

Profits Without Borders

How companies disregard environmental protection
and human rights all over the world



Summary

Persistent and toxic chemicals are still endangering human health and the environment. One reason for this is that in countries of the Global South social and environmental standards are usually far less rigorous than they are in rich industrial countries. German companies also benefit from these international “double standards” in extracting raw materials, the production of chemicals and products and in waste recycling and disposal.

In this brochure Friends of the Earth Germany presents ten concrete examples of such double standards and the failure to protect both the environment and human rights. This places a burden mostly on countries and populations of the Global South.

To take the example of raw materials: In Peru people are poisoning themselves with mercury when mining for gold; in Argentina companies are capturing natural gas through fracking and leaving contaminated water behind; in the Congo children are working in mines to extract valuable metals such as cobalt.

To take the example of chemicals and products: Chemicals manufacturers mass produce polyvinyl chloride (PVC) plastic using mercury while emitting a high level of greenhouse gases; textiles are produced in Bangladesh and Pakistan under inhuman conditions; German chemicals manufacturers are selling insecticides which have long been forbidden in the EU to Brazil and India, where they pose a risk to humans and the environment; in many countries consumer products made using PVC contain endocrine-disrupting additives and the lining of food cans contains an endocrine disruptor.

And to take the example of waste: Workers in Nigeria are being poisoned when recycling car batteries containing lead from vehicles that also originated in

Europe; people are demolishing disused ships along the coast of Bangladesh, India and Pakistan without sufficient worker safety protections in place; in Ghana workers use their bare hands to break down electronic waste into its toxic constituents.

This brochure also lists what treaties have been signed by the international community so far in order to address these double standards and the related problems for people and the environment and what other approaches are currently being pursued. In this context, the Strategic Approach to International Chemicals Management (SAICM) and the monitoring of supply chains are also discussed.

Finally, the changes Friends of the Earth Germany considers necessary for solving these problems and the resulting demands made of politics and the economy are presented:

- Anyone dealing with raw materials, chemicals and waste must respect human rights and maintain high safety standards that safeguard people and the environment.
- The United Nations should ratify globally valid standards for sustainable raw material, chemical and waste management as part of a framework convention regarding chemicals and materials policy.
- The polluter-pays principle must be strictly enforced and companies held accountable for their products – from extracting raw materials to manufacturing, all the way to disposal.
- The EU – and thus also Germany – must take on a leadership role in this process: The EU must rapidly implement its sustainable strategy regarding chemicals and pass supply chain laws applicable in the EU along the entire value chain that require companies to observe safety standards for people and the environment.

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Introduction

Who wouldn't want to live in an ideal world? A world where friendly people manufacture what we need to live in an environmentally friendly manner with very low CO₂ emissions. Human rights violations? None whatsoever!

Reality looks different though. Those of us in industrial countries in particular consume many products, most of which are also unnecessary. More and more raw materials are being mined and extracted to meet this demand. Scaled proportionally, from January to early May of 2021 Germany had already consumed more resources and released more CO₂ emissions than our planet can handle in a whole year. At the same time these raw materials are used to manufacture thousands of chemicals and thousands and thousands of products. A high proportion of that ends up back in the environment as waste. Far too often, those in the Global South who mine raw materials for us manufacture chemicals and products and dispose of waste, work under conditions that are undignified. Climate and environmental protection also play a subordinate role.

No country in the rich north would allow working conditions like those found in the gold or cobalt mines in South America or West Africa or in the sewing factories of Pakistan. In Western industrialized countries the neurotoxin mercury is not used in PVC production as it is in China and there is neither child labor nor work carried out without protective equipment, as is the case in West Africa. Open lead smelting and cable smoldering have been taboo in Germany for generations. In Europe, as a matter of course, ship recycling takes place in drydocks and not on open beaches and with bare hands, as is the case in Asia. At the same time, these practices are followed on a large scale on behalf of and for the benefit of large corporations and for the purpose of unfettered and immensely cheap consumption in the Global North. These examples show the two faces of our economy and consumption: miserable conditions there, cheap shiny products here. This brochure denounces these double standards, this "Janus head" of our economic activity, with examples from Africa, South America and Asia.

Economic growth seen over the past few decades and the increase in the global flow of materials and goods have exacerbated existing problems. The exploitation of natural resources is increasing dramatically. In the meantime, it has become clear that the limits our planet is able to withstand have been exceeded. At the current pace, by 2050 two planet Earths would be required to satisfy our hunger for consumption. The chemicals industry plays a large part in this due to its unchecked growth and the fact that it doubles its production every 10 to 12 years.

Discussions on the dangers posed by chemicals have been going on for many decades. In her 1962 book "Silent Spring" American writer Rachel Carson sounded the alarm about spring falling silent and all birdsong ceasing due to widespread use of pesticides in farming. She demonstrated that along the food chain poisonous substances are increasing in concentration and that at the end of the chain animals such as birds of prey ultimately suffer the worst effects and more and more embryos die before hatching. Fears that raptors – including the bald eagle on the Great Seal of the United States – could become extinct finally led to the international banning of the insecticide DDT. Rachel Carson's book is regarded as the starting point for the environmental movement founded on critical science.

