suppliers who respect freedom of association and collective bargaining

agreements and processes. These incentives could include a premium, increased order volume, long-term commitment to the supplier and other possible incentives. Incentives for collective bargaining agreements should only be applied in cases where the CBA includes a living wage, adequate limits on working hours and provision for job security. Such incentives should also only be applied in cases where the union which negotiates the CBA is the appropriate collective bargaining agent, was not formed by management, is not under external control, and is democratic through following its own rules (assuming those rules make the union leadership democratically accountable to the union's members and that all non-management workers at the factory are allowed to join that union). The process for checking whether the union meets these criteria needs to be independent, transparent and credible (Oxfam Australia and Clean Clothes Campaign, 2009).

- Buyers should ensure information on product price is available to the union to use in collective bargaining negotiations. In order for this to be feasible, both buyers and factory management will have to be more forthcoming with information regarding costs (Oxfam Australia and Clean Clothes Campaign, 2004).
- Buyers should make it clear to government authorities they are prepared to ensure a fair product price is paid which leaves room for meaningful collective bargaining at the factory level.



Export Processing Zones

Issues

Millions of workers throughout the world work in Export Processing Zones, also known as Maquiladoras, Free (Trade) Zones, Free Ports, Special Economic Zones, economic and technology development zones, or high-tech industrial development zones. Whatever the precise name, such zones are designated industrial areas of a country where government regulation, taxes and trade tariffs are lifted or dramatically reduced in an effort to attract foreign investment. The concept of EPZs is not a new one, but since 1995 there has been an increase in the number of countries with EPZs, in the overall number of EPZs, and in the number of workers employed there. It is estimated that there are currently approximately 3,500 EPZs throughout the world, operating in around 130 countries and territories and employing around 66 million people (ILO InFocus, 2008). EPZs provide special economic incentives such as customs-free, tax-exempt and export-oriented manufacturing facilities and investment incentives, streamlined administration, cheap utilities and better infrastructure than outside the zones. Moreover, in a few countries, EPZs are given exemptions to national labour law regulations. The lack of regulation in EPZs comes at a great cost to workers' rights, health and safety, environmental standards and social protections.

Increasingly, electronics manufacturing is found in EPZs.

In law and in practice, freedom of association and the right to collective bargaining are at risk in EPZs. Whether this threat is brought about by law or by a lack of enforcement of existing laws, the result for workers is the same. EPZs are often set up in economically deprived areas where labour is cheap and workers are more fearful of losing their jobs if they make demands. The workers pool generally has a large share of women workers, migrant workers, young workers and temporary workers. In short, workers in precarious employment positions. Largely unorganised, these workers have little or no access to unions. In some cases, physical barriers in the form of fencing, gates, guards and razor wire prevent union organisers from making contact with workers. An absence of trade unions, with their pressure to improve wages and working conditions, is indeed one of the factors that attract companies to locate factories in EPZs and as a result Export Processing Zones now provide the most radical examples of employer opposition to union membership (Holdcroft, 2009).

A recent survey has compiled information on a number of issues pertaining to zones, such as legal restrictions on unionisation and union membership, blacklisting of union officials, interference in the affairs of workers' organisations, refusal to negotiate, harassment, violence and reprisals, legal restrictions on industrial action including its prohibition by classifying EPZs as essential services, as well as exemptions and ambiguity

When the Malaysian government set up EPZs, it banned the formation of national unions in the electronics industry as an incentive to foreign electronics companies to invest in the development of that sector. According to the Trade Union Advisory Committee to the OECD (TUAC), 96 per cent of all workers in seven EPZs in Malaysia are employed by foreign transnationals, and electrical and electronics firms account for 65 per cent of all EPZ employment (Holdcroft, 2003). Today there is still no national electronics union in Malaysia.

regarding the application of labour law and access to zones (ILO InFocus, 2008).

There is discrimination in terms of pay equity and equal treatment between male and female EPZ workers. Although the rights of pregnant women and young mothers are generally respected, discriminatory practices still persist (such as refusal to hire pregnant women, job losses and failure to grant maternity leave).

In most EPZs, migrant workers are more likely than local workers to be victims of discrimination. Because of language barriers and restrictions imposed by employers, immigrant workers are even more difficult for unions to organise than local workers.

The rights of workers regarding recruitment and dismissal are often not respected. Recruitment is not always formally organised. Firms have been known to close without warning within the zones, leaving workers without compensation, back-pay or national insurance payments. There are an increasing number of complaints regarding non-payment towards provident funds.

In countries across the world, including China, Indonesia and Madagascar, EPZ workers tend to work longer hours than workers in other sec-

tors of the economy, often in violation of national law. Excessive overtime is linked to the nature of many industries in EPZs or to a global chain's requirements. Firms have seasonal demand peaks and may need their staff to work longer hours to compensate for defect rates or to comply with shipping deadlines. Overtime is often mandatory and refusing to extend working hours may lead to dismissal or other forms of retaliation. Long and unpredictable hours have an impact on the ability of workers to combine paid work and domestic obligations.

Labour administrations often do not have enough resources, in terms of either staff or transport, to address non-compliance with labour laws, to minimise labour disputes or to carry out regular inspections in the zones. They may even be discouraged from entering the zones.

Many countries see export promotion as an important policy for economic growth in developing countries. Various measures are being adopted by the governments in these countries to promote export competitiveness. EPZs have generated employment, but they do not automatically lead to sustainable social development and poverty alleviation. EPZs increase the dependency of developing countries on foreign capital and can create unfair competition with domestic industries, which,

There are three types of employees hired in the Export Processing Zones of Batam, Indonesia. The most exploited worker is an 'outsourced worker'. They are hired through a labour agency and usually sign a contract with the agency which holds them liable should they lose their job, sometimes at fees 5 to 10 times their normal wage. These employees are traded like commodities, one step removed from human trafficking. Should they get ill, pregnant or hurt on the job, the company will immediately release them and the labour agency will likely fine the employee for breach of contract. Trade union FSPMI has been successful in negotiating an end to all of these types of contracts for outsourced employees. In FSPMI plants, these contracts no longer exist. 'Contract Workers' are generally hired by the principal company or recruited by an intermediary but contracted with the company directly. Contracts range from three months to two years. By law, after three years of contracted work, workers should be hired permanently by the employer. Trade unions Lomenik and FSPMI have both been successful in using this unforced law to make companies change the status of workers after three years. This has been largely due to positive outcomes for the unions in the courts on this issue. 'Permanent workers' make up a very small minority of workers. Many of these jobs are staff positions and at management level. These workers tend to make more money through annual raises and have better benefits (Ivanou, 2008).

unlike the foreign firms, cannot import inputs duty free. Backward linkages also seem to be minimal, with domestic orders remaining at a low level and technology spillovers rare (ILO InFocus, 2008).

The labour rights issues described here do not uniquely occur in EPZs; to a large extent the same concerns apply in electronics manufacturing outside these zones. It should be recognised that the situation in EPZs will not improve significantly until the overall employment conditions – in particular with regard to the right to freedom of association and collective bargaining – in the larger domestic economy are improved.

Existing initiatives

- The InFocus Initiative on export processing zones created by the ILO Governing Body. The key issue is the examination of what constitutes the most appropriate policy package to encourage a steady improvement in the quality of production and employment in manufacturing sectors competing on global markets. Using social dialogue and a rights-based approach, the Initiative will seek to foster effective, coordinated national policies on decent work, which encourage investment and trade and promote core labour standards and adherence to national laws. Specific attention will be paid to the gender dimension of decent work.

