



Risk-assessment: Construction and landscaping

A report for the Norwegian Government Agency for Financial Management (DFØ) by Swedwatch 2020

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Introduction

Swedwatch has carried out risk assessments of different product categories on behalf of the Norwegian Government Agency for Financial Management (DFØ). The purpose of the risk assessments is to provide information on potential adverse impacts on labour rights and human rights in the supply chains of the selected products. The risk assessments will guide contracting authorities on the importance of social considerations in their purchasing practices and under what conditions such criteria should be applied. The risk assessments will also improve the readers' understanding of what to look for when monitoring supplier compliance.

It is important to note that the risk assessments do not aim to scrutinise or describe the supply chain of any particular brand or supplier. The purpose is to give a general understanding of the potential risks linked to a product.

General risks are broadly outlined in the narrative text, while risks categorised as most adverse are summarised in an introductory risk matrix. The grading at the bottom of the risk matrix indicates a combination of the severity and likelihood of the risk and aims to provide guidance on where the main risks are normally found in the supply chain. For example, for products that are assembled in both a high-risk and a low-risk context to more or less the same extent, the risk will be graded lower than if the product had been predominantly assembled in a high-risk environment. This also means that even if a number of potential severe risks are listed in the column, the risk may still be considered low if it is likely that the production mostly takes place under safe and sound processes in a low-risk environment.

The grading includes the following range:

Very low	Low	Medium-high	High	Very high
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Method and data

The data used for the risk assessments is mainly gathered from civil society reports, investigative articles, and academic research. As transparency and traceability is often limited, trading data has been used for the mapping of the supply chains. Therefore, the supply chain data, especially on a component and raw material level, partly presents the likelihood of a certain producing country being included in the supply chain. The supply chain data must therefore not be viewed as exact for every single product procured by Norwegian contracting authorities but should be considered a general estimate.

This report was written in August 2020.

Construction and landscaping materials and products

Product	Raw material extraction	Refinement and processing
Stone	High risk	High risk
Wood	Medium high risk	Medium high risk
Metal	High risk	High risk

Construction materials and products contain a broad spectrum of different goods, including boards, paint, isolation, paints, glass, metal, wood and stone. Norway produces construction materials and goods but also import materials, mainly from Sweden, Germany, Denmark, Poland, and China, and many other, mainly European, countries.¹ The length and complexity of supply chains vary between different material and goods.²

For this particular risk-assessment, the following products are included:

- Stone
- Wood
- Metal

Risks

Risks normally increase early on in the supply chain, where raw materials are extracted and processed.³ As the supply chains are complex and fragmented across the world, traceability is limited and transparency is low, which increases the level of risk for human rights and environmental concerns. Level of risks in construction materials is highly dependent on the region or country where they are produced and where the raw materials are sourced. Re-occurring risks include occupational health and safety, negative impacts on livelihoods, violation of indigenous peoples' rights, absence of trade unions/anti-union laws and practices, low wages, and forced labour. These risks are mainly associated with countries and regions where enforcement of law and protection of workers is low.

Initiatives, guidelines and standards

Please note that Swedwatch has not carried out a thorough analysis regarding the initiative/certification/guidelines' effectiveness or credibility. Criticism has been included when found but a more in-depth investigation would likely find additional weaknesses.

Sector initiatives

Fair Stone is a non-profit multi-stakeholder initiative that provides a social and environmental standard for importers of natural stone from China, Vietnam, and India. Companies can become certified through an independent third party against the standard, which includes requirements

¹ Byggsvaruindustrien, Byggvarestatistikk -import/eksport Pr. 1. Halvår 2017

² Upphandlingsmyndigheten, [Bygg och fastighet](#), updated 2019-08-15, retrieved 2020-08-11

³ SBU, Ansvarsfulla materialval i anläggningsbranschen Analys avseende miljö och sociala risker, 2015-07-15

concerning health and safety, compliance with ILO core conventions, traceability, and capacity building for employees.⁴

EITI stands for Extractive Industries Transparency Initiative and is an initiative and standard that aims to increase transparency in the extractive industries. States, companies and organisations are stakeholders engaged in the initiative. The standard requires countries to disclose information about how extraction rights are awarded, how revenues are handled by the governments, and how they benefit the public.⁵

The International Council on Mining and Metals brings together about fifty mining companies and industry associations with the aim of supporting sustainable development. Members are required to maintain sustainability strategies in accordance with defined principles, annual sustainability reports and to submit independent audits.⁶ However, there is no guarantee that member companies will enforce or comply with their strategies. One example is mining company Vale. Vale is the owner of the controversial iron ore mine in Brazil where an adjacent dam collapsed and caused the death of more than 250 people.

FLEGT stands for Forest Law Enforcement, Governance and Trade and is the EU's action plan to promote legally harvested timber. The **EU's Timber Regulation (EUTR)**, forbids operators in Europe to sell illegally logged timber on the European market and requires wood importers to collect information of the source of timber. It also requires operators on the European market to and take preventive measures in the event of risk of illegal logging.⁷

Guidelines

Swedish entrepreneurs within the building and landscaping sector have developed guidelines on how to procure socially responsible materials, aimed at public bodies. They have also produced a report summarising environmental and human rights risks related to several materials that are relevant for the construction sector.

Ethical Trading Initiative⁸ has developed guidelines to support responsible public purchasing of natural stone from India.

Ethical working group for requirements and follow-up of natural stone is a working group consisting of six Swedish municipalities⁹ that work to ensure responsible sourcing of natural stone. The working group has developed guidelines to support responsible public purchasing of natural stone and monitoring of stone suppliers.¹⁰

⁴ [Fair Stone](#)

⁵ [EITI](#) retrieved 2020-08-24

⁶ [International Council on Mining & Metals](#), retrieved 2020-08-24

⁷ [EU Flegt](#)

⁸ [Ethical Trading Initiative](#)

⁹ Gothenburg, Malmö, Örebro, Stockholm, Linköping and Lund.