Attempts to harmonize international chemical safety standards extend back to the previous century. For example, the 1976 explosion at a chemical factory in the northern Italian city of Seveso showed that this was necessary. There the owner, Hoffmann-LaRoche, had not put the same safety measures into place as would have been required in Switzerland, where the company is based. The accident caused widespread pollution of the area with extremely poisonous dioxins. Then, eight years later, the worst industrial accident in history took place: At the beginning of December 1984, in a catastrophic night in Bhopal, India, more than 18,000 people died. US-based Union Carbide Corporation, owner of a pesticide plant in Bhopal, had neglected many of its plant safety and maintenance obligations. The Seveso disaster led to a series of safety and accident procedure regulations in the EU, starting

in 1982. Had it been applied in Bhopal, the Seveso I Directive alone would have prevented the severe accident. Both accidents demonstrate the possible consequences when large companies from industrialized countries do not comply with the standards applicable in their own home country in poorer, structurally weak regions of the world.

Fortunately, such major accidents are rare. But this brochure shows that today environmental protection still often plays no role and that human rights are often disregarded when raw materials are extracted, chemicals and products manufactured, or waste treated.

Friends of the Earth Germany (BUND) considers an ecologically and socially fairer world to be possible and imperative. In 2015, the United Nations also set a framework for a better world with its 17 sustainability goals for 2030. In order to achieve this 2030 Agenda, the United Nations consider a different econ-

omy to be necessary. Raw materials, chemicals and products should be used more efficiently than before. Friends of the Earth Germany supports the 2030 Agenda with specific demands. What is needed is a supply chain law that obliges companies to comply with high environmental standards and observe human rights along their global supply chains. Upper limits for the consumption of resources are essential in order to enable economic activity within planetary boundaries. Chemical companies that produce basic chemicals should pay 0.5 percent of their sales revenue into a fund enabling countries in the Global South to handle chemicals safely.

The consumption of raw materials, chemicals and products must be reduced significantly. Such an ecological materials policy would help to get the climate crisis under control, stop the loss of species and protect human rights worldwide.

Ten Examples of Human Rights and Environmental Protection Violations

1. Washing gold with mercury in Peru



Gold mining in the Amazon catchment area in Peru poisons not only human beings, rivers and soil, but also destroys the forests.

Photo: Peter Jordan/Alamy

Gold is a luxury. More than 3,000 tons of the precious metal are mined each year. Throughout history about 187,000 tons of gold have been stripped from the natural environment around the world. A large part of this is made into jewelry and watches, but a great deal is also processed into bars and coins and used as a form of investment or purchased by central banks. Only around 10 percent is used for technological purposes. Leading the world in jewelry consumption are India and China, accounting for more than 50 percent of the world total. Germany was in fifth place among European countries with consumption of 5.4 tons.

According to the results of a survey in May 2021, all Germans together own almost 9,100 tons of gold. Around 5,200 tons of this are bars and coins, and just under 3,900 tons are jewelry. Together with the Bundesbank's gold reserves of around 3,350 tons, 6.6 percent of the precious metals mined for luxury goods internationally are owned by Germans.

The extraction of gold is associated with immense environmental damage and poisoning. In 2018, the United Nations determined that 38 percent of global

mercury emissions come from gold mining, followed by 13 percent from coal combustion and 11 percent from cement production. With a good 150 tons of gold mining per year, Peru ranks sixth among the production countries behind China, Australia, Russia, the US and Canada. A large part of the gold goes to refineries in Switzerland.

Horrible conditions in La Rinconada

High up in the Andes, in La Rinconada, Peru, about 60,000 people live in the mountains at an altitude of over 5,000 meters. Most of them make their living from gold mining. There is no sewer system or garbage collection. Garbage is piled up for kilometers along the highways. More than 1,000 women work there as prostitutes.

Everything there revolves around gold. The precious metal is mined on the mountain slopes. The laborers follow the veins of gold ore beneath the earth, often working in improvised shafts and tunnels lacking proper safety precautions. Mining accidents repeatedly result in loss of life. Similar work conditions also predominate in Colombia or in East Congo.

In La Rinconada the workers toil for their boss 28 days a month. Their only pay is on two days of each month they are allowed to dig out as much gold-bearing rock from the mine as they can carry, and these laborers have no social or health insurance. A large portion of the mining is under the control of criminal street gangs. There is almost no police presence and violent crime and lynch justice are rampant. Ore containing the gold is crushed into sand using tumbler drum mills or mortar and pestle. Workers buy mercury a cup at a time from kiosks and mix it with the crushed ore in pans, using their bare hands. The precious metal binds to the poisonous heavy metal and an amalgam is formed. This amalgamated lump is then processed by women in shops and workshops with blowtorches to vaporize the mercury, leaving the gold behind, which is then melted and cast into bars.

The mercury vapors poison the air, drinking water and rainwater. Mercury particles are widely distributed in the environment by wind and flowing water. Mercury is a persistent organic pollutant which builds up in organisms and the environment, never degrades and can cause damage to the nervous system and kidneys. Even more alarming than exposure to the metallic ele-

ment itself are the natural processes of transformation that release organic methylmercury compounds that can damage the central nervous system of unborn children. Poisonings from this compound in particular prompted the world community to adopt the Minamata Convention on Mercury to restrict mercury emissions.

Cyanide leaching is no alternative

Gold can also be refined without using liquid mercury. The precious metal is extracted from the raw material with cyanide leaching. Large amounts of toxic sewage sludge result from this process, making it a poor alternative. In 2000, the dam of a mud basin in Baia Mare, Romania, broke. The poisonous content spilled into the Tisza, the largest tributary of the Danube, which flows through all of Hungary. In the Tisza, all life became nearly extinct and only slowly recovered afterwards. The Australian company Esmeralda was primarily responsible. The day after the dam broke it pulled its workers from Europe and declared bankruptcy.

