



# Youth Session 2021

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**Dossier**

**Raw Materials**

Author: Laura Hagen

Experts: Sarah Antenore (Glencore), Kurt Morgan (NEROS), Karin Mader (Brot für alle / Fastenopfer)



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## Sustainability

Over the last few years, thousands of youths and young adults have been taking to the streets, demanding decarbonisation and sustainable development, thus demonstrating that sustainability and the sustainable development of societies are issues close to their hearts. This is likely because it is them who will have to live with the consequences of our current actions and who will need to make important decisions in that regard themselves. If one works on sustainability and all that it entails, one is quick to realise that the challenges associated with it are of a global nature. Apart from local measures, a certain degree of international cooperation is therefore indispensable.

The most-cited definition of sustainability is found in the 1987 Brundtland Report and is as follows:




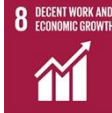



1. A development is sustainable if it meets the needs of the present without risking that future generations cannot meet their own needs (WCED 1987: 46);
2. On the whole, sustainable development is a process of change in which the use of resources, the goal of investments, the direction of technological progress, and institutional change are harmonised, enhancing the current and future potential to meet the needs and wishes of all human beings (WCED 1987: 49).

Therefore, this definition of sustainability includes not only intergenerational justice but also the demand of a holistic change of behaviour. This process of change is not limited to ecological aspects but includes economic and social elements, too, all of which must be brought together.

Similarly, the Youth Session is an instrument to coordinate the different views and opinions of youths and to create common strategies as to how to shape the future. Furthermore, it sensitises youths from Switzerland and abroad to the need of international cooperation and enables the participants to formally formulate their common visions and demands for a sustainable development *vis-à-vis* politics and society.

## Sustainability and Its Relationship to the Agenda 2030

The 2030 Agenda does not have a goal that directly addresses raw materials. However, this topic is indirectly addressed in various SDGs and their sub-goals (targets):

SDG	Target	Objective
	12.2	By 2030, achieve the sustainable management and efficient use of natural resources
	12.6	Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle
	12.1	Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries
	8.4	Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead
	6.5	By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
	2.4	By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality
	14.c	Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of “The future we want”

## Glossary

Resources	A synonym for raw materials.
Extract	Retrieve something (e.g. minerals) from the interior of the earth with the intent to use it economically, to gain something by mining (Duden).
Trade Union	An organisation of employees and workers which represents their rights and interests. They want to safeguard jobs, to improve working conditions, and to increase the income of workers (Was ist Was).
Greenhouse gases	Greenhouse gases describes those gases in the atmosphere which influence the earth's energy balance. They cause the so-called greenhouse effect. The most common greenhouse gases are carbon dioxide (CO <sub>2</sub> ), methane (CH <sub>4</sub> ), and nitrous oxides (NO <sub>x</sub> ), and they all are naturally occurring in low doses in the atmosphere.
Carbon footprint	A unit of measurement indicating the amount of greenhouse gases emitted by an activity, process, or action. Both goods (sum of emissions caused by the creation, use, and disposal) and services (hotel stay, travel, food and beverages, etc.) can be measured in their carbon footprint (firstclimate).
Import	The process of bringing goods or services from abroad to one's own country (saloodo).
Good Governance	The responsible performance of state and government functions: transparent, effective, and mindful of the entire population. Good governance is a normative description of how government is supposed to consider the opinions and needs of minorities as well as to avoid corruption with regard to raw material extraction (bmz.de).
Recycled Materials	All substances which are gained in part or completely from recycling. Common examples include recycled paper and reused glass (happybrush).
Warlord	A military leader controlling a given region, particularly if there is no functioning central government (Cambridge).

## What Is It About?

Raw materials are the basis of modern life. We are surrounded by them in all kinds of everyday situations. Examples include the building materials of house, streets, and railway infrastructure, the minerals and rare earths in our consumer electronic devices, fuels, raw materials for the creation of plastics, or both the salt in our food and the salt used for snow removal in winter.

A raw material is an unworked natural element which is either used immediately or transformed into something else in an industrial process. It is usually the basis of something which is produced (focusTerra, Schulverlag plus, ETHZ). There are both hard and soft raw materials. The former must be extracted and are usually ores (which are then worked into metals) or building materials. The latter usually come from agriculture and grow by themselves, if they are planted, and thus don't need to be extracted; they do not include foodstuffs. There are three categories of raw materials (see IG):

- **Minerals** are ores (for metals) such as zinc and iron, but also cobalt, lithium, gravel, and clay. They are part of hard raw materials.
- **Fossil** raw materials are resources such as oil, gas, and coal. They, too, are part of hard raw materials (kern.de).
- **Agricultural** raw materials are renewable resources such as wood, palm oil, rubber, and canola. They form the soft raw materials.