¹⁰ Etisk arbetsgrupp Göteborg, Malmö, Örebro, Stockholm, Linköping och Lund, [Vägledning för etiska krav och uppföljning av natursten](#), 2018-03-08

Certifications

The Forest Stewardship Council (FSC) is an independent, international member organisation that works for environmentally socially responsible and economically viable use of the world's forests through the third-party certification FSC. FSC includes criteria for traceability, responsible forestry, working conditions, labour rights and respect of indigenous peoples' rights.¹¹ The certification is found on timber, wood products, paper and other products. The FSC certification has been criticised by several of its members and other organisations for not living up to its own standard. Several organisations, including Greenpeace have therefore left the FSC.¹²

The Program for the Endorsement of Forest Certification (PEFC) is a certification for sustainable forestry that takes environmental and social considerations into account. The label is found on different types of wood products. PEFC has been criticised by Greenpeace, among others, for being an industry label with sub-standard requirements and no guarantee of sustainable forestry.¹³

Nordic Ecolabeling

Nordic Ecolabeling is an environmental certification that aims to lower the environmental impact of a number of different products. The certification is used on, for example, plywood, windows, flooring, and panels. It aims to reduce toxic chemicals and enhance recycled materials. The label also requires the certified companies to have a code of conduct that is communicated to subcontractors and suppliers.¹⁴

Stone

Summary of the most severe/most prevalent risks

Raw material: quarrying and processing
Child labour
Forced labour
Hazardous working conditions and silicosis
Low wages
Excessive overtime
Lack of union rights
Impacts on livelihood caused by pollution
Sexual harassment
Discrimination against female workers
High risk

The Product

Stone is an integral component of construction and landscaping and can be divided in several categories and areas of usage. Natural stone, such as granite, gneiss, limestone, marble, quartz and slate are used in facades, flooring, outside walls and decorations, curb stones and paving stone

¹¹ [Forest Stewardship Council](#)
¹² Mongabay, [Greenpeace International ends its Forest Stewardship Council membership](#), 2018-03-30
¹³ Greenpeace, [Greenpeace, RAN warn of forest certification greenwash](#), 2015-06-24
¹⁴ [Nordic Ecolabeling](#),

(mainly granite).¹⁵ Sand, gravel and crushed stone are used as raw material in road construction, railways and housing, concrete and other materials.¹⁶ Natural stone such as granite and marble is generally extracted in stone quarries through digging and removal of over-burden, drilling, and the detachment of blocks through the use of explosives. The extracted blocks are then cut and sawn into smaller pieces, to be polished and coated.¹⁷

The supply chain

Norway has a large production of both natural stone, sand, and gravel, and its export is increasing.¹⁸ However, imports remain important due to strong competition on the global market. Norway imports stone from China, India, Portugal¹⁹, Germany, Estonia, Italy, Sweden and several other countries.²⁰ China is the largest processor and re-exporter of natural stone and a large importer of granite from India. This means that granite imported to Norway from China could be sourced from India²¹ or other countries. Stone supply chains can be very complex. For example, the supply chain of Indian granite includes several middlemen of wholesalers, importers, processors and retailers between the stone quarry and the end-user.²²

Sources of natural stone, gravel and sand²³

Granite: Norway, China, India, Sweden
Slate: Norway, China, Sweden, Brazil
Marble: Spain, Italy, Portugal, China
Gravel and crushed stone: Norway, Sweden, Italy, Denmark, UK
Sand: Sweden, USA, Denmark, Belgium/Luxembourg

Risks

Extraction and processing of rock, sand and natural stone is in general associated with risks of hazardous and harsh working conditions, cuts and crush injuries, falling rock in quarries, lack of health and safety equipment and training for employees. Quarrying, but to a higher extent processing of stone generates fine dust particles, which can cause silicosis, a deadly lung disease, if there is a lack of sufficient protective masks. Stone extraction may also cause environmental pollution that may impact surrounding waterbodies and soil utilised by local communities and subsequently negatively impact the quality water used domestically and harvests. Low wages,

¹⁵ Norsk bergindustri, Steinhåndboka – [Naturstein utemiljø](#), 2013; Norges geologiske undersøkelse, [Naturstein](#), updated 2015-05-14, retrieved 2020-08-11

¹⁶ Norges geologiske undersøkelse, Sand, grus og pukk som byggråstoff, updated 2020-02-03, retrieved 2020-08-11

¹⁷ World Natural Stone Association, [Granite](#), [Marble](#), retrieved 2020-08-12

¹⁸ Direktoratet for mineralforvaltning, [Harde fakta om mineralnaeringen – mineralstatistikk](#) 2018

¹⁹ Observatory of Economic Complexity, Exporters of curbstone to Norway 2018, retrieved 2020-08-11

²⁰ Observatory of Economic Complexity, Exporters of building stones to Norway 2018

²¹ India Committee of the Netherlands Landelijke India Werkgroep, et al., [The Dark Sites of Granite: Modern slavery, child labour and unsafe work in Indian granite quarries - What should companies do?](#), 2017

²² India Committee of the Netherlands Landelijke India Werkgroep, et al., [The Dark Sites of Granite: Modern slavery, child labour and unsafe work in Indian granite quarries - What should companies do?](#), 2017

²³ Please note there are other types of rock defined as “natural stone”. The mentioned types were selected due to their common use. All data comes from Observatory of Economic Complexity, retrieved 2020-08-11, search words “granite” “slate” “Marble, travertine and alabaster”, “gravel and crushed stone”, “sand”.

excessive and unpaid overtime are also common risks.²⁴ These risks are most prevalent in countries with low or limited enforcement of labour laws and lack of unionisation, such as India and China. These risks are considerably lower in the Norwegian and European context.