Gold jewelry from safes

The use of borax powder instead of mercury, as tested in Bolivia and the Philippines, is much less harmful and even technically superior. The electrochemical anode slime process is now also used very frequently for gold extraction. Gold is extracted as a by-product when copper ore is mined, for example. In some places even the traditional method involving a completely non-toxic vibrating table is still used.

However, the best alternative would be a moratorium on gold mining. As long as there are no non-toxic procedures of any significant scale, the safes of the national banks should be used, for these are the most high-yielding and cleanest gold mines in the world. So far, humankind has mined approximately 187,000 tons of gold, most of which has been processed into jewelry as a luxury good. As of 2019, around 34,000 tons were owned by central banks. Assuming annual industrial demand of 340 tons, the holdings of gold in these banks could meet the needs of industry for more than 100 years.

2. Oil and natural gas fracking in Argentina



A dead calf in a pit of oil residue from fracking wells operated by French oil and natural gas company TotalEnergies

Photo: Marión Esnault

Global energy consumption has increased by around 63 percent since 1990, most of it in the Asia-Pacific region. Energy consumption has hardly increased in Europe and has even decreased slightly in Germany. More and more energy is being used more efficiently, and in some cases less energy is being consumed, but economic growth and increased consumption are preventing a more pronounced drop in the use of energy.

Unfortunately, the world's hunger for energy is not only leading to the expansion of renewable energy sources such as wind or solar energy. Investments are still being made in the exploitation of fossil fuels, for example to extract natural gas from shale formations in Argentina. Last but not least, the oversupply of cheap natural gas from fracking will contribute to the quadrupling of plastic production that is expected by the early 2050s.

The “dead cow” and its consequences

The Argentine government has been funding a mega-project in the Neuquén province in the country's north since 2017. An international consortium of companies is extracting oil and, above all, shale gas from the Vaca

Muerta rock formation – or “Dead Cow” in English – using the controversial fracking method. National and international oil and chemical companies are involved in more than 30 development projects with a projected return of \$ 30 billion. Through its subsidiary, Wintershall, the chemical multinational BASF from Ludwigshafen, Germany, is also involved.

The project is a carbon dioxide bomb. According to the United Nations, fully exploiting these shale gas reserves would use up a large part of the total global CO₂ budget that is needed in order to achieve the target of limiting global warming to 1.5 °C above pre-industrial levels as set out in the Paris Climate Agreement. In a 2016 report, the UN recommended that the Argentine government “reconsider” the development of these oil and gas reserves and warned that the groundwater supply could be jeopardized, especially for traditional fruit and vegetable farming and outer city suburbs.

In 2016, the Buenos Aires-based NGO Observatorio Petrolero Sur summarized the criticism as follows: *Pollution of the soil, harmful emissions and negative*

effects on local subsistence farmers as well as jeopardizing the right to water through conventional natural gas drilling and fracking.

Nevertheless, the companies had no legal obligation to carry out an environmental impact assessment. This has no longer been required since the Argentine Public-Private Partnership Contract Law of 2016 was enacted. Since then, a simple report on the project has been sufficient for regulatory approval.

Due to this new law, as early as 2018 many accidents occurred due to uncontrolled oil and natural gas spills and leaks. At that time, up to two cases of oil or natural gas leaks were reported daily in the province of Neuquén. As a result, ten municipalities had banned fracking processes in their area, but the government overturned the fracking bans.

Experience also shows what is to be feared here: after the oil and natural gas reserves of the "Dead Cow" have been exploited, the companies will move on, leaving behind contaminated soil and drinking water supplies as well as an impoverished population in many different areas.

Problems faced by fruit growers

Many residents live from their herds and from growing fruit and vegetables. Since oil companies have been

building paved roads into the country, cattle thieves have traveled there to steal cattle. Although the population is already suffering from water shortages, the government is helping companies obtain access to water. The dust from the many new roads, paths and industrial areas blows onto the grasslands and destroys the pastures. Toxic exhaust gases from the fracking process are an additional problem: Benzene, mercury, arsenic and radium. In contrast to Europe, companies do not have to disclose the quantities of these toxins that are released into the environment.

Even if the fruit grower Jessica Lamperti from the village of Allen has no information about the pollution of her harvest, she must suffer the consequences: Even before natural gas production began, a customer from abroad canceled its order. The reason given was that, due to fracking activities in the area, "good agricultural practice" is no longer guaranteed, and that the customer wants "fracking-free" products. In addition, there is no guarantee that compensation will be paid after leaks and routine damage. Many farmers get nothing at all because they cannot prove they are the owners of the land or their herds. This was previously unnecessary, because for generations people have lived and worked here on public land without interference from the outside. Now the foreign companies are coming in and demanding property titles in writing.

Fracking – banned in Germany

In June of 2016, in Germany, where BASF has its headquarters, the Bundestag prohibited fracking primarily due to concerns over groundwater pollution – at least for the time being. The Bundestag can review this law in 2021. If fracking is to be permitted in Germany one day, unlike in Argentina this will only take place after having passed an environmental impact assessment and complying with environmental and social standards.