Recommended steps

- Ensure that internationally accepted labour rights are respected throughout the supply chain, including in EPZs, in particular the right to organise and to bargain collectively.
- Facilitate and promote the proper functioning of the labour inspection.
- Improve information flows to workers, employers and governments through social dialogue and collaboration among stakeholders, including workers, employers, ministries of labour, economy or trade and industry, EPZ authorities and labour inspectors.



Taxation

Issues

Tax issues are relevant throughout the electronics value chain. In the mining phase, non-transparent or secret mining contracts between governments and companies are common. Both governments and mining companies in some cases refrain from publishing data on revenues, import, VAT, royalties, profits, etc. In the manufacturing phase, key issues are the payment (or non-payment) of corporate income taxes and the lack of transparency regarding taxes.

Governments need tax revenues for investments in public goods and services like infrastructure, education, health care and a social safety net. These investments are of great importance for national welfare, a good enabling environment for the private sector and for economic development in general. It is important that all individuals and firms, who are benefiting from these public services, contribute to this by paying a fair share in taxes (Tax Justice Network, 2009).

Whether corporations pay or evade taxes is an important part of how they affect the communities in which they operate. As such, corporate tax policies along with social and environmental policies should be considered as a corporate responsibility issue (International Budget Project, 2006).

Most income taxes are designed to spare people or businesses with incomes below a certain level. However, special exemptions or deductions are also provided to wealthy individuals and businesses, sometimes with the stated goal of encouraging certain activities (such as investing in a particular sector of the economy), sometimes simply because these powerful groups were able to influence the political process. But when wealthy individuals and businesses are able to evade taxes it leads to a less equitable tax system. The special exemptions and deductions require higher tax rates on everyone else to raise the same level of revenue, thwarting the goal of a graduated income tax (International Budget Project, 2006).

Often, companies pay no tax or receive a refund, even though they are profitable. It occurs that companies report higher profits to their shareholders than to the tax office (Internal Revenue Service), sheltering part of their profits from the tax collector. Much of this sheltering occurs as a result of tax breaks that have been explicitly enacted into law, such as a generous depreciation allowance, but some also reflects the use of offshore tax havens (International Budget project, 2006). Problems arise when individuals and businesses take advantage of loopholes and ambiguities in the tax law in order to avoid taxes. While these types of schemes may be technically legal, aggressive tax avoidance violates the spirit of the law by exploiting unintended loopholes.

African governments are deprived of millions of dollars as many contracts signed with governments remain secret, with mining companies using this secrecy to pursue aggressive tax avoidance strategies. Mining companies use various methods to pay as little tax as possible. These include forcing governments to grant tax subsidies and concessions by threatening to go elsewhere if they are not forthcoming and using false accounting to enable companies to artificially depress profits in the countries where they operate in order to evade tax (ActionAid, 2009).

Moreover, tax avoidance can easily cross over into tax evasion, or the illegal non-payment or under-payment of taxes (International Budget Project, 2006).

Globalisation has made it increasingly difficult for tax administrations in developing countries to collect taxes from multinational corporations. For example, the existence of tax havens around the world helps wealthy individuals and multinational companies (as well as criminals and corrupt leaders) move their wealth and profits offshore to avoid paying tax. The Tax Justice Network estimates that governments worldwide lose some \$255 billion in tax revenues each year as a result of tax havens (International Budget Project, 2006).

It has been estimated that more than half of all world trade is going through tax havens to avoid taxation. Tax havens play an important role in the worldwide problem of tax avoidance and evasion. Secret bank accounts and offshore trusts in tax havens provide companies with the means to escape their tax obligations. Multinationals' ability to substantially lower their tax burden by routing capital flows through mailbox companies in tax havens provides them with unfair competitive advantages vis-à-vis their – often smaller – competitors in developing countries (Tax Justice Network, 2009). Multinational corporations are particularly competent at avoiding taxes.

Wealthy individuals and businesses tend to benefit the most from weak tax administration, since they owe the most in taxes and are better able to structure their affairs (or pay bribes) to evade the tax system. If the wealthy escape taxation, then other taxpayers, including lower-income people, bear more of the burden and the potential for reducing inequality through the tax system is reduced (International Budget Project, 2006).

Tax preferences reduce or eliminate taxation of selected goods or activities in order to make them more attractive. Tax preferences can be used to encourage companies to invest in a particular geographic region or sector of the economy or in worker training or high-technology equipment. Because tax expenditures shrink the tax base, they reduce revenue collection. A problem also occurs when a tax break that is intended to change behaviour instead merely rewards people or businesses for actions they would have taken even without the tax incentive. For example, developing countries frequently offer tax breaks to attract foreign investment. Yet research shows that companies generally base their investment decisions on factors other than tax policy. As a result, such tax expenditures reduce revenues but may do little to influence foreign investment. Also, businesses may exaggerate the potential economic gains of certain tax breaks—such as tax incentives designed to encourage investment (Tax Justice NL, 2009).

Foreign direct investments are often viewed as a stimulus for development because of the spread of technological knowledge, newly created employment, tax revenues and other economic advantages. A lot of countries try to attract foreign companies by offering favourable tax rates. It also occurs that countries provide tax exemptions (such as tax holidays) to attract certain corporations. This has led to increased tax competition between countries.

Companies view taxes as costs and use their strong negotiation position to convince countries to offer more favourable tax rates. In some cases multinationals make countries compete with each other on decreasing tax rates. Internationally, this has led to lower tax rates for companies; in Europe, statutory corporate tax rates have dropped considerably over the last decades.

The impressive private profits of Nokia come at a high price for the public. The special agreement between Nokia and the Tamil Nadu state government (India), signed in 2005, ensures the government will refund VAT on domestic sales to the value of Nokia's investments in infrastructure. This means it is actually the state government which is paying for the company's infrastructure (Citizens' Research Collective on SEZ, 2009).

Developing countries also increasingly offer tax exemptions to attract investments.

Tax competition between countries has negative consequences for international development and undermines economic development in different ways. Foreign companies insist on large tax benefits or tax exemptions, which they often receive. This means that multinationals gain an unfair tax benefit over local companies. Tax competition results in a 'race to the bottom' of countries that want to attract investments. Some countries will try to offer lower taxes than their competitors, while the competing countries will try to do the same. In the long term, this undermines international development. In all, tax competition is a complex problem, because countries are keen to attract foreign investments. It is, however, doubtful whether tax incentives are the right means to reach this goal (Tax Justice NL, 2009).

Tax exemptions together with lowered tariffs (trade liberalisation) result in limited tax revenues for governments. This means that less budget is available for investments in public goods en services, like education, health care and infrastructure.

Another important aspect is the resource outflow in the form of capital flight, tax avoidance and tax evasion. Developing countries are losing \$500bn to \$800bn in untaxed money that is leaving their economies unchecked. This flight of capital is up to 10 times the \$78bn that developing countries currently receive in aid. By far the biggest leak is the widespread and pernicious mispricing of exports and imports to shift profits out of the country (Kapoor, 2005).

Environmental taxes are an example of how taxes can be used to put a price on activities that are

considered harmful for society as a whole. For instance, a manufacturing plant may emit pollutants that have high environmental and health costs, but that impose little or no monetary cost on the manufacturer.

Standards

- The Extractive Industries Transparency initiative (EITI) sets a global standard for transparency in oil, gas and mining. The EITI is a coalition of governments, companies, civil society groups, investors and international organisations, and a standard for companies to publish what they pay and for governments to disclose what they receive. The EITI, in a nutshell, is a globally developed standard that promotes revenue transparency at the local level. In its principles, the EITI underlines the importance of high standards of transparency and accountability in public life, government operations and in business; as well of transparency by governments and companies in the extractive industries and the need to enhance public financial management and accountability.
- OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions.