Hard raw materials can be extracted by various means:

- **Industrialised mining** is the extraction of raw materials by modern technical means. It is therefore an industrial extraction process where machines are used (see Wikipedia 2021).
- **Artisanal mining** is the extraction of raw materials with less technical means and little to no safety standards. In certain regions, like the Democratic Republic of the Congo, it is the main income source for many inhabitants, but often associated with a wide range of human rights and safety violations. There is both illegal and legal artisanal mining, with the latter being regulated, but often still associated with significant health risks for workers (C. Seidler 2019).

## Conflict minerals

Many everyday tools, such as smartphones and computers, would be impossible without the use of conflict minerals such as tin, wolfram, or coltan (tantalum ore). They are often sourced in conflict regions in East Africa. The aforementioned minerals don't necessarily need to be sourced in conflict regions; they are also available in other countries. Conflict regions have their name from the ongoing conflicts between armed groups which are often financed by the sale of or trade in raw materials (R. Lavinsky & Ra'ike). The conflict minerals are mined outside of state control (or at least while ignoring state norms). In general, this leads to human rights abuses and violations of

international law such as child labour, the exploitation of workers, human trafficking, and environmental damage (DNR). On the whole, conflict minerals can be “means to the financing of wars on the one hand, as well as motives and reasons for armed violence on the other”. A common definition is therefore: “conflict minerals are natural resources which, when sourced systematically and traded in the context of a conflict, can lead to gravest human rights abuses, violations of humanitarian international law, or offenses against international criminal law” (see BICC 2010).

### **Critical Raw Materials and Supply Reliability**

According to the UN Commission, critical raw materials are essential for the economy, but cannot be sourced reliably within the EU, causing a strong dependence of foreign countries and resource imports (Europäischer Ausschuss der Regionen, 2021). “Critical” thus means that they are important with regard to economic supplies and their reliability. At the same time, “critical” also hints at the critical social and environmental circumstances under which these raw materials are sourced (Umwelt Bundesamt 2020). Raw materials such as cobalt, lithium, and nickel are crucial in the transformation away from fossil fuels to renewable energy (C. Dettwiler 2021). Minerals such as lithium are essential in the production of power stores and batteries, which are indispensable in the current energy system transformation. With the growth in technologies, the demand for minerals such like these grows, too. This increases the environmental risks as well as the risks for local populations, who live in the areas if mining, with regard to their health and their access to drinking water (Autoumweltliste 2020).

There are several possibilities to reduce the risks associated with critical resources. On the one hand, it is possible to optimise production processes in such a way that fewer resources are needed. On the other, one could exchange critical resources with non-critical ones. However, this is easier said than done, as there are currently no alternatives to cobalt in battery manufacturing known. The same is true for many other raw materials. However, raw materials can also be reused: instead of extracting more and more primary raw materials from natural deposits it would be possible to reuse the same raw materials as secondary raw materials. A car battery which has reached the end of its lifetime could be used to store solar energy, and if this is not possible, it could be disassembled into its components and the different components could be recycled individually (Friedrich Verlag). However, recycling is only profitable if a certain critical mass of resources is involved. Reuse and recycling are expensive processes, which is why many businesses prefer to extract new primary raw materials due to lower costs. What is more, many businesses see recyclable materials only as waste instead as a resource, which in consequence leads to their disposal (Glencore 2021).

Supply Reliability means to ensure that there are both now as well as later enough raw materials to guarantee that a country has enough of the things it needs. Europe is strongly dependent of foreign countries, since many raw materials are extracted in



Africa, South America, Australia, and Asia and then shipped to China for their (chemical) processing. Raw materials such as copper, cobalt, and tin are also available in Europe, but there are strict conditions regulating if and how they may be extracted, and their extracting is expensive, making it more attractive to source these resources abroad. Controlling and enforcing international laws and regulations is more difficult abroad, because these countries in part have weak governance and monitoring systems (K. Mader and N. Schärmeli, 2020, S.5-8).

Raw materials can also be available in large quantities, but it can be technically difficult or even impossible to extract them due to their geographical location. In addition, the access to resources may be restricted or limited due to protection provisions (landscape, environmental, or groundwater protection). This is the case in Switzerland with regard to building materials, and therefore the Federal Council has instructed the Federal Office of Topography (swisstopo) to prepare a report on minerals in general and specific reports on different resources and their supply reliability (swisstopo 2017).

The 2017 swisstopo *Report on Mineral Raw Materials* summarises the current supply situation in Switzerland. It is possible to extract salt, gypsum, stone (granite, serpentine, marble, etc.), gravel, sand, resources needed for the production of cement (marl and lime), and raw materials needed for brickworks (clay and marl) in Switzerland. With regard to gypsum and stone, there is a certain dependency on foreign countries, as the price of gypsum for example, is strongly dependent on economic fluctuations in the building industry, which is why much of it is imported. Stone, however, is subject to architectural trends, which is why certain stones are imported even though there is a wide variety of available stones in Switzerland. Furthermore, the report emphasises the economic advantage of extracting mineral raw materials in Switzerland: transport routes are shorter, which is advantageous, particularly given the heavy weight of many of these materials (swisstopo 2017).