3. Cobalt mining in the Democratic Republic of the Congo



Children in the east of the Democratic Republic of the Congo mining minerals and metals

Photo: Enough Project

The number of newly registered e-cars worldwide is on the rise. As of January 2021, there were already 309,000 electric vehicles powered only by batteries in Germany alone. This is complemented by 1,280,000 hybrid-powered vehicles. By 2030 the German government anticipates there will be well over 10 million registrations for e-cars run on battery power alone. Electric cars will make road traffic more sustainable. But to achieve this, rechargeable metal-ion batteries will be required. Currently, one of the most commonly used electrodes in these batteries often contains the metals nickel, manganese, and the rare metal cobalt.

In 2019, 144,000 tons of cobalt were produced globally. However, given increasing e-mobility around the world, this quantity would probably not be sufficient to meet demand for cobalt: On the basis of nickel, manganese and cobalt batteries used today, an estimate by the Öko-Institut (Institute for Applied Ecology) says that as early as 2030 there will be up to 400,000 tons of cobalt needed worldwide for batteries in e-cars that will be produced then. However, the production of cobalt is often linked to substantial environmental damage and workers are sometimes forced to mine the metals under inhumane conditions.

Child labor for our electric cars

Seventy percent of worldwide demand for cobalt – amounting to 100,000 tons – was supplied in 2019 by the Democratic Republic of the Congo. Of this, around one-fifth comes from non-industrial sources. Such small-scale manual mining is done by the local population. Some of the people dig up the ore right next to their huts, going as far as 45 meters down into the earth. Unstable labyrinths develop under the villages. Men, women and children work without any safety equipment, without a face mask, often barefoot. Accidents happen every day; people are buried alive when pits collapse. While working, they breathe in considerable amounts of toxic cobalt dust.

The deeper the shafts, the narrower they become. Children are often used in these cramped spaces. Sometimes children aged only 12 spend whole days in the tunnels. Minors have to work up to 12 hours a day for an average of one to two dollars. Seven-year-old children look for the metal in the spoil heaps of the industrial mines and sort and wash the ore.

UNICEF estimates that in 2014 around 40,000 boys and girls had to work in mines in the south of the Democratic Republic of the Congo, with many of them mining cobalt. This form of child labor is considered among the most flagrant in the world.

Transparent efforts to combat child labor

Similar to cobalt the tantalum mineral coltan is mined in the east of the Congo. Tantalum is a raw material used in electrical appliances. In the case of coltan, a method for precisely testing and tracking how the ore was mined has existed since 2011. The Tin Supply Chain Initiative founded in 2008 developed this test method. It now follows the due diligence requirements set by the OECD in 2013. This means that individual transport sacks are checked and sealed at several checkpoints – until they are delivered to the metal smelter. This is to ensure that the minerals come from conflict-free regions and are not extracted with the help of child labor. In 2017 the initiative covered large parts of Central Africa that exported 21,000 tons annually from hundreds of mines. It helps thousands of miners and controls hundreds of companies that use tantalum minerals extracted from the ore coltan.

Because the tantalum ore coltan as well as cobalt ore are mined and processed under similar conditions, the certification process for the tantalum ore coltan could easily be transferred to the mining and processing of cobalt ore. One problem, however, is that the informal mines of small-scale mining could be largely precluded from the market. As a result, other jobs would have to be created, in order not only to prevent child labor but also to provide a long-term solution to poverty in the entire population.

Cobalt is the costliest metal in nickel-manganese-cobalt electrodes. That is why companies try to reduce the proportion of cobalt. The ratio of nickel, manganese and cobalt in these electrodes has already shifted from 1:1:1 to 3:1:1. Thus, only one-fifth of newer electrodes consist of cobalt, whereas older ones are one-third cobalt. In addition, companies are also trying to discontinue the use of cobalt altogether. The recycling of batteries will also be improved and expanded.

In order to reduce dependency on problematic raw materials, we have to reduce the overall consumption of resources for cars. This also applies to e-vehicles. Changing the drive alone does not help. We need a genuine turnaround in mobility. Environmentally friendly mobility must be available to all residents – for example with attractive, affordable options for walking and cycling, emission-free public transport and new mobility services. Traveling by train must also cost less than flying.

4. PVC production in China



Employees of the Chinese Zhongtai Chemical Co. use shovels to fill sacks of spent mercury catalyst at a plant in Urumqi, Xinjiang Province

Photo: Institut für Energie- und Umweltforschung Heidelberg

Images of plastics polluting the oceans have been a wake-up call to many people. People are now aware that there are many risks associated with plastic consumer products and microplastics. Increasing consumption, with demand for disposable articles means there is a constant increase in the production of synthetics – in part under conditions that harm both the environment and human health.

Together with polypropylene and polyethylene, PVC is one of the most widely produced synthetics. The market research company, Ceresana, predicts that total demand for PVC will climb to around 56.2 million tons by 2026. China is the world's leading producer with current production capacity of about 27 million tons a year. Companies in China primarily use the "calcium carbide process" for production, which emits four to five times more carbon dioxide (CO₂) than processes used in the EU.

Highly poisonous mercury waste products

In addition, the calcium carbide process requires mercury catalyst which must be disposed of. Wastewater contaminated with mercury is also produced. In 2016, PVC manufacturers in China used around 1,000 tons of mercury for this purpose, and this is currently still true (2021) in around ten large PVC plants (such as in the province of Xinjiang in China's northwest). All steps – from the mercury extraction to the disposal of the waste – involve serious environmental and health risks. Manual filling of the used catalytic converters into sacks, which gives off dust containing mercury, shows that safe disposal is not always taken into account. Employees are exposed to serious health hazards because mercury can be absorbed through the respiratory tract and skin and damage the central nervous system, lungs and kidneys.