Granite extraction in south India is labour intense and the use of heavy machinery or mechanical assistance is limited. Many workers are seasonal and have migrated from another state, migrant workers. These workers tend to have limited rights and are usually/often paid lower wages in comparison to local workers.

Stone quarrying is considered hazardous work, and protective equipment is often not provided by employers. Indian granite quarries are infamous for extensive child labour. However, there have been indications of a decrease in child labour over the past few years.²⁵ Both adults and children working in Indian stone quarries generally lack access to all labour rights, and safety standards are absent. Many suffer from silicosis.²⁶ Workers are exposed to heat and dust. Forced labour has also been reported from Indian stone and granite quarries, through debt bondage, where workers are bound to the employer through loans or wage advancements. Many are recruited through recruitment agencies as a way for quarry owners to escape responsibilities of worker's welfare. Workers often lack employment contracts and unionisation is non-existent. Wages are reported to be low, often under minimum wage, and paid as piece rate. Workers do not get compensated for over-time.²⁷ Sexual harassment and discrimination of women also occur.²⁸ Illegal granite mining in India and permits that have been obtained on corrupt grounds has also been reported.²⁹

There are approximately 5.000 stone quarries and 10.000 stone processing plants in China. Working conditions can vary greatly between different sites.³⁰ Poor health and safety conditions, exposure to silica dust and loud noise, low wages and unpaid overtime has been reported from Chinese stone quarries.³¹ China is a repressive state and has only ratified four of the eight ILO core conventions, and free unions are illegal.³² According to International Trade Union Confederation (ITUC), there is no guarantee of labour rights being respected in China.³³

²⁴ SBU, Ansvarsfulla materialval i anläggningsbranschen Analys avseende miljö och sociala risker, 2015-07-15

²⁵ India Committee of the Netherlands Landelijke India Werkgroep, et al., [The Dark Sites of Granite: Modern slavery, child labour and unsafe work in Indian granite quarries - What should companies do?](#), 2017

²⁶ Thomson Reuters Foundation, Many workers in Indian stone quarries, including children, dying of incurable lung disease to produce garden and kitchen tiles, 2016-05-09

²⁷ India Committee of the Netherlands Landelijke India Werkgroep, et al., [The Dark Sites of Granite: Modern slavery, child labour and unsafe work in Indian granite quarries - What should companies do?](#), 2017

²⁸ Ethical Trading Initiative, [A guide for the ethical sourcing of natural stone from Rajasthan, India](#), n.d.

²⁹ India Committee of the Netherlands Landelijke India Werkgroep, et al., [The Dark Sites of Granite: Modern slavery, child labour and unsafe work in Indian granite quarries - What should companies do?](#), 2017

³⁰ SBU, Ansvarsfulla materialval i anläggningsbranschen Analys avseende miljö och sociala risker, 2015-07-15

³¹ Byggvarubedömningen, [Ansvarsfulla leverantörsled – risker associerade med naturstensprodukter](#), 2019

³² International Labour Organisation, [Ratifications of fundamental Conventions by country](#), retrieved 2020-08-12; ITUC, [Workers Rights Index](#), 2019

³³ ITUC, [Workers Rights Index](#), 2019

Child labour in stone, limestone, granite, sand and/or gravel quarries has been reported from several African countries including Nigeria and Madagascar (in both countries forced labour is also a real concern), Burkina Faso Uganda, Sierra Leone but also from Nepal and Paraguay.³⁴

Limestone quarries are often sources of pollution³⁵, and sand mining can have large-scale impacts on the environment and ecosystems. Such mining can pollute water and soil, and create coastal erosion that impacts birds, fish and other wildlife. The extraction can change the course of water flows and cause collapse of infrastructure. As a result, local communities adjacent to areas of sand mining are at risk losing access to clean water, land and food, and often face severe threats of loss of livelihood.³⁶ Sand is reportedly extracted illegally in many places and increasingly sold by organized criminal groups in countries including India, Israel, Nigeria and Jamaica. The sand trade is also increasingly associated with deadly violence.³⁷

Wood

Summary of the most severe/most prevalent risks

Raw material wood/processing
Poor and hazardous working conditions Forced labour Child labour Violations of indigenous peoples’ rights and livelihoods Illegal logging Sexual exploitation of women Violence against human rights and environmental defenders Deforestation and environmental degradation, contributing to climate change and biodiversity loss Land grabbing Finance of armed conflict
Medium-high risk

The Product

Wood is amongst many things used in construction furnishing, floors, ceilings, doors, windows and panels, building frames and structures. Wood is also present in landscaping constructions, such as board walks, bridges, stairs, fences and wharfs.³⁸ Pine, spruce and birch are mainly used in the

³⁴ U.S Department of Labor, [List of Goods Produced by Child Labor or Forced Labor](#), retrieved 2020-08-12

³⁵ The Guardian, [Concrete: the most destructive material on earth](#), 2019-02-25

³⁶ The Guardian, [Sand mining: the global environmental crisis you’ve probably never heard of](#), 2017-02-27

³⁷ The Guardian, [Concrete: the most destructive material on earth](#), 2019-02-25; Wired, [The deadly global war for sand](#), 2015-03-26