Existing initiatives

- The Tax Justice Network promotes transparency in international finance and opposes secrecy. TJN supports a level playing field on tax and opposes loopholes and distortions in tax and regulation, and the abuses that flow from them. TJN promotes tax compliance

Nokia sells its phones mainly within India but still manages to get these counted towards export. While some of Nokia's goods are sold within India, this is still counted towards the company's export earnings. With the inclusion of telecom items in foreign exchange earnings, Nokia can sell its products anywhere, in India and abroad and still count as a Net Foreign Exchange earner for India. NFE needs to be positive for a Special Economic Zone unit to continue receiving central government benefits under the SEZ Act (Citizens' Research Collective on SEZ, 2009).

and opposes tax evasion, tax avoidance, and all the mechanisms that enable owners and controllers of wealth to escape their responsibilities to the societies on which they and their wealth depend. Tax havens lie at the centre of our concerns, and TJN opposes them.

- Tax Justice NL is a network of Dutch civil society organisations. The purpose of Tax Justice NL is to promote a just and fair tax system that is supportive to international development. The network hopes to influence Dutch politics, so that Dutch tax policies will become more coherent with development cooperation. Tax Justice NL was officially launched during the start conference on the 10th of May 2007.
- Publish What You Pay (PWYP) is a global civil society coalition that helps citizens of resource-rich developing countries hold their governments accountable for the management of revenues from the oil, gas and mining industries. Natural resource revenues are an important source of income for governments of over 50 developing countries. When properly managed these revenues should serve as a basis for poverty reduction, economic growth and development rather than exacerbating corruption, conflict and social divisiveness. PWYP argues for transparency of company payments and government revenues as well as of contracts and licensing procedures.
- The Global Reporting Initiative (GRI) has developed a widely used sustainability reporting framework which sets out the principles and indicators to measure and report their economic, environmental, and social performance. The cornerstone of the framework are the Sustainability Reporting Guidelines. In the Economic Indicator Protocols Set (EIP) the meaning of Economic Value Generated and Distributed (EVG&D) is defined as including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments. GRI also provides detailed Guidance on EVG&D Table Line Entries (2.2). Where it concerns Payments to governments (2.2.e.), companies should

provide data concerning all company taxes (corporate, income, property, etc) and related penalties paid at the international, national, and local levels.

Recommended steps

- Include ethical corporate tax policies in CSR policies.
- Ensure corporate tax policies include standards for tax payments with tax compliance as bottom line.
- Avoid profit-shifting mechanisms that are without substantial economic purpose and are used solely to reduce taxes.
- Publicly report on tax policies, the countries where companies operate, the profits derived from respective operations, where profits are booked for tax purposes; tax payments and accounting information – as part of CSR reporting. With regards to reporting on payments made to governments, Publish What You Pay as well as the Global Reporting Initiative provide useful standards.
- Build enhanced relationship with tax authorities.
- Refrain from bribery and corruption practices.



Trade and dumping

Issues

In the electronics industry, trading relations are not necessarily fair and beneficial for all parties concerned. An unfortunate poignant example of twisted relations is the trade in electronic waste. Electronic waste is routinely exported by developed countries to developing countries where laws to protect workers and the environment are inadequate, or not enforced. These trade practices are often in flagrant violation of international law.

The reasons behind the export of e-waste are manifold. First, it is cheaper to 'recycle' waste in developing countries; for example the cost of glass-to-glass recycling of computer monitors in the US is ten times higher than in China (Greenpeace, 2009). It may cost €10 to recycle a computer in Sweden, while it can be taken apart by Indian informal waste workers for a mere €1.50 (Swedwatch, 2009). Second, e-waste producing countries lack the facilities or know-how to properly dispose of the quantity of hazardous e-waste that is currently produced. Third, there is a market for waste. Demand in Asia for electronic waste started growing when scrap yards found they could extract valuable substances such as copper, iron, silicon, nickel and gold, during the recycling process. In other words, there are immense profits to be made by participants in the flourishing toxic trade. A mobile phone, for example, is 19 percent copper and eight percent iron (Greenpeace, 2009). Also, regulations are few and poorly enforced.

In the US there is very little regulation of e-waste. Less than 20 percent of US e-waste is recovered. Recycling percentages for PCs (10 percent) and TVs (14 percent) are even lower. The 2009 switch to digital TVs in the US and elsewhere will lead to a massive increase in the number of redundant analogue TVs. Much of the collected e-waste is exported; export of collected e-waste is allowed in the US.

In Europe, however, export of waste from electrical and electronic equipment (WEEE) to developing countries is banned according to European legislation (the Waste Shipment Regulation), due to the presence of components that risk damaging human health and polluting the environment. Despite this regulation, 75% of European e-waste is unaccounted for. Of the estimated 8.7 million tonnes of e-waste created annually in the EU a massive 6.6 million tonnes of e-waste is not recycled. Presumably, much of this waste will be exported (Greenpeace, 2009).

In 2000 and 2002, China introduced legislation prohibiting the import of e-waste. India has done the same, but this legislation contains many loopholes. Also Indonesia and Vietnam have decided to prohibit import of e-waste. However, these laws do not seem to be effective yet; e-waste is still arriving at Guiyu of Guangdong Province, the main centre of e-waste scrapping in China, as at many other destinations (Greenpeace, 2009).

In 2008, the Dutch Ministry of Transport, Spatial Planning and the Environment (VROM) has carried out extensive research among 25 European countries into the illegal transport of waste. After analysis of 74 cases of illegal shipments, Waste Electrical and Electronic Equipment (WEEE) comes out as the most important waste stream (21 cases). The most frequent violations are waste shipped as product, and contamination (VROM, 2008).

There is a great need for computers and other information technology in many African countries. These products may help the so-called digital divide. The export of second hand electronics equipment may contribute to quenching this need, by increasing poor people's access to electronics. This will furthermore prolong the lifespan of such products, which is good from an environmental point of view. It has negative consequences as well, however, as the final disposal of this stuff will occur in countries where proper recycling systems are lacking. Increasingly, brands and retailers in the US and Europe are held to take-back obsolete electronic products; this does not (yet) apply for second hand products that end up in developing countries.

Some exporters of e-waste attempt to cover up their illegal shipments by mis-labelling them as 'products for reuse' or 'donations'. It appears that at present Hong Kong, China, Singapore and Malaysia are the main recipients in Asia. In Africa, Nigeria and Ghana are the main destinations. Countries in the Middle East may receive shipments or function as transit. Also, trade routes tend to change, as traders try to escape strengthened control and the spotlight of the media (Swedwatch, 2009).

Even well intentioned shipments of computers for reuse are being abused. In Ghana, for example, traders report that to get a shipping container with a few working computers they must accept broken

junk like old screens in the same container from exporters in developed countries (Carroll, 2008). The broken junk and eventually even the working computers inevitably end up on dumps, as Ghana lacks the infrastructure to safely recycle toxic e-waste. Some developing countries are trying to curb the flow of second-hand goods by requiring age-limits for different products.

Standards

- Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE).
- The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, adopted on 22 March 1989. The Convention was initiated in response to numerous international scandals regarding hazardous waste trafficking that began to occur in the late 1980s. As of 1 January 1998, the Basel Ban decision effectively bans all forms of hazardous waste exports from member countries of the Organization of Economic Cooperation and Development (OECD) to all non-OECD countries.