The most current report on raw material supply reliability discusses the cement production in-depth, both with regard to the needs of the cement industry and the supply situation in Switzerland. It identifies a conflict of objectives in cement production facilities, as the same space wants to be used for different purposes by different actors, e.g. for housing (admin.ch 2020). There are also conflicts of objectives with regard to the environment, since cement and coal plants cause unavoidable environmental damage (L. Jorio 2021). It is difficult to replace cement currently, but there is research on how concrete could be produced without cement. The report comes to the conclusion that there should be a national registry on marl and lime deposits, both of which are used to produce cement (admin.ch 2020).

## **Renewable Resources**

As already mentioned, palm oil and rubber are global renewable resources. They are indispensable for the production of a wide range of goods, such as cosmetics, tires and rubber gloves.

However, their cultivation and harvesting entails several risks. For example the Commission on Soil Protection warned of the consequences of the use of fertiliser and crop protection products: if these plants are harvested in monocultures, there is a risk of erosion and the loss of humus. The use of heavy machinery can lead to soil compaction and a reduction in biodiversity, as only specific crops are planted and harvested in large monocultures. There are conflicts arising with regard to the use of the space needed to grow these plants. The more renewable resources are planted, the less space is available for other uses, e.g. the production of food, agriculture, or the use of the space for housing (Bodenwelten).

Another important aspect is the way in which renewable resources are grown. The production of palm oil in countries of the global south, for example, not only has environmental risks but also social risks for the population: they might be displaced from their land and forcibly removed in order to gain space to plant cash crops. Therefore, a differentiation is needed to the end that certain areas are reserved for agriculture and thus are accordingly regulated to prevent displacements. However, there is also land which is inhabited by indigenous people who are forcibly removed in the interests of growing cash crops. In other instances, the population might be convinced to leave their land, for example with financial incentives and other opportunities. De facto, however, land is taken and used to grow palm trees. An example: the clearing of rainforest has also negative effects on the environment and the animals living in this area (BFA & Fastenopfer 2017). This can be counteracted with renaturation efforts. This means that the land can be used with local plants after it has been used to grow renewable resources, and thus is revitalised and brought back into its original state (Naturschutz, 2020).

## **Renewable Energy Transition**

In order to fulfil the sustainability goals of the Paris Climate Accords, the renewable energy transition (the increased use of renewable and environmentally friendly energy sources) is absolutely crucial. But in order to produce the necessary energy storage systems and batteries, more and more resources are needed. NGOs, governments, international organisations, industry groups as well as businesses demand that, based on the UN directives on human rights and the economy, enterprises do their part to ensure that human rights are not violated and damage to the environment is avoided, as well as damages already done is made up for.

Furthermore, they demand that governments promote innovation and not only create incentives but also regulations which can bring about a circular economy. Finally, they also appeal to society to reduce consumption levels overall. This means that we as a society must change our consumer behaviour to be more conscious of its environmental impact. For example, we should use public transit more often and make the conscious choice not to own a car or other consumer goods if there is no pressing need to own such goods. One alternative is to borrow or rent the items needed (see Brot für alle *et al.* 2020).

The increased demand for certain resources poses the question whether there exist enough raw materials to meet those demands, particularly with regard to businesses. According to the professors R. Bunge and A. Stäubli, the problem is not the amount of available raw materials, but the excessive environmental damages caused by their extraction (R. Bunge & A. Stäubli). To counteract this trend, it is imperative that the

general public is made aware of the issue that recycling of resources is crucial and therefore must be supported accordingly.

### Recycling of Resources

Recycling is an important part of a circular economy leading to a more sustainable use of raw materials. However, it is not always attractive for businesses to reuse the used raw materials and the accrued waste. For example, primary building materials are available rather cheaply in Switzerland, making the disposal of waste in landfills and the purchase of new raw materials economically more appealing than recycling and the use of recycled materials. Government intervention in the form of support programmes and obligations to recover and reuse materials (e.g. a certain proportion of building materials must be recycled) could counteract this (Umwelt Bundesamt 2021).

### Industrial and Artisanal Mining

Industrial and artisanal mining have many consequences. On the one hand, they are indispensable methods for extracting minerals and raw materials, and they are an important source of income for many. Globally, more than 100 million people are directly or indirectly dependent on mining (Glencore 2019). At the same time, the global supply with minerals and raw materials would be impossible without industrial mining, as it makes up for the Lion's share of all resource extraction. It is important to know that only qualified and trained personnel is employed in industrial mining, all of whom receive a contractually agreed upon wage. In artisanal mining, it is important to know that there is both legal and illegal mining: legal artisanal mining is usually done by cooperatives who have a permit for the mines they operate, whereas illegal artisanal mining is undertaken by individuals who mine wherever and whatever they can, often on land that is owned and operated by businesses and cooperatives (who however do/cannot not control/regulate the artisanal mining). On the other hand, there are several risks associated with both of these mining strategies:

Industrial Mining	Artisanal Mining
<b>Safety Risks</b>	
<p>- <b>Accident hazards:</b> the machines employed are enormous, and workers are in danger of not being spotted and therefore being struck by them. This can be prevented by use of technology, e.g. with special helmets with sensors which are recognised by mining vehicles. The machine then stops if it falls below a distance of five metres (Glencore 2019b).</p>	<p>- <b>Lacking protective equipment:</b> workers often cannot afford the necessary protective equipment and adequate tools. This increases the risks for workers, particularly when the hand-dug tunnels collapse as a consequence of mudslides and floods during the rain season. The lack of protective clothing also causes health risks (rue.bmz.de).</p> <p>- <b>Warlords:</b> Some mines where conflict minerals (and also some critical resources) are extracted are run by warlords. The profits from these mines is then used to buy arms and hire mercenaries, or to pay</p>

	<p>bribes. Coltan is an important conflict resource which among other things funds the civil war in the Democratic Republic of the Congo (C. Drees 2015).</p>
<p><b>Human rights</b></p>	
<p>- <b>Right to assembly:</b> In remote areas, industrial mining corporations are often the only major source of employment. They might ignore their workers' right to assemble, specifically their right to form labour unions, particularly in regions like Zambia. Such human rights violations can occur by means of verbal discrimination, wage cuts, or threats of termination of contracts (Dr. Sphor 2016).</p>	<p>- <b>Child labour:</b> As artisanal mining is often only rudimentary regulated, there is often little regard for the workers' (human) rights. Furthermore, the lack of alternatives and the financial pressure on many families forces them to send their children to work in the mines, either with their parents or on their own (Glencore).</p>
<p><b>Environment</b></p>	
<p>- <b>Pollution:</b> Mining (removal, processing, and disposal) leads to erosion, a loss of biodiversity, water shortages, and contamination of land and water. Furthermore, industrial and artisanal mining can pollute groundwater, which has negative effects on the health of the local population (Verbraucherzentrale 2021). With the tools and instruments available to industrial mining, such pollution can be recognised and rectified quickly, but artisanal mining often does not have the tools necessary to do so. What is more, industrial mining companies must come up with closure plans which detail precisely how the affected area is to be returned to its original state once mining is completed (L. Rüttinger et al, 2015).</p>	

**Standards**

Businesses can adhere to international standards which require them to observe regulations, human rights, the rights of children, as well as environmental principles. These standards can be thought of as 'labels'. However, it is not legally required for businesses to adhere to them, and there is no legal mandate forcing them to implement them. However, businesses must observe the local laws of countries where they want to conduct business. But other factors are important as well. Businesses listed on stock exchanges must observe guidelines and standards if they want to remain competitive. The OECD published guiding principles for socially responsible businesses: they should pursue the goal of "assuring an open and transparent investment environment and encouraging multinational corporations to positive contributions to economic, ecological, and social progress" (OECD 2020). There are many more guiding principles and initiatives:

- BetterCoal: advocates for sustainable supply chains in the coal industry;
- Responsible Minerals Initiative: carries out audits and advocates for sustainable raw material extraction;

- Responsible Mining Foundation: promotes transparency, among other things;
- Global Reporting Initiative: internationally recognised framework for sustainability reports;
- Global Battery Alliance: an initiative of the World Economic Forum (WEF) which advocates the establishment of sustainable supply chains for batteries.

You find more information on the situation from 2018 on pp. 20–21 in this document:  
[https://www2.weed-online.org/uploads/weed\\_studie\\_rohstoffe\\_web.pdf](https://www2.weed-online.org/uploads/weed_studie_rohstoffe_web.pdf)

## Legal Basis

### Switzerland

Federal Act on Spatial Planning (Spatial Planning Act, SPA), §§ 8, 11, and 13

In our system, the Cantons are responsible for spatial planning (e.g. to authorise an increase of the cultivation area of a given business). Therefore, they must create structure plans which are then approved by the Federal Office for Spatial Development ARE. The federal government only needs to create structure plans for federal buildings, which are coordinated with the Cantons.

The Cantons are also responsible for excavation approvals. The only exception from this rule is the extraction of salt. Salt mining has been handed to the Swiss Saltworks by the Cantons. The Swiss Saltworks have a monopoly on salt mining in Switzerland (Geologie-Portal).

### Europe and the EU

**The Battery Act and its ordinance** should enter into force in 2022. Specifically, they determine the requirements which need to be fulfilled by all batteries to be sold within the EU. This is part of a framework on **sustainability and safety** (regulations concerning the carbon footprint, minimum content of recycled materials, etc.), **labelling and information** (recording of information on sustainability and age conditions, as well as the expected service life), **end-of-life management** (collection goals and requirements, extended responsibilities for producers, recycling, etc.), and the **duties of economic actors** with regard to product requirements.

The **Ordinance on Supply Chain Diligence for Conflict and Critical Materials** creates a unionwide system for requirements on supply chain diligence which should prevent armed groups and security forces from trading with conflict minerals. This goal is to be reached with transparency and security with regard to delivery practices as well as with guarding and refining of conflict raw material.