³⁸ Svenskt trä, [Trä i anläggningar, trä- och träbaserade produkter](#), retrieved 2020-08-12

construction of buildings in Norway.³⁹ Tropical hardwood, which is weather proof wood, is commonly used for out-doors construction as well as flooring. In accordance with the Procurement Action Plan from Norwegian ministries (2007-2010), many Norwegian authorities have adopted policies that ban the use of tropical timber in public building projects and included this principle in guidelines for public procurement. Still, in 2013 it became apparent that tropical timber were used in state-owned projects.⁴⁰ According the civil society organisation Regnskogfondet, the use of tropical timber in public construction still occurs - in contradiction to endorsed policies - and the awareness of risks related to tropical timer seems to have decreased among public purchasers.⁴¹

The supply chain

The supply chain for wood products generally involves several actors, starting with forest owners selling wood to buyers such as sawmills, pulp producers and veneer producers, who after refining the product sells it to other processors and end-users.⁴² Norway has a large wood industry that provides the construction sector.⁴³ Import is nevertheless growing, and in 2019, 95 percent of the imported wood originated from Sweden.⁴⁴ In addition, Norway imports coniferous lumber and sawn wood from several other countries, including Finland, Denmark, Germany and the Baltic states.⁴⁵ Non-coniferous lumber is imported from European countries mainly, but is also imported from Asian countries such as Malaysia and the United States.⁴⁶ It is important to keep in mind that exporting countries also import raw lumber, which could be re-exported. For example, SCA, one of Sweden's largest wood product producers, imports a smaller share of its raw material from Finland, Norway, the Baltic States, Poland, Spain and Scotland.⁴⁷

On the global market, China is by far the largest producer and exporter of plywood, followed by Russia, Indonesia, Brazil and Malaysia.⁴⁸ According to the Observatory of Economic Complexity - a database which visualises world trade data of numerous products - plywood is mainly imported to Norway from Finland, Latvia, Russia, China and Chile.⁴⁹ Plywood may contain a core of Chinese poplar or eucalyptus, with layers of tropical hardwood from high-risk areas such as Papua New Guinea or African countries.⁵⁰ MDF boards are mainly produced in Europe.⁵¹

³⁹ Swedwatch, Riskanalys av byggmaterial och byggprodukter – en rapport av Swedwatch på uppdrag av Oslo kommune, 2017

⁴⁰ Regnskogfondet, Unngå tropisk tømmer, retrieved 2020-08-13

⁴¹ Email from Solveig Firing Lunde, Regnskogfondet, 2020-08-25

⁴² Swedish University of Agricultural Sciences, et al., Collaboration along the wood value chain, n.d.

⁴³ Swedwatch, Riskanalys av byggmaterial och byggprodukter – en rapport av Swedwatch på uppdrag av Oslo kommune, 2017

⁴⁴ Treindustrin, [Nökkeltall](#), retrieved 2020-08-12

⁴⁵ Observatory of Economic Complexity, [sawn wood](#), 2018, retrieved 2020-08-12

⁴⁶ Observatory of Economic Complexity, [non-coniferous lumber](#), 2018, retrieved 2020-08-13

⁴⁷ SCA, [Our forests](#), retrieved 2020-08-13

⁴⁸ Global Trade, [Global Plywood Market 2019 – The Industry Desperately Needs New Growth Drivers](#), 2019-09-09

⁴⁹ Observatory of Economic Complexity, [plywood](#), 2018, retrieved 2020-08-12

⁵⁰ National Measurement Office, [EUTR: Plywood imported from China](#), 2015

⁵¹ Swedwatch, Riskanalys av byggmaterial och byggprodukter – en rapport av Swedwatch på uppdrag av Oslo kommune, 2017

Raw material supply chain (coniferous and non-coniferous lumber, sawn wood, plywood)		
Coniferous	Non-coniferous	Plywood
Norway Sweden Finland Denmark Germany Baltic States	Sweden Germany Denmark Latvia The Czech Republic Malaysia	Finland Latvia Russia China Chile

Risks

From a global perspective, Norwegian forestry considered a low risk operation from a human rights and labour rights risks perspective.⁵² Risks associated with wood production are mainly higher in countries with low enforcement of law and high prevalence of corruption. However, forestry is a high-risk operation in general, with risks of worksite related accidents in many places.⁵³ In 2018, 12 people died in work-related accidents in Norwegian agriculture, fishing and forestry, and the accident ratio in these sectors is higher in comparison to other sectors.⁵⁴ Data from Sweden and the rest of the EU points towards the same trends.⁵⁵ General occupational health and safety risks include falling trees and branches, slipping, cuts, noise and vibrations from machines, extreme weather conditions, as well as accidents related to the use of large vehicles.⁵⁶

In high-risk contexts, forestry is associated with risks of illegal logging, poor and hazardous working conditions, land grabbing and land acquisition without consultation or consent from local communities, impacts on indigenous peoples' rights, sexual exploitation of women, environmental degradation and deforestation, contributing to climate change and biodiversity loss.⁵⁷ The work force is often employed seasonally, which increases the risk of poor working conditions and low wages, even in low-risk countries such as Sweden.⁵⁸

Illegal logging happens when timber is harvested, transported, processed, bought or sold in violation of any national or sub-national law.⁵⁹ Notably, it has been estimated that 50-90 percent of forestry activities in tropical areas are illegal. Illegal logging does not however only occur in tropical forests. Illegal logging is common in Russia, where 25% of the timber exported is assessed to be illegal. Illegal logging has also been reported from Romania and Poland, when pristine forests with high-

⁵² Forest Stewardship Council, FSC-NRA-NO V1-0 National Risk Assessment for Norway, 2018

⁵³ ILO, [Decent work in forestry](#), 2015

⁵⁴ Statistisk Sentralbyrå, Arbeidsulykker 2018, retrieved 2020-08-13

⁵⁵ Eurostat, [Accidents at work statistics](#), updated November 2019, retrieved 2020-08-13