Globalisation has added another dimension to waste trade and e-waste occupies centre stage of this trade. Large volumes of e-waste are being traded globally though in many cases illegally, and India is viewed as one of the most preferred destinations for outsourcing for the reverse manufacturing process of e-waste. Availability of cheap labour and weak environmental laws are largely responsible for the proliferation of such illegal trade. Subsequent to the WEEE Directive in the EU and the State laws in five States of US, India receives large amount of electronic waste for recycling and treatment from these countries. Lack of understanding of national policies on import export and porous ports at both the points of origin and the final destination also add to the volumes being traded. As the trade opportunities grow the traders and recyclers resort to newer methods and approaches in import-export of such materials. It is very unfortunate that the burden of such hazardous processing is passed on from the most developed world to the most marginalized communities of the developing countries (Toxics Link, 2007)

Existing initiatives

- The Basel Action Network is dedicated to preserving and implementing the Basel Ban (which is still under attack and needs to be protected against efforts at sabotage). BAN is advocating ratification of the Basel Ban, as for the amendment to enter the force of law it will need to be ratified by 62 of the Basel Parties.

Recommended steps

- Comply with international and national legislation or established international standards, whatever offers the highest environmental protection.
- Manufacturers and retailers of electronics equipment should prevent obsolete products going to recyclers who will export them to developing countries.
- Set up take-back and recycling systems that support branded end-of-life product differentiation.
- Aim for high collection and take-back levels (eg, above 95% of all e-waste generated), at least of own branded waste.
- Provide free, easy and global take-back and recycling services for all branded discarded products, both for business and individual customers, in every country where products are sold.
- Contribute to the costs of pre-testing and labelling of waste exports.
- Support developing countries in curbing the imports of fake second hand goods by controlling age-limits set in EU harbours.
- Reduce the hazardous content of electronic equipment.
- Authorities to allocate resources to inspect electronics shipments at their borders.
- Make consumers aware of the need to responsibly recycle their obsolete electronics.



Marketing and retailing practices

Issues

As a principle, companies should operate with honesty in their business affairs, marketing, advertising and their dealings with consumers. Companies are to uphold the safety and quality of the goods and services they provide. Decisions made with regards to selling practices on the retail market can increase price pressure on competitors, and as a consequence have an impact on environmental and labour conditions down the supply chain. There is a clear relation between retailer pricing, purchasing practices and compliance to labour and environmental standards throughout the supply chain.

Increasingly, consumers are interested in sustainable products. Companies and governments are to create the enabling parameters for such sustainable consumption.

Consumer have the right to know the origin of the products they consume and the way these are produced. This included the sources of components and raw materials. Product information and labelling are key in this respect. Consumers organisations have been calling upon companies to provide consumers with transparent and comprehensible information.

Obsolete electronics equipment should be properly recycled. Retailers and brands, as well as consumers, have a responsibility. The concept behind Producer Take-Back or Extended Producer Responsibility (EPR) is that if consumers require electronics producers to take financial responsibility for the disposal of their old and obsolete products, these companies have greater incentive to design toxic-free electronics that are cheaply and easily recycled. This not only alleviates the consumer and taxpayer burden, but it potentially diverts millions of pounds of e-waste from being dumped or burned. Producer Take-Back mandates that e-waste is recycled responsibly and not exported to impoverished countries or sent to prisons for dismantling. Because of consumer demand, electronics companies are slowly starting to facilitate the responsible recycling of their old products. Dell, HP and Apple have take-back policies enabling consumers to send back their old equipment when they purchase a new product. Informing consumers of such schemes and facilitating them to use them, is part of a responsible marketing and retailing approach.

Not to add even more to the streams of waste, smart packaging is required.

The mobile network operators' position in the supply chain of mobile communication products is particularly crucial since they are an important retail channel of mobile phones for consumers. It is common practice for mobile network operators to offer customers a "free" new mobile phone when they sign up for a new subscription, or renew their subscription. Evidently, this type of marketing has an enormous impact on the amount of mobile phones that are circulating on the market, as well as on the mobile phone production processes, and the mounting volumes of e-waste. Because the network operators are an important retail channel, even though their core business is the sale of services (ie the use of mobile network technology) instead of products (ie mobile phones), they have the unique opportunity to influence CSR policies and practices throughout the mobile phone supply chain, without harming their own sales of services. (makeITfair, 2009).

Connected to the irresponsible handling of electronic waste, there is also the issue of privacy of information. When discarded computers and other electronic equipment are not carefully disposed off, intimate details of people's lives like pictures and files left behind by the original owners on the hard disk drive, for example, as well as private financial data such as account information, records of online transactions, credit card numbers etc. can be retrieved. It is not just individuals who are exposed, but also companies, public institutions, governments etc. At the moment, electronics waste is shipped and dumped to a number of places that are not offering a particularly secure environment for safe handling of waste. Ghana, for example, is listed by the U.S. State Department as one of the top source of cyber crime in the world. Worldwide the risk of identity theft is increasing. Consumers have the right to be protected against such risks.

Standards

The UN Guidelines for Consumer Protection 1999 cover eight basic principles:

- the right to access necessary goods and services;
- right to safety;
- right to information;
- right to choice;
- right to be heard;
- to appeal and lodge a complaint;
- consumer education;
- promotion of sustainable consumption; patterns.

Existing initiatives

- The Basel Action Network initiated e-Stewards recyclers are a group of leading North American electronics recyclers and asset managers who have been qualified as upholding the highest standard of environmental and social responsibility. The criteria include no toxic

e-waste dumped in landfills or incinerators, exported to developing countries, or sent to prison labour operations and no release of private data.

- The Electronics TakeBack Coalition (ETBC) promotes green design and responsible recycling in the electronics industry. ETBC's goal is to protect the health and well being of electronics users, workers, and the communities where electronics are produced and discarded by requiring consumer electronics manufacturers and brand owners to take full responsibility for the life cycle of their products, through effective public policy requirements or enforceable agreements.
- Consumers International (CI) is a global campaigning voice for consumers. With over 220 member organisations in 115 countries, CI is building a powerful international consumer movement to help protect and empower consumers everywhere. In the series 'The real deal. Exposing unethical behaviour.', CI has published a number of reports, informing consumers of labour and environmental issues in the global electronics supply chain.
- Ethiscore is the consumer interface of the Ethical Consumer Research Association (ECRA). ECRA was founded in 1988 as a not-for-profit workers' co-operative to 'provide information on the companies behind the brand names and to promote the ethical use of consumer power.' ECRA is encouraging purchasers to take environmental and social issues into account in the market place.

Recommended steps

- Set retail prices in a responsible manner; refrain from stunting and selling products at below-cost retail prices.
- Brand companies to forbid retailers stunting with their products.
- Refrain from advertising that creates consumer expectations of unsustainably low prices (Clean Clothes campaign, 2009).
- Facilitate responsible consumption (ie, less

consumption), eg, refrain from offering irresistible short term mobile network subscription packages with cheap or free products.

- Provide consumers with reliable information about the origin and the production of electronic equipment, including sources of components and raw materials.
- Inform consumers on the global amount of recycled e-waste as a percentage of past sales by product type (Greenpeace, 2009).
- Minimise on packaging material and offer electronic equipment in recycled and recyclable packaging material
- Retailers to link up to responsible recyclers who meet the highest standards in electronics recycling.
- Set up or reliable free and easy take-back systems for all electronic equipment in all countries where products are sold.
- Publish clear information on what individual consumers can do with e-waste and make it accessible to customers in every country where products are sold.
- Brands and retailers to ensure their respective codes of conduct correspond on these points.



Public procurement

Issues

Public institutions are an important customer of electronic products, ranging from computers to communication equipment, including mobile phones. As such, public institutions including local administrations, universities, libraries etc, have a critical market share that can influence developments towards social and ecological goals in the electronics sector. Or, in other words, irresponsible procurement practices in public institutions are reinforcing the trend towards low priced products at any cost, putting unreasonable pressure on wages, working days and lead times in supply chains. The challenge is how to integrate environmental and social considerations into public procurement procedures. Tendering procedures typically look for the cheapest offer, leaving social and environmental criteria behind. The inclusion of environmental criteria in public tenders, or green public procurement, has grown somewhat in use over the past years. Many goods come with labels certifying their environmental standards. There are public databases where suppliers offer information about themselves and their products. Nonetheless, generally speaking managers and professionals are still largely ignorant of 'green IT', as shows a regularly updated assessment among business and administration professionals in the Netherlands (Ernst&Young, 2009).