State-of-the-art without mercury

Chemical companies in the EU and the US also manufacture PVC – but by using the “ethylene process.” This process differs substantially from the carbide process: The ethylene process does not involve mercury and only 2.3 tons of CO₂ per ton of plastic are released (instead of 11 tons in the carbide process). If all Chinese PVC manufacturers had used the ethylene process in 2020, they would have saved around 190 million tons of CO₂. This is the equivalent of roughly 23 percent of Germany's greenhouse gas emissions in 2019.

Due to the Minamata Convention, China will at some point have to phase out the use of mercury. In 2016 the country ratified this 2013 international legally binding agreement on the prevention of mercury emissions – but obtained an exemption for catalyst containing mercury before doing so. However, the text of the convention also states that five years after the contracting states determine that mercury-free catalysts are technically available and affordable, mercury must be phased out. Alternative gold-based catalysts now exist but are likely to be more expensive at first. In addition, gold production has its own dangers (see Example 1).

These problems with mercury could be avoided if we stopped using plastics made from PVC. This would yield additional benefits, as PVC poses serious health and environmental problems from its manufacture to its disposal. For example, soft PVC emits harmful plasticizers which have a hormone-mimicking effect and as a result can damage metabolism, especially in unborn babies (see Example 10). Recycling is problematic because of the large number of additional substances, some of which are poisonous, such as UV stabilizers containing heavy metal. At the same time, incineration can give off toxic dioxins.

5. Textiles manufacturing in Pakistan and Bangladesh



After the Rana Plaza textile factory collapsed, people search through the rubble for victims and survivors.

Photo: picture alliance/AP

Since 2000, our consumption of clothing has doubled worldwide, from 50 to around 100 billion newly purchased garments, and the upward trend is continuing. Due to its highly seasonal nature, the textile industry is one of the sectors that most frequently introduces new products onto the market. Today we are seeing the modern craze of fast fashion which can also be understood as "disposable fashion." Instead of two or four collections per year, large manufacturers now deliver more than 20 collections over the same period. Fast fashion relies on impulse purchases which satisfy external stimuli.

The textile industry also consumes high volumes of water and chemicals. But filter systems and treatment technology for factory wastewater is often lacking. The result is tremendous environmental problems, for example in Bangladesh and Pakistan. Thousands and thousands of people in the Global South work in this industry under degrading conditions and are even exposed to life-threatening hazards. In addition, after accidents they cannot obtain compensation from those who are responsible, because in the countries of the Global South there are usually no legal provi-

sions made for this. This means that, as clients and customers, Western textile businesses are responsible.

Textile factory accidents

In September 2012, 258 employees of the textile factory Ali Enterprises in Karachi, Pakistan died in a fire. The victims either suffocated or were burned to death. They could not escape: Windows were barred, emergency exits locked, and only one door of the building led out into the open. The factory's most important customer was the German textile company KiK, which, according to its own figures, bought up to 75 percent of the Pakistani company's production in 2011. The company assured them that workplace safety and other working conditions were regularly assessed by audit firms. KiK should thus have been familiar with working conditions and structural details of the factory. As the main customer, it would have been easy for KiK to have demanded better fire protection precautions and only a small expenditure would have been enough to save many people's lives. The role of the Italian certification company RINA, which gave the factory a seal of approval for high safety and security standards just a few weeks before the fire, is also questionable.

Just over six months later, in April 2013, the eight-story building of the Rana Plaza sewing factory in Bangladesh collapsed and 1,134 people died. In response to public pressure, around 200 European companies formed the "Bangladesh Accord," which was supposed to ensure more safety in the sewing factories. In June 2018, the Lutheran Press Service was finally able to report that 1,700 textile factories had been inspected and 85 percent of the defects discovered had been eliminated. This significantly increased building security in the production facilities. At the same time, however, the church-affiliated SÜDWIND

Institute for Economics and Ecumenism in Bonn criticized the lack of secure employment and adequate wages: The minimum wage for textile workers of around €60 a month has not increased in five years and the seamstresses have to work substantial amounts of overtime to survive. The unionization of female textile workers is still being suppressed. As a result, the SÜDWIND Institute asked clients such as KiK to actively contribute to higher wages, although the company was unsuccessful because the owners of the factory were not interested in higher wages.

Durable and high quality instead of seasonal goods

Textiles are also produced in Germany – at around 1,300 companies with about 130,000 employees. However, here work is done differently from Asia: adequate wages, occupational safety, safe handling of chemicals and stable buildings are guaranteed here.

Since a high product price or an expensive brand are no guarantee of fair and environmentally friendly production conditions, consumers can only exert limited influence by means of their purchasing decisions. There is also no single product seal of approval that completely covers the entire value chain in depth, including taking environmental impact into account. Binding supply chain controls that monitor compliance with human rights standards and rigorous environmental standards would help in this area.

No question about it, we need shirts, pants, socks, T-shirts and jackets. However, their production should not involve child labor and environmental pollution. It is important to buy less, and when buying to choose high-quality, recyclable clothing instead of cheap seasonal garments. These can later be passed on to second-hand outlets, too, and consumers can also shop for second-hand clothing.

6. The export of prohibited pesticides from Germany to the Global South



Farmers spray pesticides on cotton fields in Pakistan.