⁵⁶ International Labour Organisation, [Promoting decent work and safety and health in forestry](#), 2019

⁵⁷ Swedwatch, [Undercutting rights – Human rights and environmental due diligence in the tropical forestry sector. A case study from Cameroon](#), 2018

⁵⁸ SBU, Ansvarfulla materialval i anläggningsbranschen Analys avseende miljö och sociala risker, 2015-07-15

⁵⁹ WWF, [Illegal logging](#), n.d., retrieved 2020-09-07

conservation values have been cut down in violation of forestry laws.⁶⁰ Logging in high-risk areas has also been associated with killings of human rights and environmental defenders. In 2019, 24 environmental or human rights defenders were killed, as a result of opposing logging activities.⁶¹ In connection to the illegal logging in Romania, two people who opposed the illegal practices were murdered by criminal gangs.⁶² Illegal (and sometime legal) logging may in high-risk and conflict areas also finance armed conflict or armed criminal gangs and networks.⁶³ Countries at risk are among others DR Congo, Cameroon, Myanmar, Burkina Faso, Liberia and Papua New Guinea.⁶⁴

Forced labour is another concern related to logging in high-risk areas such as Russia, Brazil and Peru. Child labour is also reported from countries such as Cambodia, Vietnam⁶⁵ and Myanmar.⁶⁶ Children working with logging are exposed to safety hazards and isolation and migration to remote areas may impact abilities to attend school. Children are also sometimes subjected to forced labour in the forestry sector.⁶⁷

Logging is globally a threat to indigenous peoples' rights and existence, not the least in tropical forests, as indigenous people depend on forests for their livelihood and enjoyment of cultural rights. However, the issue is also relevant in the Northern Hemisphere; in Norway, Sweden and Finland, Sami communities enjoy cultural land rights by law and have the right to be consulted if forest activities are taking place on their land.⁶⁸ Sweden has been criticised by the EU and the UN for not fully respecting the Sami peoples' rights and traditions.⁶⁹ The Sami are to some extent dependant on reindeer herding for their income, which in turn is highly dependent on access to forests and large areas for pasturing.⁷⁰ Industrial forestry in Sweden has decreased pastureland areas and the grazing land has been damaged when tree lichen (food for reindeer) has disappeared due to clear felling or introduction of the invasive species contorta pine.⁷¹ Lichen rich forests have rapidly decreased by

⁶⁰ Fern, *Forests in Danger*, 2019 and *The Guardian*, Poland violated EU laws by logging in Białowieża forest, court rules, 2018-04-17

⁶¹ Global Witness, [Defending tomorrow - The climate crisis and threats against land and environmental defenders](#), 2020

⁶² The BBC, *Romania forest murder as battle over logging turns violent*, 2019-10-21

⁶³ WWF, [The GFTN Guide to Legal and Responsible Sourcing](#), n.d., retrieved 2020-09-07; Human Rights Watch, [Rainforest Mafias How Violence and Impunity Fuel Deforestation in Brazil's Amazon](#), 2019-09-17

⁶⁴ Mongabay, [The ongoing trade in conflict timber \(commentary\)](#), 2018-11-06; The World Bank, [FY21 List of Fragile and Conflict-affected Situations](#), retrieved 2020-09-07

⁶⁵ U.S Department of Labor, [List of Goods Produced by Child Labor or Forced Labor](#), retrieved 2020-08-12; SBU, *Ansvarsfulla materialval i anläggningsbranschen Analys avseende miljö och sociala risker*, 2015-07-15

⁶⁶ Vertié, [Exploring Intersections of Trafficking in Persons Vulnerability and Environmental Degradation in Forestry and Adjacent Sectors](#), 2020

⁶⁷ International Labor Organization, [Forestry](#), n.d., retrieved 2020-09-07

⁶⁸ Svenska samiska riksförbundet, *Ett renskötelsanpassat skogsbruk*, 2016 Forest Stewardship Council, Centralized National Risk Assessment for Sweden FSC-CNRA-SE V1-0 EN, 2018 and 2016 Forest Stewardship Council, FSC-NRA-NO V1-0 National Risk Assessment for Norway, 2018

⁶⁹ Svenska samiska riksförbundet, *Ett renskötelsanpassat skogsbruk*, 2016 Forest Stewardship Council, Centralized National Risk Assessment for Sweden FSC-CNRA-SE V1-0 EN, 2018

⁷⁰ Sametinget, *Samerna i Sverige*, updated 2020-03-18

⁷¹ Svenska samernas riksförbund, *En främmande trädart förstör renes betesmarker och samernas renskötelse*, 2019

70%.⁷² The Swedish Sami association is critical of the national forest policy, and regulated access to information and consultations are often viewed as insufficient.⁷³

Chinese plywood is a high-risk product. China is a repressive state and has only ratified four ILO core conventions. There are no guarantees of labour rights being respected.⁷⁴ Occupational accident and death rates are comparably high in China.⁷⁵ According to NEPCon, a non-profit organisation working to support better land management and business practices, there has been some improvements made in the Chinese forestry sector. Migrant workers within the Chinese forestry industry reportedly do not receive contracts and employers fail to pay or social security fees as stipulated by law.⁷⁶ Chinese plywood veneer may contain illegally sourced tropical timber, sourced from Papua New Guinea, African states or elsewhere.⁷⁷ In Papua New Guinea, indigenous communities are dependent of their forests for their livelihood and culture and should by law be in control of the forest land. Instead, forests are illegally harvested, for example without consultations or consent of indigenous people.⁷⁸