The insertion of social considerations in tenders for electronics equipment is in an even more

rudimentary stage. Public institutions can make a positive contribution to improved working conditions in the production chain of electronics products by using their buying power. To do so, labour conditions should also be made a factor when purchasing electronic products. Increasingly, governments are taking steps towards enabling sustainable public procurement.

Standards

- Directive 2004/18/EC of the European Parliament and of the Council on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts.
- Directive 2004/17/EC of the European Parliament and of the Council of 31 March 2004 coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors.

Existing initiatives

- Procure IT Fair is a coalition of NGOs from various European countries that intends to raise awareness on the working conditions and environmental pollution created by the production of computers. ProcureITfair asks politicians and public purchasers to use their (buying) powers to demand compliance with

In 2008, the Swiss city of Zurich issued a call for tender for a framework contract for computer hardware. For this contract, the ILO labour standards were included in both the award criteria and the contract clauses. The sustainability criteria were given a prominent place among the award criteria, with a weight of 18%. The framework contract required tendering companies to adhere to the ILO labour standards, under penalty of a fine or annihilation of the contract.

international labour rights and ecological standards in the global supply chain of computers. ProcureITfair has elaborated Criteria for sustainable procurement of IT products.

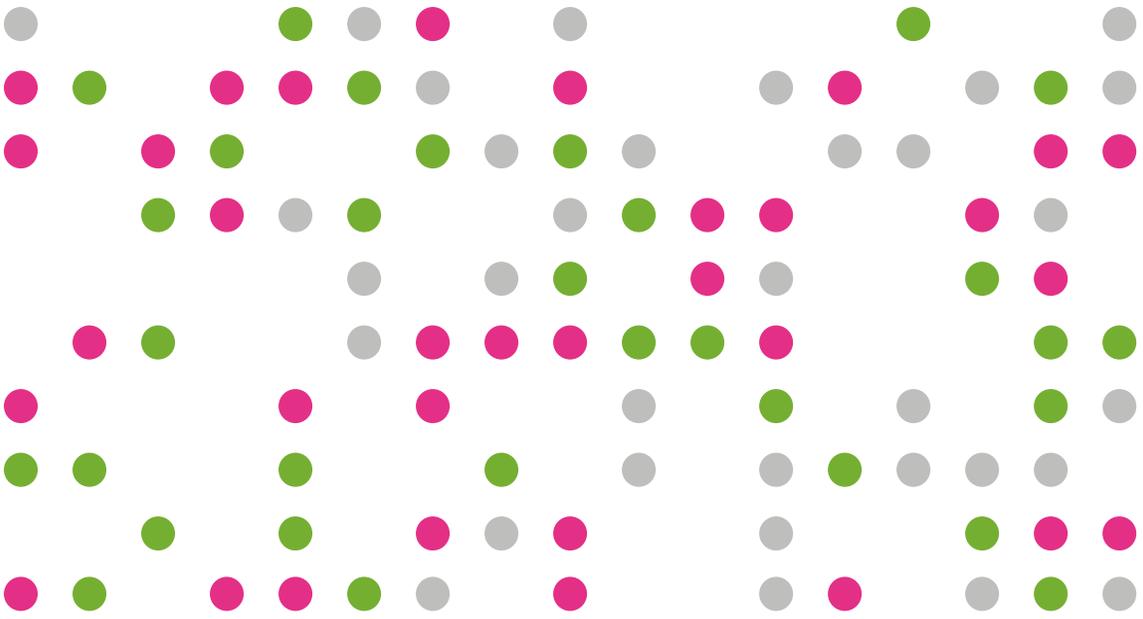
- Procura+ is an initiative by ICLEI (local governments for sustainability) designed to help support public authorities in implementing Sustainable Procurement – and help promote their achievements.
 - The United Nations Environment Programme (UNEP) has published Sustainable Procurement Guidelines for Office IT Equipment.
 - EPEAT is a system that helps purchasers evaluate, compare and select electronic products based on their environmental attributes. The system currently covers desktop and laptop computers, thin clients, workstations and computer monitors.
 - The European Commission has set a political target of 50% Green Public Procurement (GPP) to be reached by the Member States by the year 2010. The target is linked to a process for setting common -voluntary- green public procurement criteria, recommended for inclusion in tender documents for a series of priority product and service groups, including IT office equipment and mobile phones (under development).
 - The Dutch government has decided to include sustainability as an important criterion for the public procurement of products and services by 2010.
 - In Austria, ILO standards are included in national procurement law.
- human rights violations or environmental offences should be excluded from the tendering process. This should also apply when the violations occur within the supply chain.
 - Inquire at the bidder about the origin of metals used in electronic products, and to set standards concerning sustainable sourcing.
 - Take precautions to ensure that the purchasing of electronics equipment does not lead to unreasonable pressure on working hours and wages, by establishing reasonable prices and lead times.
 - Ensure sustainable repair, reuse or recycling of electronic equipment, after a maximum lifespan.
 - Make sure redundant equipment does not end up as illegally exported electronic waste to developing countries by working with reliable take-back systems.

Recommended steps

- Take into consideration the environmental and labour conditions in the entire supply chain of electronic equipment.
- Require tendering companies to provide full transparency regarding their supply chains;
- Avoid purchasing electronic equipment from companies that violate human rights, labour or environmental standards. Suppliers whose production processes are known to involve

Part 5.

References



References

- ActionAid. Breaking the Curse: How Transparent Taxation and Fair Taxes can Turn Africa's Mineral Wealth into Development. March 2009.
<http://www.actionaid.org/docs/breaking%20the%20curse%20full%20report...pdf>
- Amnesty International. Close the accountability gap. Corporations, human rights and poverty. May 2009. <http://demanddignity.amnesty.org/campaigns-en/corporate-accountability.html>
- Apple. Supplier Responsibility 2009 Progress Report. February 2009.
http://images.apple.com/supplierresponsibility/pdf/SR_2009_Progress_Report.pdf
- Apple. Supplier Code of Conduct, Prevention of Involuntary Labor. 2009.
http://images.apple.com/supplierresponsibility/pdf/Supplier_Code_of_Conduct_V3_1.pdf
- Asia Floor Wage Coalition. Towards an Asian Floor Level Wage Campaign in the Garment Export Sector – an analysis of labour and the supply chain in the garment export sector. 2005.
<http://www.asiafloorwage.org/documents/ActivitiesCampaings/AFW%20Discussion%20Note%201,%202005.pdf>
- Basel Action Network. What is the Basel Ban?
http://www.ban.org/about_basel_ban/what_is_basel_ban.html
- BCC Research. Global Electronics: High-Growth Products and New Markets. October 2007.
<http://www.bccresearch.com/report/IFT063A.html>
- BSR. International Labor Migration: A Responsible Role for Business. 2008.
http://www.bsr.org/reports/BSR_LaborMigrationRoleforBusiness.pdf
- Business Wire. “SIA Selects Vanderbilt University to Conduct Chip Industry Worker Health Study; Industry-Funded Study Will Assess Cancer Risk to Semiconductor Workers.” August 2005.
http://findarticles.com/p/articles/mi_m0EIN/is_2005_August_2/ai_n14841259/
- Carbon Disclosure Project (CDP). Supply Chain Report 2009. Shared value: Managing climate change in the supply chain. 2009.
https://www.cdproject.net/CDPResults/65_329_201_CDP-Supply-Chain-Report_2009.pdf
- Carroll, Chris. “High-Tech Trash. Will your discarded TV end up in a ditch in Ghana?” National Geographic. January 2008. <http://ngm.nationalgeographic.com/2008/01/high-tech-trash/carroll-text>
- CBI Market Information Database. Occupational health and safety: Electronic Components. 2008.
<http://www.cbi.nl>