## What Is Currently Happening in Politics?

### 20.3753 Interpellation:<sup>1</sup> Has the Federal Council a Raw Materials Strategy?

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<sup>1</sup> “An interpellation is a procedure used by Council members, a majority of the members of a committee, or a parliamentary group to request information from the Federal Council on important domestic or foreign events or on federal matters. The Federal Council normally responds before the next session. The author of an interpellation may express their level of satisfaction with the answer, and can also demand a debate on the answer. In practice, a debate of this type is only held in the Council of States; the National Council only debates interpellations that have been declared urgent. Interpellations can be declared urgent by the offices of the Councils, which means that the Council concerned must deal with them in the current session. In the National Council, if at least 75 members request a debate on current issues in relation to specific urgent interpellations, this debate must be held.” (Lexicon of Parliamentary Terms: <https://www.parlament.ch/en/%C3%BCber-das-parlament/parlamentsw%c3%b6rterbuch/parlamentsw%c3%b6rterbuch-detail?WordId=116> (8<sup>th</sup> October 2021)).

Because there is no legal basis for a national strategy and because the “economy efficiently assures the supply of Switzerland with imported industry raw materials”, the Federal Council sees no need for a national strategy. Accordingly, raw material reports are a sufficient basis for an overview on the national supply situation.

### **19.4296 Motion:<sup>2</sup> Recycling building materials. Model Function of the Federal Government**

Since this motion has been adopted, the Federal Council must create the prerequisites that recycled materials must be used in planning and building in the domains of “building construction, civil engineering, and road construction by the federal, cantonal, and municipal authorities whenever technically possible and sensible”.

### **21.440 Parliamentary Initiative:<sup>3</sup> Right to a Healthy Environment and the Rights of Nature**

Jon Pult, MP, demands that the protection of the environment and nature is strengthened in the federal constitution. It is to be revised so to include the following: “1. The human right of a healthy environment” should become a basic right. “2. Nature is to be given at least partially the status of a legal entity”. The initiative has not been discussed in either chamber of parliament.

### **Popular Initiative for Responsible Corporations (“Konzernverantwortungsinitiative”)**





The counter project (which has now been adapted) developed by the Federal Council contains an ordinance introducing due diligence and transparency (reports) requirements for Swiss corporations with regard to minerals and metals from conflict regions and child labour.

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<sup>2</sup> “A motion instructs the Federal Council to submit a bill to the Federal Assembly or to take a certain measure. Motions can be submitted by the majority of a committee and, during a session, by a parliamentary group or by an Assembly member. Motions must be accepted by both Councils.” (Lexicon of Parliamentary Terms: <https://www.parlament.ch/en/%C3%BCber-das-parlament/parlamentsw%c3%b6rterbuch/parlamentsw%c3%b6rterbuch-detail?WordId=146> (8<sup>th</sup> October 2021)).

<sup>3</sup> “By means of a parliamentary initiative, a Council member, a parliamentary group or a parliamentary committee may propose the draft of a new enactment or the terms of such an enactment. A committee of the National Council or Council of States is given responsibility for the legislative work.” (Lexicon of Parliamentary Terms: <https://www.parlament.ch/en/%C3%BCber-das-parlament/parlamentsw%c3%b6rterbuch/parlamentsw%c3%b6rterbuch-detail?WordId=166> (8<sup>th</sup> October 2021)).

## Usefus Links

Links	QR Code
<p>The battery—A core issue of electrical mobility (in French)</p> <p><a href="https://sehen-und-handeln.ch/content/uploads/2019/03/batterie_fr.pdf">https://sehen-und-handeln.ch/content/uploads/2019/03/batterie_fr.pdf</a></p>	
<p>The Initiative for Responsible Corporations in France, Chronology (in German)</p> <p><a href="https://www.humanrights.ch/de/ipf/menschenrechte/wirtschaft/transnationale-unternehmen-und-menschenrechte-dossier/internationale-nachrichten/menschenrechtliche-sorgfaltspflicht-unternehmen-gesetz-frankreich">https://www.humanrights.ch/de/ipf/menschenrechte/wirtschaft/transnationale-unternehmen-und-menschenrechte-dossier/internationale-nachrichten/menschenrechtliche-sorgfaltspflicht-unternehmen-gesetz-frankreich</a></p>	
<p>Cobalt Institute</p> <p><a href="https://www.cobaltinstitute.org/">https://www.cobaltinstitute.org/</a></p>	
<p>Study: At the upper end of supply chains (in German)</p> <p><a href="https://www2.weed-online.org/uploads/weed_studie_rohstoffe_web.pdf">https://www2.weed-online.org/uploads/weed_studie_rohstoffe_web.pdf</a></p>	

## **Bibliography**

[Admin.ch \(2020\): Zementherstellung – Bericht zu Rohstoffbedarf und Versorgungssituation in](#)