Metal

Summary of the most severe/most prevalent risks

Raw material/processing:
Hazardous working conditions Child labour Forced labour Low wages Lack of union rights Forced displacement Impacts on indigenous peoples’ rights Deforestation, environmental degradation and pollution, contributing to climate change and biodiversity loss and impacts on access to food, clean water and other human rights Impacts on livelihoods Sexual exploitation and violence Violence towards human rights and environmental defenders Discrimination against female workers Land grabbing Illegal mining that may benefit illegal armed groups
High risk

⁷² Sametinget, [Samerna i Sverige](#), updated 2020-03-18, hämtad 2020-08-17
⁷³ Svenska samiska riksförbundet, Ett renkötselanpassat skogsbruk, 2016
⁷⁴ International Labour Organisation, [Ratifications of fundamental Conventions by country](#), retrieved 2020-08-12; International Trade Union Confederation, [Workers Rights Index](#), 2019
⁷⁵ China Labour Bulletin, [Work Safety](#), published 2020-03-20, retrieved 2020-08-14
⁷⁶ NEPCon, [Timber Legality Risk Assessment China](#), 2017
⁷⁷ National Measurement Office, [EUTR: Plywood imported from China](#), 2015
⁷⁸ Global Witness, [A major liability - Illegal logging in Papua New Guinea threatens China’s timber sector and global reputation](#) 2018

The Product

Common metals used in construction are carbon and stainless steel, copper and aluminium.⁷⁹ Steel is amongst other things used for construction structures, ventilation, heating and cooling systems, roof plates, window frames, indoor refurbishing, nails and bolts, and pipes.⁸⁰ Steel consists of recycled or virgin iron blended with coal and other alloys such as chromium, silicon, nickel, molybdenum, vanadium, manganese.⁸¹ Copper is mainly used for pipes and tubing. Aluminium is made from bauxite and is used for wall cladding systems, wall panels, roofs, windows, doors and other components.⁸²

Steel⁸³	Aluminium producers⁸⁴	Copper pipes⁸⁵
Norway Sweden Finland Denmark Germany France China India	Norway ⁸⁶ China Australia Brazil Russia Jamaica	Sweden Germany Finland Italy UK China
Iron ore producers⁸⁷	Bauxite⁸⁸	Raw copper⁸⁹
Norway Australia Brazil China India The United States Sweden South Africa	Brazil Spain Surinam Australia China Guinea India Russia	Chile Peru China DR Congo Zambia

⁷⁹ Continental Steel & Tube Company, [Common Metals in the Construction Industry](#), published 2015-03-02, retrieved, 2020-08-17

⁸⁰ World Steel Association, [Steel in buildings and infrastructure](#), n.d., retrieved 2020-08-17

⁸¹ Store Norske lesikon, [Stål](#), updated 2019-04-11, retrieved 2020-08-17

⁸² Designing Buildings wiki, [Metal in construction](#), updated 2020-07-23; How Stuff Works, [Home-repair Materials Basics](#), n.d., retrieved 2020-08-17

⁸³ Regjeringen, Norsk næringsvirksomhet – Metallindustrien, 2000, retrieved 2020-08-17 and Observatory of Economic Complexity, [Iron and steel, 2018](#), steel bars, [flat rolled stainless steel](#), retrieved 2020-08-17

⁸⁴ U.S Geological survey, [Bauxite and Alumina](#), 2020

⁸⁵ Import to Norway. Observatory of Economic Complexity, [pipes or tubes, refined copper](#), 2018

⁸⁶ Norsk industri, [Om aluminiumbransjen, n.d.](#), retrieved 2020-08-17

⁸⁷ Table shows large and/or relevant producers of iron ore, but many more countries produce iron ore. U.S Geological survey, [Iron ore](#), 2020

⁸⁸ U.S Geological survey, [Bauxite and Alumina](#), 2020 Statistisk Sentralbyrå, [SBB Analyse 2019/09: Norske Metaller gjennom 150 år: Metalleksport i tollmurenes tid](#), published, 2019-03-01, retrieved 2020-08-17

⁸⁹ U.S Geological survey, [Copper](#), 2020

The supply chain

Norway is a leading producer of aluminium in Europe⁹⁰ but the global market is dominated by China, Australia, Brazil and other countries.⁹¹ According to Statistisk Sentralbyrå, Norway imports bauxite for its aluminium production mainly from Brazil, Spain, refinery in the Netherlands which imports bauxite imported from Surinam and Ireland (which houses the largest bauxite refinery in Europe).⁹²

Norway produces steel and iron ore to a smaller degree.⁹³ Globally, China is the leading exporter of steel, accountable for over 50percent of the world' steel production, followed by India and Japan. Norway imports steel from mainly Sweden, Germany, Denmark, Finland and other European countries, and to a smaller degree from China, India and elsewhere.⁹⁴ As Brazil and Australia comprise 60percent of the iron world production⁹⁵, it is likely that iron from these countries, as well as from China or India, is present in supply chains relevant to Norwegian imports. Copper is extracted in many countries, but Chile and Peru are dominating the world market extraction and export.⁹⁶

Risks

Smelting and processing

Mining and metal production are associated with severe labour rights and human rights risks, especially in high-risk areas where enforcement of laws is low. Steel production is associated with low wages, excessive over-time, lack of unionisation in China, India and Russia. Steel production can imply hazardous working conditions, with extreme temperatures, heavy lifting, operation of large machines and exposure to dust and toxic fumes. Toxic chemicals are often used in the process, which is a risk factor for workers. It can also be a risk to the surrounding environment if wastewater is not managed safely.⁹⁷ Some steel factories in China operate illegally, which increases labour rights and human rights risks as state authorities reportedly do not audit the factories due to corruption.⁹⁸ Similar risks are found in the production and refinery of aluminium and copper.⁹⁹ Smelting is a high-risk operation. If sufficient safety measures are not in place, there is a risk that sulphuric acid and other air pollutants are released, polluting air, water and land with highly acidic elements, causing respiratory problems, heart and lung-disease and premature deaths, as well as water contamination