- CERES. "IBM, Tesco and Dell Receive Top Scores in First-Ever Ranking of Consumer & Tech Companies on Climate Change Strategies." December 2008. <http://www.ceres.org/Page.aspx?pid=1002>
- CIPS. Ethical purchasing practices. January 2008. <http://www.cips.org/documents/Ethical%20purchasing%20practices%202022.1.08.pdf>
- Citizens' Research Collective on SEZ. The Public Price of Success. The costs of the Nokia Telecom SEZ in Chennai for the government and workers. June 2009. <http://sez.icrindia.org/>
- Clean Clothes Campaign. Cashing in. Giant retailers, purchasing practices, and working conditions in the garment industry. 2009. http://www.cleanclothes.org/component/docman/doc_download/1-cashing-in
- Clean Clothes Campaign (CCC). Full Package Approach to Labour Codes of Conduct. Four major steps garment companies can take to ensure their products are made under humane conditions. April 2008. http://www.cleanclothes.org/documents/Full_Package_Approach.pdf
- Clean Clothes Campaign (CCC). Made by women. 2006. <http://www.cleanclothes.org/resources/1304-made-by-women>
- Climate Group. SMART 2020: Enabling the low carbon economy in the information age. 2008. <http://www.theclimategroup.org/assets/resources/publications/Smart2020ReportSummary.pdf>
- Consumers International (CI). E-Waste: West Africa continues to drown in the rich world's obsolete electronics. April 2008. http://www.consumersinternational.org/shared_asp_files/GFSR.asp?NodeID=97576
- Consumers International (CI). Mobiles - Funding conflict in the Democratic Republic of Congo (DRC). June 2008. <http://www.consumersinternational.org/Templates/Internal.asp?NodeID=97580>
- Consumers International (CI). The hidden cost of mobile phones. 2009. http://www.consumersinternational.org/Shared_ASP_Files/UploadedFiles/130D88CB-C365-4E91-A48E-DF014D72D20B_TheRealDeal-mobiles1.pdf
- Clapp, Richard W. "Mortality among US employees of a large computer manufacturing company: 1969-2001." *Environmental Health Journal*. October 2006. <http://www.ehjournal.net/content/5/1/30>
- CSR Platform. CSR Frame of Reference. June 2007. http://mvoplatforn.nl/publications-en/Publication_2758/
- Danish Institute for Human Rights and International Dalit Solidarity Network. Dalit Discrimination Check. 2008. <http://www.indianet.nl/pdf/DalitDiscriminationCheck.pdf>
- Electronics Industry Corporate Citizenship (EICC). Carbon Reporting System for Electronics Companies. June 2009. <http://www.eicc.info/PDF/EICC%20Announces%20Carbon%20Reporting%20System.pdf>

- Electronics Industry Corporate Citizenship (EICC) Working Hours Task Force. Presentation made at the makeITfair and GoodElectronics Round Table. May 2009.
- Electronics Industry Corporate Citizenship (EICC). Annual report 2008. April 2009.
http://www.eicc.info/PDF/EICC%202008%20Annual%20Report_FINAL.pdf
- Energy Star. Energy requirements for computers version 5.0, 2009.
http://www.energystar.gov/ia/partners/prod_development/revisions/downloads/computer/Version5.0_Computer_Spec.pdf
- Enough Project. A Comprehensive Approach to Congo's Conflict Minerals - Activist Brief. April 2009.
<http://www.enoughproject.org/publications/comprehensive-approach-conflict-minerals>
- Enough Project. Conflict Minerals Pledge. 2009.
http://www.raisehopeforcongo.org/conflictminerals_pledge
- Ernst&Young. July 2009. Resultaten ICT Barometer Green ICT. Jaargang 9, July 2009.
http://www.ict-barometer.nl/_files-cms/File/Rapport%20ICT%20Barometer%20over%20Green%20ICT%20-%2014%20juli%202009.pdf
- Ethical Consumer. Ethical and green computer guide. Ethical Consumer 104, January/February 2007. http://www.ethicscore.org/reports/fulltext/computers_desktop.aspx
- Ethical Consumer. Ethiscore Report: Mobile phones. Poor ethics, shiny handsets. Ethical Consumer 110, January/February 2008. http://www.ethicscore.org/reports/fulltext/mobile_phones.aspx
- Ethical Trading Initiative (ETI). Living wage: make it a reality. 2008.
<http://www.ethicaltrade.org/sites/default/files/resources/ETI%20Conference%202008%20briefing%20paper%20%20Living%20wage.pdf>
- Ethical Trading Initiative (ETI). The ETI Base Code. May 2001.
<http://www.ethicaltrade.org/resources/key-eti-resources/eti-base-code>
- European Coalition for Corporate Justice (ECCJ). Fair Law: Legal Proposals to Improve Corporate Accountability for Environmental and Human Rights Abuses. 2009.
http://www.corporatejustice.org/IMG/pdf/ECCJ_FairLaw.pdf and http://ec.europa.eu/enterprise/csr/documents/stakeholder_forum/eccj.pdf
- European Commission. Green Public procurement (GPP) Product Sheet. 2008.
http://ec.europa.eu/environment/gpp/pdf/toolkit/office_IT_equipment_GPP_product_sheet.pdf
- European Environmental Citizens Organisation for Standardisation ECOS. Mission statement.
http://www.ecostandard.org/about_mission.php
- European Ecolabel. The European Ecolabel catalogue. <http://www.eco-label.com/default.htm>

- European Metalworkers Federation (EMF). For more secure employment - against precarious work. 2009. <http://www.emf-fem.org/Projects/Precarious-Work>
- Extractive Industries Transparency Initiative (EITI). The EITI Principles and Criteria. 2003. <http://eitransparency.org/eiti/principles>
- Farley, Erin. "Workshop on precarious employment urges action as financial crisis hits women, families hardest." March 2009. <http://www.imfmetal.org/index.cfm?id=622&l=2&cid=19148>
- Ferus-Comelo, A. "Double Jeopardy – Gender and Migration in Electronic Manufacturing" Challenging the Chip - Labor Rights and Environmental Justice in the Global Electronics Industry. Eds. T. Smith, D.A. Sonnenfeld, D. Naguib-Pellow, L.A. Byster, Temple University Press, 2006.
- Fox, J.D. "Womens' Work and Resistance in the Global Economy" Labor and Capital in the Age of Globalization – the Labor Process and the Changing Nature of Work in the Global Economy. Ed. B. Berberoglu. Rowman & Littlefield Publishers, Inc, 2002: 44.
- Franck, A. Key feminist concerns regarding core labor standards, decent work and corporate responsibility. 2008: 16. <http://62.149.193.10/wide/download/Anja%20Franck%20-%20Decent%20Work%20-%20FINAL.pdf?id=757>
- Global Ecolabelling network (GEN). Core criteria for personal computers, 2008. http://www.globalecolabelling.net/core_c.html
- Global eSustainability Initiative (GeSI). e-Waste Initiative. 2008. <http://www.gesi.org/Initiatives/eWaste/tabid/73/Default.aspx>
- Globalization Monitor. No choice but to fight. A documentation of battery women workers' struggle for health and dignity. July 2009. <http://www.globalmon.org.hk/en/01news/021gp-batteries-cadmium/%E2%80%9Cno-choice-but-to-fight%E2%80%9D/>
- Global Reporting Initiative. Telecommunications Sector Supplement. 2003. http://www.globalreporting.org/NR/rdonlyres/7276597E-65A1-47F3-A5B3-3BEB745A8B34/0/SS_Telecommunications_ENG.pdf
- Global Reporting Initiative. Sustainability Reporting Guidelines and Economic Indicator Protocols Set. <http://www.globalreporting.org>
- Global Witness. "UK company Afrimex broke international guidelines, says British government." August 2008. http://www.globalwitness.org/media_library_detail.php/661/en/uk_company_afrimex_broke_international_guidelines_says_british_government
- Global Witness. Natural resources in conflict. 2009. http://www.globalwitness.org/pages/en/natural_resources_in_conflict.html