[der Schweiz, Medienmitteilung \[18.12.2020\]](#)

<https://www.admin.ch/gov/de/start/dokumentation/medienmitteilungen.msg-id-81701.html> (last visited on 30.06.2020)

[Autoumweltliste \(2020\): AUTOUMWELTLISTE – der Ratgeber für den umweltbewussten Autokauf,](#)

[S.14-17 \[März 2020\]](#)

[https://www.autoumweltliste.ch/fileadmin/redaktion/Downloads/AUL\\_20/AUL\\_2020\\_GesamtPDF\\_de\\_060220.pdf](https://www.autoumweltliste.ch/fileadmin/redaktion/Downloads/AUL_20/AUL_2020_GesamtPDF_de_060220.pdf) (last visited on 30.06.2021)

[Baunetzwissen: Was ist nachhaltiges Bauen?, Baunetzwissen](#)

<https://www.baunetzwissen.de/nachhaltig-bauen/fachwissen/einfuehrung/was-bedeutet-nachhaltiges-bauen-7560079> (last visited on 30.06.2021)

[Brot für alle et al. \(2020\) Factsheet Batterie – Knackpunkt der Elektromobilität – Soziale und ökonomische Herstellungsbedingungen unter der Lupe \[August 2020\]](#) [https://sehen-und-handeln.ch/content/uploads/2019/03/batterie-factsheet\\_de.pdf](https://sehen-und-handeln.ch/content/uploads/2019/03/batterie-factsheet_de.pdf)

[BFA & Fastenopfer \(2017\): Palmöl und Land-Grabbing, Fakten und Basisinformationen, Brot für alle](#)



- [und Fastenopfer \[Februar 2017\]](#)  
<https://brotfueralle.ch/content/uploads/2017/03/Palmoel-und-Land-Grabbing.pdf>
- [Bodenwelten: Boden und nachwachsende Rohstoffe, Bodenwelten.de](#)  
<https://www.bodenwelten.de/content/boden-und-nachwachsende-rohstoffe#:~:text=Aus%20dem%20Anbau%20von%20nachwachsenden%20Rohstoffen%20k%C3%B6nnen%20Konflikte,auch%20Risiken%20f%C3%BCr%20die%20Bodenqualit%C3%A4t%20und%20weitere%20Umweltmedien> (last visited on 30.06.2021)
- [BICC \(2010\): Rohstoffe in Bürgerkriegen – Bürgerkriege um Rohstoffe, Fatal Transactions](#)  
[https://web.archive.org/web/20131207024344/http://www.bicc.de/fataltransactions/ro\\_hst\\_in\\_buergerkriegen.html](https://web.archive.org/web/20131207024344/http://www.bicc.de/fataltransactions/ro_hst_in_buergerkriegen.html) (last visited on 30.06.2021)
- [BMZ.de: https://www.bmz.de/de/entwicklungspolitik/good-governance](#) (last visited on 30.06.2021)
- [Cambridge: WARLORD, https://dictionary.cambridge.org/dictionary/english/warlord](#) (zuletzt abgerufen am 30.07.2021)
- [C. Dettwiler \(2021\): Lithium für Batterien – die Achillesferse der Elektroautos, Infosperber.ch \[22.06.2021\]](#) <https://www.infosperber.ch/umwelt/rohstoffe/lithium-fuer-batterien-die-achillesferse-der-elektroautos/> (last visited on 30.06.2021)
- [C. Drees \(2015\): Coltan: An fast all unseren Smartphones klebt Blut, MobileGeek \[21.09.2015\]](#)  
<https://www.mobilegeeks.de/artikel/coltan-an-fast-all-unseren-smartphones-klebt-blut/> (last visited on 30.06.2021)
- [C. Seidler \(2019\): Hier sterben Menschen für unsere Akkus, Spiegel Wissenschaft \[17.10.2019\]](#) <https://www.spiegel.de/wissenschaft/mensch/kobalt-aus-dem-kongo-hier-sterben-menschen-fuer-unsere-e-autos-a-1291533.html> (last visited on 28.07.2021)
- [DNR: Konfliktrohstoffe, Glossar, Deutscher Naturschutzring, https://www.dnr.de/rohstoffpolitik-20/glossar/aktuelle-debatten-konzepte/konfliktrohstoffe/](#) (last visited on 30.06.2021)
- [Dr. M. Sphor \(2016\): Human Rights Risks in Mining – A Baseline Study, Bundesanstalt für Geowissenschaften und Rohstoffe, S.69 \[Januar 2016\]](#)  
[https://rue.bmz.de/includes/downloads/BGR\\_MPFPR\\_2016\\_Human\\_Rights\\_Risks\\_in\\_Mining.pdf](https://rue.bmz.de/includes/downloads/BGR_MPFPR_2016_Human_Rights_Risks_in_Mining.pdf)
- [Earth Rights International: Barrick – Security Guards for World’s Largest Gold Mining Company](#)  
[Rape and Kill Locals in Papua New Guinea, Earth Rights International](#)  
<https://earthrights.org/case/barrick/> (last visited on 30.06.2021)
- [Europäischer Ausschuss der Regionen \(2021\): Kritische Rohstoffe und ihre Bedeutung für die Zukunft Europas, cor.europa.eu \[01.03.2021\]](#)  
<https://cor.europa.eu/de/news/Pages/critical-raw-materials-role-future-of-europe.aspx> (last visited on 30.06.2021)
- [firstclimate: Was versteht man unter dem Begriff „CO2-Fussabdruck“?, first climate, https://www.firstclimate.com/klimaschutz-beratungsleistungen/was-ist-ein-co2-fussabdruck/](#) (last visited on 01.07.2021)
- [FocusTerra, ETHZ & Schulverlag Plus AG: Rohstoffe – Entstehung, Gewinnung und Verwendung,](#)