⁹⁰ Norsk industri, [Om aluminiumbransjen, n.d.](#), retrieved 2020-08-17

⁹¹ U.S Geological survey, [Bauxite and Alumina](#), 2020

⁹² Statistisk Sentralbyrå, [SBB Analyse 2019/09: Norske Metaller gjennom 150 år: Metalleksport i tollmurenes tid](#), published, 2019-03-01, retrieved 2020-08-17

⁹³ Statistisk Sentralbyrå, [SBB Analyse 2019/09: Norske Metaller gjennom 150 år: Metalleksport i tollmurenes tid](#), published, 2019-03-01, retrieved 2020-08-17

⁹⁴ Observatory of Economic Complexity, [Iron and steel, 2018](#), steel bars, [flat rolled stainless steel](#), retrieved 2020-08-17

⁹⁵ Sveriges Geologiska Undersökningar, [Mineralmarknaden 2018, Tema järn och stål](#), 2018

⁹⁶ U.S Geological survey, [Copper](#), 2020

⁹⁷ Enact Sustainable Strategies, Riskanalys: Instrument, 2017; Kumar, S. Steel Authority of India Ltd (SAIL), Improving safety, health & environment in steel industry, 2018

⁹⁸ Wired, [Step inside Chinas hellish, illicit steel factories](#), 2016

⁹⁹ Reuters, [China Hongqiao shuts down aluminium smelting pots for winter](#), 2017-11-15; Metal Miner, [Beijing Proposes Massive Idling of Chinese Smelters to Combat Pollution](#), 2017-02-08; Financial Times, [China's environmental clean-up to have big impact on industry](#), 2017-05-22; Swedwatch, Copper with a cost – human rights and environmental risks mineral supply chains of ICT: a case study from Zambia, 2018

and loss of livelihoods among the local population.¹⁰⁰ Extraction and primary processing of minerals has also been found responsible for 26 percent of the global greenhouse gas emissions.¹⁰¹

Scrap metal may also be associated with risk. Children searching for scrap metal under harsh working conditions is common in countries such as Kenya, Brazil, China and Sierra Leone.¹⁰²

Mining

Social and environmental risks are present in iron, copper and bauxite mining (for aluminium) in countries such as Brazil, India, China, Guinea, DR Congo, Peru and other high-risk countries. In both large-scale extraction and in small-scale and artisanal mining, mineral extraction is highly associated with human rights risks as well as environmental degradation. Forced displacement of entire villages may occur without consultation with and compensation for local communities. Displacement often means that local communities' livelihoods decrease or disappear altogether. Other widespread problems associated with mineral extraction are hazardous working conditions in mines, forced labour and child labour, as well as spurring of social conflict with the local population that may result in violence, abuse and sometimes murder of human rights defenders.¹⁰³ The human rights organisation Global Witness report that 50 environmental or lands rights defenders were killed in 2019, linked to the mining and extraction industries.¹⁰⁴ The human rights organisation Front Line Defenders, which aims to protect human rights defenders, has reported that 321 human rights defenders in 27 countries were targeted and killed for their work in 2018, of which 77 percent were defending land, environmental or indigenous peoples' rights, often linked to extractive industries. The number of reported killings in the Front Line Defenders report is the highest ever recorded.¹⁰⁵

Children are particularly vulnerable to negative impacts from mining operations. For example, displacement and in-migration of miners, pollution of the environment and the context of armed conflict may, among other things, impact a wide range of children's rights, including physical safety and access to education, in mining areas.¹⁰⁶

Sexual violence and exploitation of foremost women and girls, but also boys and men, are also closely related to extractive operations. Sexual commercial exploitation of women and girls is in some areas highly linked to extractive operations as well as increases in the rate of HIV/AIDS among local communities near mining sites. There are many reports of security personnel committing brutal sexual assaults and rape of local women and children in numerous countries.¹⁰⁷ Rape is also used as a

¹⁰⁰ Pure Earth, Worst Pollutants, [Top 10 worst pollutants, 2008](#) and Swedwatch, [Copper with cost – human rights and environmental risks in the mineral supply chains of ICT: A case study from Zambia](#), 2019

¹⁰¹ The Guardian, [Resource extraction responsible for half world's carbon emissions](#), 2019-03-12

¹⁰² Action Aid, Meet the kids scavenging on rubbish dumps to survive, 2015-01-30

¹⁰³ Forum Civ, [Ta inga risker! Utbildningsmaterial om företags ansvar och utvinning av naturresurser – Sociala risker](#), retrieved 2020-08-23

¹⁰⁴ Global Witness, [Defending tomorrow](#), July 2020

¹⁰⁵ Front Line Defenders, [Global Analysis 2018](#), January 2019

¹⁰⁶ Unicef, [Children's rights and the mining sector - Unicef extractive pilot](#), 2015

¹⁰⁷ Forum Civ, [Ta inga risker! Utbildningsmaterial om företags ansvar och utvinning av naturresurser – Sociala risker](#), retrieved 2020-08-23

weapon of war in areas where warfare is financed by mineral trade in countries such as the D R Congo¹⁰⁸ and Columbia.¹⁰⁹