- GoodElectronics. Common Demands. 2007.
http://goodelectronics.org/publications-en/Publication_2299/?searchterm=common%20demands
- Greendata. Getting to greener IT requires root cause analysis.
<http://www.greendataport.org/>
- Greengrid. <http://www.thegreengrid.org>
- Greenhouse Gas Protocol Initiative. GHGP Corporate Standard. 2001.
<http://www.ghgprotocol.org/standards/corporate-standard>
- Greenhouse Gas Protocol Initiative. Calculation tools.
<http://www.ghgprotocol.org/calculation-tools/all-tools>
- Greenpeace. Chemical contamination at e-waste recycling and disposal sites in Accra and Korforidua, Ghana. August 2008.
<http://www.greenpeace.org/raw/content/international/press/reports/chemical-contamination-at-e-wa.pdf>
- Greenpeace. CoolITchallenge.
<http://www.greenpeace.org/international/campaigns/climate-change/cool-it-challenge/about/faq>
- Greenpeace. Cutting edge contamination. A study of environmental pollution during the manufacturing of electronics products. February 2007.
<http://www.greenpeace.org/raw/content/international/press/reports/cutting-edge-contamination-a.pdf>
- Greenpeace. EPR Extended producer responsibility. An examination of its impact on innovation and greening. September 2006.
<http://www.greenpeace.org/raw/content/eu-unit/press-centre/reports/extendend-producer-responsibil.pdf>
- Greenpeace. Guide to greener electronics. June 2009.
<http://www.greenpeace.org/raw/content/usa/press-center/reports4/guide-to-greener-electronics-12.pdf>.
New improved ranking criteria explained. July 2009. <http://www.greenpeace.org/raw/content/international/press/reports/improved-criteria-explained.pdf>
- Greenpeace. Stop climate change. Impacts.
<http://www.greenpeace.org/international/campaigns/climate-change/impacts>
- Greenpeace. Where does e-waste end up?
<http://www.greenpeace.org/international/campaigns/toxics/electronics/where-does-e-waste-end-up>
- Gregoratti, Catia and Miller, Doug. (Re-)Instating Decent Work through Mature Systems of Industrial Relations: the case of River Rich Cambodia. July 2009.
<http://www.ilo.org/public/english/protection/condtrav/pdf/rwpaper4.2b.pdf>
- Geneva Women in International Trade (GWIT). Gender and Trade in The Multilateral Trading System. 2003.
http://www.wto.org/english/tratop_E/dda_e/symp03_gwit_e.doc

- HESA. "Cancers in "Silicon Glen". Scottish electronics industry victims fight for future generations" HESA newsletter, no 34. June 2008.
<http://hesa.etui-rehs.org/uk/newsletter/files/Nwsl-34-EN-p22.pdf>
- Holdcroft, Jenny. Creating conditions for collective labour relations to improve labour rights in the electronics industry. 2009
- Holdcroft, Jenny. "Export processing zones - Globalisation's great deceit." September 2003.
<http://www.imfmetal.org/index.cfm?c=8459&l=2>
- Home Workers Worldwide (HWW). About us. What is home work.
<http://www.homeworkersww.org.uk/about-us/what-is-homework>
- ILO. Better Work Programme.
http://www.ilo.org/global/What_we_do/Projects/lang--en/WCMS_084616/index.htm
- ILO. Gender equality at the heart of decent work, campaign. 2008-2009.
<http://www.ilo.org/gender/Events/Campaign2008-2009/lang--en/index.htm>
- ILO. Global employment trends for women. March 2008. http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_091225.pdf
- ILO. Tripartite declaration of principles concerning multinational enterprises and social policy. 2006
<http://www.ilo.org/public/english/employment/multi/download/declaration2006.pdf>
- ILO Special Action Programme to Combat Forced Labour. A Handbook for Employers & Business. Good practice case studies. October 2008. http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---declaration/documents/instructionalmaterial/wcms_099629.pdf
- ILO Special Action Programme to Combat Forced Labour. Strengthening Employers' Activities against Forced Labour. 2008. http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---declaration/documents/publication/wcms_097734.pdf
- ILO. Global Employment Trends for Women. March 2009. http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_103456.pdf
- ILO InFocus Initiative on Export Processing Zones (EPZs). Latest trends and policy developments in EPZs. March 2008. http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---relconf/documents/meetingdocument/wcms_090223.pdf
- Inform. Tracking Toxic Chemicals: The Value of Materials Accounting Data. 1997.
<http://www.informinc.org/materialsaccounting.php>
- International Budget Project. Friedman, Joel. A Guide to Tax Work for NGOs. October 2006: 59.
<http://www.internationalbudget.org/GuideTaxWork.pdf>

- International Dalit Solidarity Network (IDSN). Joint position paper with Human Rights Watch, the National Campaign on Dalit Human Rights (NCDHR) and other human rights organisations. April 2009. http://idsn.org/fileadmin/user_folder/pdf/New_files/UN/Durban_and_caste_-_joint_position_paper.pdf
- International Dalit Solidarity Network (IDSN). The Ambedkar principles. 2006. <http://www.indianet.nl/ambekarprinciples.html>
- International Finance Corporation (IFC). Good practice note. Addressing child labor in the workplace and supply chain. June 2002. [http://www.ifc.org/iffext/enviro.nsf/AttachmentsByTitle/p_childlabor/\\$FILE/ChildLabor.pdf](http://www.ifc.org/iffext/enviro.nsf/AttachmentsByTitle/p_childlabor/$FILE/ChildLabor.pdf)
- International Metalworkers' Federation (IMF). Action Programme 2005-2009. 2005. http://www.imfmetal.org/files/05052313430274/ap2005_2009_final_english.pdf
- International Metalworkers' Federation (IMF). Survey on Changing Employment Practices and Precarious Work. 2007. http://www.imfmetal.org/main/files/07090410362966/Report_precarious_survey_E.pdf
- International Metalworkers' Federation (IMF) and ArcelorMittal. Agreement on minimum requirements for Plant level Joint H&S Committees. June 2008. <http://www.imfmetal.org/files/08060311121679/AgreementArcelorMittalOHS.pdf>
- International Climate Change Panel (IPCC). 4th Report: Climate Change. 2007. http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_synthesis_report.htm
- ISO. Guidance standard on social responsibility. 2010. <http://isotc.iso.org/livelink/livelink/fetch/2000/2122/830949/3934883/3935096/home.html?nodeid=4451259&vernum=0>
- ISO. ISO Standard 14064-1:2006 Greenhouse gases. June 2009. http://www.iso.org/iso/catalogue_detail?csnumber=38381
- Ivanou, Alex. "Three types of employees hired in Batam's EPZs." October 2008. <http://www.imfmetal.org/index.cfm?c=18301&l=2>
- Joint Initiative on Corporate Accountability and Workers' Rights (JO-IN). Draft Code of Labour Practice. 2005. <http://www.jo-in.org/pub/docs/Jo-In%20Draft%20Common%20Code%2005.05.pdf>
- Joint Initiative for Corporate Accountability and Workers' Rights (JO-IN). Codes and compliance under scrutiny. A Final Report of the JO-IN Turkey Project. June 2008. http://www.jo-in.org/english/resimler/080623_JO-IN_Final_Report.pdf
- Kapoor, Sony. Plugging the Leaks. A very short paper on curbing capital flight, tax avoidance and tax evasion. 2005. <http://www.taxjustice.nl/dialogs/download.aspx?oid=071b6f7b-85f5-4731-8510-a8d5648c527e>