- [Arbeitsmaterial Schule S.3 https://ethz.ch/content/dam/ethz/special-interest/dual/focus-terra-dam/documents/unterlagen-lehrpersonen/Rohstoffe Entstehung Gewinnung Verwendung Schule.pdf](https://ethz.ch/content/dam/ethz/special-interest/dual/focus-terra-dam/documents/unterlagen-lehrpersonen/Rohstoffe_Entstehung_Gewinnung_Verwendung_Schule.pdf)
- [Friedrich Verlag: Kritische Rohstoffe und Nachhaltigkeit, Friedrich Verlag \[\]  
https://www.friedrich-verlag.de/chemie/gesellschaft-nachhaltigkeit/kritische-rohstoffe-und-nachhaltigkeit-3183?%5CSimpleSAML%5CAuth%5CState\\_exceptionId=9ff048d9405cac080767bd00e857759edb79c3ff54%3Ahttps%3A%2F%2Fwww.friedrich-verlag.de%2Fsaml%2Fmodule.php%2Fcore%2Fas\\_login.php%3FAuthId%3Ddefault-sp%26ReturnTo%3Dhttps%253A%252F%252Fwww.friedrich-verlag.de%252Fchemie%252Fgesellschaft-nachhaltigkeit%252Fkritische-rohstoffe-und-nachhaltigkeit-3183%253Flogintype%253Dlogin](https://www.friedrich-verlag.de/chemie/gesellschaft-nachhaltigkeit/kritische-rohstoffe-und-nachhaltigkeit-3183?%5CSimpleSAML%5CAuth%5CState_exceptionId=9ff048d9405cac080767bd00e857759edb79c3ff54%3Ahttps%3A%2F%2Fwww.friedrich-verlag.de%2Fsaml%2Fmodule.php%2Fcore%2Fas_login.php%3FAuthId%3Ddefault-sp%26ReturnTo%3Dhttps%253A%252F%252Fwww.friedrich-verlag.de%252Fchemie%252Fgesellschaft-nachhaltigkeit%252Fkritische-rohstoffe-und-nachhaltigkeit-3183%253Flogintype%253Dlogin) (last visited on 30.06.2021)
- [Geologie-Portal: Bergregal, Geologie-Portal](https://www.geologieportal.ch/de/themen/resources/Bergregal.html)  
https://www.geologieportal.ch/de/themen/resources/Bergregal.html (last visited on 01.07.2021)
- [Glencore \(2019a\): Kleinbergbau in der Demokratischen Republik Kongo, Glencore \[05.07.2019\]](https://www.glencore.ch/de/medien/blog/kleinbergbau-in-der-dr-kongo)  
https://www.glencore.ch/de/medien/blog/kleinbergbau-in-der-dr-kongo (last visited on 30.06.2021)
- [Glencore \(2019b\): Gemeinsam modernste Technologie zur Vermeidung von Kollisionen entwickelt \[15.02.2019\]](https://www.glencore.ch/de/medien/blog/modernste-technologie-zur-vermeidung-von-kollisionen) https://www.glencore.ch/de/medien/blog/modernste-technologie-zur-vermeidung-von-kollisionen (last visited on 30.07.2021)
- [Glencore \(2021\): Materialien ein neues Leben schenken, Blog von Glencore \[03.05.2021\]](https://www.glencore.ch/de/medien/blog/materialien-ein-zweites-leben-schenken)  
https://www.glencore.ch/de/medien/blog/materialien-ein-zweites-leben-schenken (last visited on 28.07.2021)
- [Glencore: Gegen die Ursachen von Kinderarbeit, Glencore](https://www.glencore.ch/de/verantwortung/gegen-die-ursachen-von-kinderarbeit)  
https://www.glencore.ch/de/verantwortung/gegen-die-ursachen-von-kinderarbeit (last visited on 30.06.2021)
- [happybrush: Rezyklat – Die Geschichte des Kunststoffes](https://www.happybrush.de/pages/rezyklat)  
https://www.happybrush.de/pages/rezyklat (last visited on 01.07.2021)
- [IG: Glossar: Rohstoff \(Definition\), https://www.ig.com/de/trading-glossar/rohstoff-definition](https://www.ig.com/de/trading-glossar/rohstoff-definition)  
(last visited on 30.06.2021)
- [K. Mader & N. Schärerli \(2020\): Die Batterie: Knackpunkt der Elektromobilität – Soziale und ökonomische Herstellungsbedingungen unter der Lupe, S.5-8 \[August 2020\] LINK](#)
- [Kern.de: Fossile Rohstoffe, Kunststoff-Lexikon,](https://www.kern.de/de/kunststofflexikon/fossile-rohstoffe)  
https://www.kern.de/de/kunststofflexikon/fossile-rohstoffe (last visited on 30.06.2021)
- [L. Jorio \(2021\): Zement soll grüner werden, swissinfo.ch \[10.03.2021\]](https://www.swissinfo.ch/ger/bausektor_zement-soll-gruener-werden/46416032)  
https://www.swissinfo.ch/ger/bausektor\_zement-soll-gruener-werden/46416032 (last visited on 30.07.2021)
- [L. Rüttinger, C. & C. Böckenholt \(2015\): Initiative for Responsible Mining Assurance \(IRMA\), UmSoRess Steckbrief, S.11, Berlin: adephi,](#)
- [M. Aliq et al \(2020\): Umweltatlas – Lieferketten Schweiz, Bundesamt für Umwelt \(BAFU\)](#)
- [Mining.Com \(2021\): Scientists develop „cheap and easy“ method to extract lithium from seawater,](https://www.mining.com/scientists-develop-cheap-and-easy-method-to-extract-lithium-from-seawater/)  
mining.com [05.06.2021] https://www.mining.com/scientists-develop-cheap-and-easy-method-to-extract-lithium-from-seawater/ (last visited on 29.06.2021)