The rights of indigenous peoples are also adversely affected by mining, when large tracts of land that have traditionally belonged to indigenous communities are exploited by mining companies, which affect local access to natural resources, livelihoods and possibilities to enjoy cultural rights. It is also common that indigenous peoples are not consulted nor compensated in accordance with international guidelines concerning the provision of mining concessions.¹¹⁰ Impacts on indigenous peoples' rights occur in what could be considered low risk contexts such as Australia, where mining company Rio Tinto blew up the Juukan Gorge caves, a 46,000-year-old remote aboriginal heritage sites in May 2020.¹¹¹

In Brazil, iron extraction is linked to the involuntary displacement of local communities, lands rights conflicts with indigenous people, poor working conditions and occupational health and safety.¹¹² Pollution and displacement impacting indigenous people in the Amazon has also been reported due to bauxite mining in Brazil.¹¹³ Tailing dams in Brazil constitute a major risk. In 2019, an iron mine tailing dam burst, and the mudflow killed over 250 people and caused severe damage to infrastructure, waterbodies and the environment. A similar accident occurred only two years prior.¹¹⁴ In addition, child labour and forced labour has been reported from Brazilian charcoal production, used in the production of pig iron.¹¹⁵

There are health and safety risks and insufficient health and safety training linked to mining in China which has resulted in fatal accidents.¹¹⁶ China has only ratified four ILO core conventions and lack basic union rights and free unions.¹¹⁷ Chinese mine sites have been found to rely on large numbers of migrant workers, who receive less pay and often work without personal protection equipment.¹¹⁸ Mining in India is characterised by problems related to health and safety and child labour. Fatal accidents due to lack of safety measures are common. Workers are exposed to dust and emissions. There are illegal mines and the control by authorities is known to be deficient.¹¹⁹ Bauxite mines and

¹⁰⁸ BBC News, [Raped for speaking out against rape](#), 2016-08-16; United Nations United Nations Office of the Special Representative of the Secretary-General on Sexual Violence in Conflict, [Democratic Republic of the Congo](#), 2020-06-03

¹⁰⁹ Children Change Columbia, [Sexual and gender-based violence, including conflict-related sexual violence](#), n.d., retrieved 2020-09-07

¹¹⁰ Vittor, L., *Indigenous People and Resistance to Mining Projects*, Harvard review of Latin America, 2014

¹¹¹ BBC News, [Mining firm Rio Tinto sorry for destroying Aboriginal caves](#), 2020-05-31

¹¹² BBC News, [Brazil dam disaster firms to face criminal charges](#), 2019-09-20; BBC News, [In pictures: Deadly dam collapse in Brumadinho](#), 2019-01-26; <https://www.bbc.com/news/world-latin-america-47007679>

¹¹³ Mongabay, [MRN bauxite mine leaves legacy of pollution, poverty in Brazilian Amazon](#), 2020-06-04

¹¹⁴ BBC News, [Brazil dam disaster firms to face criminal charges](#), 2019-09-20; BBC News, [In pictures: Deadly dam collapse in Brumadinho](#), 2019-01-26

¹¹⁴ Deutsche Welle, [Indigenous communities in Brazil protest threats to land and services](#), 2019-04-26

Dom Phillips, [Samarco dam collapse: one year on from Brazil's worst environmental disaster](#), The Guardian,

¹¹⁵ US Department of Labor, [Child labor and forced labor report](#), n.d., retrieved 2020-09-07; IPS News, [Slavery Modernises, Adapts to Stay Alive in Brazil](#), 2020-03-05

¹¹⁶ China Labour Bulletin, [Government slams lack of safety training in high-risk industries](#), 2019-11-20

¹¹⁷ International Labour Organisation, [Ratification of Fundamental Conventions by Country](#), n.d, retrieved 2020-09-03

¹¹⁸ Enact Sustainable Strategies, *Riskanalys: instrument*, 2017

¹¹⁹ Amnesty International, *Gruvutvinning i Indien - Delseger! Den indiska regeringen sätter stopp för Vedantas gruvplaner* 2015-04-17; OECD, [The Indian Mining Sector – Effects on the environment & FDI Inflows](#)

refineries in India have received extensive critique due to pollution threatening indigenous peoples' health and access to clean water.¹²⁰

Non-profit human rights organisation Human Rights Watch has published reports about farmland destruction, land acquisitions without consent, and pollution of water that threaten the livelihoods of local communities in Guinea.¹²¹ Bauxite is extracted from open mine pits, which can cause leaching of toxic substances, dust and water pollution, soil erosion, water shortage and negative impacts on biodiversity.¹²²

Copper extraction produces high amounts of solid waste which can damage surrounding land, water, animals and plants.¹²³ For example, emissions of air pollution and wastewater from copper mines, smelters and ore piles in Zambia have affected cultivation lands and access to clean drinking water, which has implications for surrounding communities' health and livelihoods. There are similar examples from large-scale mines in Chile, Myanmar, Canada and the DR Congo. Acid mine drainage from waste piles is a common threat to the quality of land, water and air in the surrounding area. There are several reports of dams bursting, releasing toxic wastewater into the nearby areas, impacting local communities' livelihood and access to clean water and soil.¹²⁴

¹²⁰ Foil Vedanta, [Vedanta's crimes](#), n.d., retrieved 2020-09-07

¹²¹ Human Rights Watch, [Complaint Filed Against Bauxite Mining Company in Guinea](#), 2019-03-11

¹²² The Wilderness Society, [Bauxite mining threatens Wild Rivers](#) 2015-07-31; Naturskyddsföreningen, [Bra Miljöval – Kriterier 2013:4](#)

¹²³ Global Policy, [From the ore to the car - summary](#), Swedwatch, [Copper with a cost: Human rights and environmental risk in ICT mineral supply chains. A case study from Zambia, 2019](#)

¹²⁴ Swedwatch, [Copper with cost – human rights and environmental risks in the mineral supply chains of ICT: A case study from Zambia, 2019](#)