*Photo: picture alliance/
REUTERS | STR*

Whether fruit, vegetables, nuts, honey or herbs – many of these foods are dependent on pollination, an immense task taken care of largely by honeybees and wild bees. Their output corresponds to around € 2 billion in Germany and around € 15 billion in Europe. But since the use of pesticides endangers the bees, the first bans have been imposed in Germany and Europe. However, German pesticide manufacturers such as Bayer and BASF also export a high volume of pesticides around the world, including those already banned in Germany or the EU.

In 2017, 233 different pesticidal active ingredients were exported from Germany. The international Pesticide Action Network (PAN) regards more than a quarter of these – 62 to be exact – as extremely hazardous. These include active ingredients which, according to the World Health Organization (WHO), are particularly hazardous, as well as active ingredients which, according to the internationally recognized United Nations criteria, can lead to chronic damage to health, for example because they are carcinogenic or endanger fertility. There are also active ingredients that are extremely toxic to bees. Of these active ingredients, 21 were not approved in Germany at the time of their export.

Extremely hazardous insecticides for Brazil and India

The insecticide with the trade name Larvin from Bayer CropScience is sprayed from aircraft and vehicles where cotton, corn and soybeans are farmed. The active ingredient of this insecticide is the carcinogenic neurotoxin thiodicarb. It is not approved for use in the EU, but is manufactured by Bayer CropScience in Germany and sold to, for example, Brazil, as is carben-dazim, which has been detected in drinking water in every fourth municipality in Brazil. This substance poisons aquatic organisms and can damage DNA and the unborn child in the womb. All across Brazil there are over 6,000 cases of pesticide poisoning reported annually, 148 of which are fatal.

Bayer CropScience is taking advantage of a situation in which the EU protects its own citizens by prohibiting use or adopting precautionary measures, but allows production for the world market. It can also be assumed that users in industrialized countries are better informed about how to protect themselves and the environment from toxins.

But this does not apply in countries of the Global South: The people there are not continuously trained in the correct use of pesticides and often have less school education. In addition, leaflets and warnings are not always available in the respective national language. For this reason, users tend to leave pesticide residues and packaging carelessly lying around in natural settings, or store the deadly poisons together with food or cattle feed. Farmers and workers on plantations often lack both protective clothing and respiratory protection. Another problem is that there is often no free health care available.

Another example is cyfluthrin, a pyrethroid poisonous to bees. Bayer CropScience exported between 25 and 100 tons of the insecticide in 2019. In addition, the Bayer plant in Vapi (India) still produced 50 tons of it in 2020.

The WHO considers this bee poison to be a highly dangerous substance. Bee poisons from this class of active ingredients are particularly dangerous to insects and aquatic organisms: In theory, 25 tons are enough to kill 500 billion bee colonies of 50,000 bees each. Both the details of who the manufacturing companies are and how many tons are exported and to what coun-

tries are considered secret, but insiders emphasize that the majority of exports go to countries in the Global South. The active ingredient is banned in the EU just like thiodicarb and carbendazim. However, until 2020 the EU repeatedly granted exemptions to the industry for the active ingredient beta-cyfluthrin – but no insecticide with this active ingredient has been approved in the EU since January 2021.

Because the manufacturers of active ingredients and pesticides do not monitor the impact of their business practices on the environment and health in the countries of the Global South, they must be held jointly responsible for the effects of the use of these substances in that part of the world. They also violate their own codes of conduct and the "Responsible Care" rules of the chemical industry.

Basic laws are missing here. As the largest chemicals hub in Europe, Germany has a special responsibility. An export ban on highly toxic active ingredients that are banned in the EU does not yet exist – but it is fundamentally possible and urgently required. The voluntary self-commitment of the industry will in no way solve the problem of poisoning and loss of biodiversity through pesticides.

Organic farming without pesticides

The production of food without synthetic chemical pesticides is possible worldwide, as has been shown by organic farming for years. Doing without pesticides promotes biological diversity, which is why more species diversity can be found on organic farms than on conventional farms. And organic farming is worthwhile: In Germany, demand is now growing much faster than domestic supply, and the greater expense involved is compensated for by higher prices. But even in conventional cultivation, the amount of pesticides used should be kept as low as possible. Worldwide production and usage must drop drastically and uniform standards must be applied.

7. Recycling car lead batteries in Nigeria



Workers from the Nigerian company Metalworld Recycling Ltd. reclaim lead from used car batteries in the highly populated metropolis of Lagos.

Photo: Adetona Omokanye

Lead is poisonous but absolutely necessary for batteries in gasoline and diesel-powered vehicles. At the beginning of 2021 there were almost 48 million cars using lead-acid batteries in Germany. Lead accounts for 65 percent, or 12 kilos, of every car battery. All these vehicles move around 570,000 tons of lead along our roadways. And each year new batteries are manufactured, requiring about 160,000 tons of lead.

Each year 11 million tons of lead are required for motor vehicles all over the world. More than half of this is recovered from recycling the batteries – and when this is done in Africa, both human beings and the environment pay a high price for it.

A tremendous amount of lead poisoning stems from cars

Lead batteries from Europe are recycled in African countries like Nigeria using methods that inflict tremendous damage on the environment and the health of workers and those living nearby. Workers break disused batteries apart by hand, pour the acid out and shred the batteries. Some of the shredded lead is re-exported immediately, some of it smelted in a

rotating tube and lead ingots cast for export. Employees at such companies often work without boots, gloves or respiratory protection.