- Ladou, Joseph and Bailar, John C.. “Cancer and Reproductive Risks in the Semiconductor Industry” *Journal of occupational and environmental health* Volume 13. 2007: 376–385.
<http://www.ijoe.com/index.php/ijoe/article/view/407>
- La Strada. *Vietnamese Workers in Czech Factories – Research Report*. 2008.
<http://www.strada.cz/download/files/vietnamesew-08.pdf>
- Leung, Anna O.W. and others. “Heavy Metals Concentrations of Surface Dust from e-Waste Recycling and Its Human Health Implications in Southeast China” *Environmental Science and Technology* 42 (7). March 2008: 2674–2680.
- makeITfair. *Fair phones: it’s your call. How European mobile network operators can improve responsibility for their supply chain*. September 2009.
<http://makeitfair.org/the-facts/reports>
- makeITfair. *List of principles on the extractives phase of the electronics supply chain*, March 2008.
<http://makeitfair.org/companies/list-of-principles>
- Mines and Communities. *The London Mining Declaration*. October 2008.
<http://www.minesandcommunities.org/get.php?atid=23>
- MVO Platform. *CSR Frame of Reference*. June 2007.
http://mvplatform.nl/publications-en/Publication_2758/
- MVO Platform. *Supply Chain Responsibility*. October 2008.
<http://mvplatform.nl/themes/supply-chain-responsibility-2>.
- Nike. *Code leadership Standards*. 2009.
http://www.nikebiz.com/responsibility/workers_and_factories.html
- New England Lead-free Electronics Consortium. *Fact Sheet Getting the Lead Out of Electronics*. 2009.
http://www.turi.org/content/download/5509/59483/file/TURI_LeadFreeBrochure.pdf
- Organization for Security and Co-operation in Europe (OSCE). *Guide on Gender-Sensitive Labour Migration Policies*. 2009: 1. http://www.osce.org/publications/eea/2009/05/37689_1289_en.pdf
- Oxfam Australia and the Clean Clothes Campaign. *Sector-Wide Solutions for the sports shoe and apparel industry in Indonesia*. Revised 2009.
http://www.cleanclothes.org/documents/Revised_july_2009_Sector-Wide_Solutions_Indonesia.pdf
- Oxfam. *Trading away our rights. Women working in global supply chains*. 2004: 82.
http://www.oxfam.org.uk/resources/papers/downloads/trading_rights.pdf
- Pole Institute. *Dominic Johnson. Minerals and conflict in Eastern DRC. A Discussion Paper*. July 2009.
<http://www.pole-institute.org/site%20web/echos/echo114.htm>
- ProcureITfair. *Criteria for sustainable procurement of IT products*, 2009.
<http://www.procureitfair.org>

- Peter, Kristyine. "Precarious Work Affects Us All." May 2009.
<http://www.imfmetal.org/index.cfm?c=19404>
- Resolve Supply Chain Mapping Project. Project Update. July 2009.
http://www.resolve.org/eiscm/updates/Project_Update-2009-07-22.pdf
- Resource Consulting Service. Trading Conflict for Development. Utilising the Trade in Minerals from Eastern DR Congo for Development. April 2009.
- Ruggie, John. Promotion of all human rights, civil, political, economic, social and cultural rights, including the rights to development. Business and human rights: Towards operationalizing the "protect, respect and remedy" framework Report of the Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises. April 2009: 18.
<http://www2.ohchr.org/english/bodies/hrcouncil/docs/11session/A.HRC.11.13.pdf>
- Ruggie, John. Promotion of all human rights, civil, political, economic, social and cultural rights, including the rights to development. Clarifying the Concepts of "Sphere of influence" and "Complicity" Report of the Special Representative of the Secretary-General on the Issue of Human Rights and Transnational Corporations and other Business Enterprises. May 2008.
<http://www.reports-and-materials.org/Ruggie-companion-report-15-May-2008.pdf>
- Ruggie, John. Portal. <http://www.business-humanrights.org/SpecialRepPortal/Home>
- SOMO. Capacitating Electronics. The corrosive effects of platinum and palladium mining on labour rights and communities. November 2007.
http://makeitfair.org/de-feiten/rapporten/Capacitating-Electronics-november-2007.pdf/at_download/file
- SOMO. Computer connections. Supply chain policies and practices of seven computer companies. May 2009. http://somo.nl/publications-nl/Publication_3054-nl/at_download/fullfile
- SOMO. Configuring labour rights. Labour conditions in the production of computer parts in the Philippines. July 2009. http://somo.nl/publications-en/Publication_3109/at_download/fullfile
- SOMO. Mobile connections. Supply chain responsibility of five mobile phone companies. September 2008. http://somo.nl/publications-en/Publication_2728/at_download/fullfile
- Stop child labour - School is the best place to work. Action plan for companies to combat child labour. May 2008. <http://www.stopchildlabour.eu/stopchildlabour/content/download/463/2983/file/New%20Action%20Plan%20for%20Companies%20Against%20Child%20Labour.pdf>
- Swedwatch. Out of Control: E-waste trade flows from the EU to developing countries. April 2009. http://makeitfair.org/the-facts/reports/out-of-control/at_download/file
- Tax Justice NL. Tax avoidance and tax havens. <http://www.taxjustice.nl/?nid=63000>
- Tax Justice NL. Tax competition. <http://www.taxjustice.nl/?nid=64000>

- Tax Justice Network. Tax havens cause poverty. http://www.taxjustice.net/cms/front_content.php?idcat=2
- TCO. Our certification overview for IT-equipment. <http://www.tcodevelopment.com/>
- Tenaganita. "Employers should NEVER be allowed to recover the levy paid from wages of worker." May 2009. http://www.tenaganita.net/index.php?option=com_content&task=view&id=295&Itemid=68
- Toxics Link. Sinha, Satish. "Downside of the Digital Revolution." Toxics Link. December 2007. <http://www.toxicslink.org/art-view.php?id=124>
- Traidcraft. A Fair Cup: towards better tea buying. 2008. <http://www.responsible-purchasing.org/downloads/AFairCup.pdf>
- UNEP. Rio Declaration on Environment and Development. 1992. <http://www.unep.org/Documents.multilingual/Default.asp?DocumentID=78&ArticleID=1163>
- UNEP. Sustainable Procurement Guidelines for Office IT Equipment. May 2008. <http://www.unep.fr/scp/sun/guidelines/ict/SP%20guidelines%20office%20IT%20-%20Product%20Sheet%20-%20final.pdf>
- UNHCHR. Committee on Migrant Workers. Frequently Asked Questions. 2009. <http://www2.ohchr.org/english/bodies/cmw/faqs.htm>
- VROM, the Dutch Ministry of Transport, Spatial Planning and the Environment. Learning by doing. Enforcement of EU Waste Shipment Regulation. June 2008. <http://www.vrom.nl/docs/IMPEL-TFS.pdf>

A publication that deserves particular mention is:

- Challenging the chip - Labor Rights and Environmental Justice in the Global Electronics Industry Eds. T. Smith, D.A. Sonnenfeld, D. Naguib-Pellow, L.A. Byster , Temple University Press, 2006.