R. Bunge & A. Stäubli: 100% Recycling, GMH <http://docplayer.org/40429651-Rainer-bunge-ariane-staebli.html>

R. Lavinsky & Ra'ike: Rohstoffabbau in Konfliktregionen, [bdi.eu, <https://bdi.eu/themenfelder/rohstoffe/konfliktrohstoffe/#/artikel/news/rohstoffabbau-in-konfliktregionen/> \(last visited on 30.06.2021\)](https://bdi.eu/themenfelder/rohstoffe/konfliktrohstoffe/#/artikel/news/rohstoffabbau-in-konfliktregionen/)

[rue.bmz.de: Kleinbergbau, Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung](https://rue.bmz.de/de/konzepte_themen/aspekte/kleinbergbau/index.html) [https://rue.bmz.de/de/konzepte\\_themen/aspekte/kleinbergbau/index.html](https://rue.bmz.de/de/konzepte_themen/aspekte/kleinbergbau/index.html) (last visited on 30.06.2021)

saloodo: Import – was bedeutet Import? <https://www.saloodo.com/de/logistik-lexikon/import/> (zuletzt abgerufen am 01.07.2021)

swisstopo (2017): Bericht über die Versorgung der Schweiz mit nicht-energetischen mineralischen

Rohstoffen (Bericht mineralische Rohstoffe). – Ber. Landesgeol. 11 DE

<https://www.newsd.admin.ch/newsd/message/attachments/50764.pdf>

Umwelt Bundesamt (2020): Kritische Rohstoffe aus Umweltsicht ermittelt, Umwelt Bundesamt,

[17.06.2020] <https://www.umweltbundesamt.de/themen/kritische-rohstoffe-aus-umweltsicht-ermittelt> (last visited on 30.06.2021)

Umwelt Bundesamt (2021): Bauabfälle [08.06.2021]

<https://www.umweltbundesamt.de/daten/ressourcen-abfall/verwertung-entsorgung-ausgewaehlter-abfallarten/bauabfaelle#verwertung-von-bau-und-abbruchabfallen> (last visited on 30.07.2021)

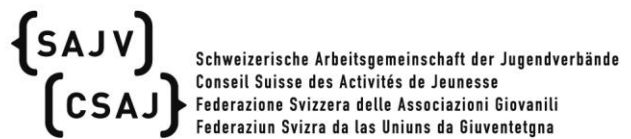
Verbraucherzentrale (2021): Rohstoffabbau schadet Umwelt und Menschen, Verbraucherzentrale

[23.06.2021] <https://www.verbraucherzentrale.nrw/wissen/umwelt-haushalt/nachhaltigkeit/rohstoffabbau-schadet-umwelt-und-menschen-11537> (last visited on 01.07.2021)

Was ist was: Was ist eine Gewerkschaft? <https://www.wasistwas.de/archiv-geschichte-details/was-ist-eine-gewerkschaft.html> (last visited on 01.07.2021)

Wikipedia (2021), Bergbau, Wikipedia [31.05.2021] <https://de.wikipedia.org/wiki/Bergbau> (last visited on 30.06.2021)

SAJV | Projektleitung Jugendsession  
projektleitung@jugendsession.ch  
www.jugendsession.ch



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