People living nearby suffer from the lead emissions from these recycling firms. For example, in the community of Ipetoro north of the port city of Lagos up to 130,000 milligrams per kilo of lead were measured in the soil. In Germany the permissible value for residential areas is 400 milligrams. In Ipetoro, wastewater containing sulfuric acid flows openly along village roads and on the fields and farmland. Everest Metal Nigeria Ltd. is responsible and owned by subcontinent Indians. A representative of the community council sued the company because it disposes of its wastewater directly in the village.

Samples of blood taken from workers and nearby residents indicate massive lead poisoning. The limit value of the World Health Organization (WHO) of 10 µg/dL of lead in blood is often exceeded by a very wide margin. Lead can also cause chronic poisoning and is particularly hazardous to pregnant women because it can harm unborn children.

To take one example, in 2018 the lead ingots from Nigeria also ended up at the German recycling factory Weser-Metall in Nordenham, Lower Saxony, which then delivered them to Johnson Controls, which describes itself as the world's largest manufacturer of car batteries. Each year the US company manufactures around 17 million car and truck batteries at its German plants in Hannover and Zwickau. In the EU 85 percent of all new vehicles have a Johnson battery. In late 2018 Daimler, Opel, BMW, VW and other carmakers had to admit to having committed serious violations of environmental and human rights standards in their raw material supply chains after the lead-poisoning scandal in Iperito became public.

The cycle of exports and imports in which Germany is involved therefore causes tremendous health problems

in the affected countries. At the same time, even government authorities are not able to estimate the true dimension of the problem: According to Germany's Federal Environment Agency (UBA), in 2017 47,366 tons of lead batteries as well as lead and lead monoxide from shredded batteries were imported. However, Lower Saxony reported 109,731 tons were imported to its state alone. Germany's Federal Ministry for Economic Cooperation and Development (BMZ) describes the monitoring of the movement of goods as poor. This materials-flow cycle is quite obviously not compatible with the goal of "responsible consumption" as set out in the 2030 Agenda for Sustainable Development of the UN, to which the German government committed itself.

Lead-free with the mobility turnaround

Lead recycling in Germany, especially the lead recycling of starter batteries, is part of a well-established materials-flow cycle. Recycled lead accounts for more than 90 percent of this. First the batteries are broken apart in closed systems and the acid separated off. The remaining lead is then smelted into lead ingots and further refined into highly pure reclaimed lead. Lead recycling takes place without any loss in quality and minimal loss in mass.

As is true for the environmental burden regarding e-mobility: the fewer cars driven in Germany and across the world the better. That is why a mobility turnaround is necessary that offers people the opportunity to break away from their dependence on cars in many parts of their lives. By offering better local public transport and other alternatives to using a car, the basic prerequisites must be created in order to substantially reduce the number of cars.

8. Demolishing ocean-going ships in Bangladesh, India and Pakistan



The hulks of ships awaiting dismantling on the beach in Chattogram (formerly Chittagong), Bangladesh. A young man working with hands and legs unprotected.

Photos: Studio Fasching / NGO Shipbreaking Platform

Around 60,000 marine vessels crisscrossed the oceans in 2017 transporting raw materials, mineral oil, chemicals, and industrial and consumer goods between countries and continents. Around 60 percent of all international goods transport is by sea. The North Sea and Baltic Sea have the most shipping traffic.

Approximately 700 of these ships are demolished annually at the moment. Ninety percent of the material in these ships is high-grade steel and thus represents a valuable secondary raw material to the steel industry. But since the 1970s the scrapping and recycling of seagoing vessels scarcely ever takes place in Europe, North America, Japan or South Korea.

Poisoned coastlands

Nearly all very large decommissioned ocean-going vessels are scrapped and stripped of materials at three remote beaches in South Asia: in Alang-Sosiya, India, Chattogram (formerly Chittagong), Bangladesh and in Gadani, Pakistan. While still operational, the ships are sailed in toward land at full speed at high tide and rammed onto the mud flats. At low tide it is possible to go aboard and do scrapping work. Around 100,000 workers break up the large tankers and ocean liners

into small parts by hand using blowtorches and hammers. Occupational health and safety standards are pitiful, nearly all employees wear casual clothing to work without protective helmets, respiratory protection, sturdy shoes or gloves. In 2018 alone at least 34 people were killed by falling parts, explosions or fires. Here, the main idea is low-cost disposal. This is because various harmful substances must first be removed before the valuable steel can be salvaged. Nearly all old ships contain the carcinogenic mineral asbestos in areas such as engine rooms, piping systems and in fire-protected wall linings. Inhaling asbestos fibers causes black lung disease (asbestosis), pleural mesothelioma and peritoneal cancer.

Making matters worse, until 2002 the outer shells of all ships were treated with tributyltin (TBT). This TBT coating keeps barnacles and other organisms from attaching to hulls and slowing ships down.

At the beach in Alang, India, where ship-breaking is carried out, people gather mussels and snails and catch crabs and fish for food along estuaries and tidal flats at low tide – although what they catch is contaminated with TBT. The level of contamination is so high

that in Europe this would result in the seafood being prohibited for human consumption. TBT is highly poisonous, alters the endocrine system and causes infertility and masculinization. For example, the female muricidae and common whelk developed male sex organs and were no longer able to spawn, causing the collapse of populations of these sea snails along the North Sea coast of Germany and the Netherlands. The environmental damage resulting from this has scarcely been measured until today.

And there are other poisonous substances as well. Lead can cause chronic poisoning in humans and – if inhaled as lead monoxide – is considered a carcinogen. Its effects range from headaches to tiredness and weight

loss all the way to defects in the formation of blood, the nervous system and musculature. It can also harm the embryo and cause infertility. Lead poisoning is particularly dangerous in children and pregnant women. Arsenic damages vessels and nerves, chromium compounds can cause atopic dermatitis and lung cancer, polycyclical aromatic hydrocarbons (PAHs) may result in various types of cancer and immune-reactive conditions, and dioxins cause cancer and can lower sperm production and weaken the body's immune system.

In the meantime, several of these diseases are subject to payments for damages as job-related illnesses in Germany and other EU countries – in the ship-breaking countries such illness is an unavoidable fate.

Recycling ships in accordance with EU standards

The disposal of asbestos and the removal of paint containing tributyltin (TBT) can be carried out safely in drydocks. This is done in countries such as Belgium, Denmark and the Netherlands for river, coastal and also some deep-sea vessels, but is only a drop in the bucket. Ship owners may argue that there is insufficient drydock capacity, yet the environmental association Shipbreaking Platform calculated that sufficient services are already offered within the EU for decommissioned ships of EU owners and with willing cooperation this could be the case for the world's entire fleet by 2030. In addition, there are also ship recycling companies outside the EU which comply with EU standards and whose capacity has not yet been exhausted. However, responsible ship recycling is costly and is often sidestepped for that reason.

9. Disposal and recycling of e-waste in Ghana



A boy dismantling a TV on a toxic waste dump in Accra, the capital of Ghana

Photo: Kai Löffelbein/laif

In 2017 the average German household owned three phones, 1.5 flatscreen TVs and slightly more than one car and every second household had a gaming console and a navigation device, and every third household an exercise bike. In total every household had an average of 37 electronic entertainment devices. This consumer demand also has a flip side.

In 2019 the world's population generated the record amount of 54 million tons of electronic waste, the equivalent of 7.3 kilos per capita. In that year Germany produced 2 million tons, the equivalent of 20 kilos of e-waste per person. It is estimated that due to increasing consumption by 2030 just under 75 million tons of electronic waste will be generated on the planet. At the same time in 2019 only 17 percent of e-waste in the world was reported to have been collected and recycled. Europe leads the way with a 43 percent rate, followed by Asia at 12 percent and America at 9 percent.

Worn out electrical and electronic devices from refrigerators to gaming consoles and TVs all the way to USB thumb sticks contain not only recyclable materials but

also dozens of harmful substances. Based on the criteria of the Basel Convention this makes electronic scrap materials some of the most hazardous types of waste and their export from OECD countries elsewhere in the world is prohibited.

"Sodom and Gomorrah"

With its Photo of the Year, in 2011 UNICEF helped increase public awareness of the problem. The local people call the largest garbage dump in Africa in Ghana's capital city of Accra "Sodom and Gomorrah." In order to earn money, in 2019 an estimated 5,000 children and adults broke down computers, cell phones, TVs and other devices and stripped them down by hand. Some of the electronic waste is melted down in order to reclaim very small amounts of lead, gold and silver. Steel and aluminum are separated and tangled cables burned off to reclaim the copper. The entire work area is constantly covered by smoke full of lead, cadmium, zinc, chromium, nickel, mercury and other poisons such as dioxins. People there complain about headaches and dizziness. They suffer from skin rashes and nerve damage. Rainfall from the noxious clouds poisons the soil and bodies of water.

It is true that the Basel Convention has generally prohibited the export of hazardous waste from OECD countries to the rest of the world since 1995 – but this has only been mandatory since December of 2020. However, since 2012, the EU Waste Electrical and Electronic Equipment (WEEE) Directive has allowed such exports only if the exporter can “prove that the treatment took place in conditions that are equivalent to the requirements of this Directive.” The exporter must provide evidence that the devices and articles work and must package them as new goods so that they are not damaged in transit. Prior to this, in case of a dispute the relevant authority had to prove that the devices did not work in order to prevent their export. By shifting the burden of proof, lawmakers have made the work of the regulator easier.

However, illegal exports to low-wage areas in India or Ghana continue. Defective devices and parts are shipped with reusable articles as an “accessory” in used vehicles. Here is an example based on reality: It is pos-

sible to load 15 used CRT monitors, 200 laptops, innumerable memory drives, 55 gaming consoles and 19 joysticks in an 18-year-old VW bus that still runs. Only 20 percent of these electronic devices and parts are still usable. This practice explains the emergence of huge logistics centers in the Global South where sorting, selling and purchasing, repairs, recycling, and salvaging of secondary raw materials and ultimate disposal all converge.

However, electrical and electronic products were not specified when the Basel Convention was ratified in 1992. At the time it was possible to anticipate the massive transcontinental flow of poisonous materials, but its effects were not yet so visible. That only changed in 2002 when the report “Exporting Harm” of the Basel Action Network (BAN) was published. In this, environmental damage and adverse health effects in China and India stemming from exported e-waste from the US and Europe was documented.

Repairing saves lives

Since 2016 at least 45 percent of old electrical appliances in the EU must be collected and of that amount 75 to 85 percent should be reused, recycled or utilized thermally – in other words incinerated. During this period, Germany almost reached its collection rate in 2018 while meeting other goals. Starting in 2019 the European Union has set the required collection rate at 65 percent.

Whereas very specific requirements apply to how old electrical appliances collected in Germany are to be treated, it is still unclear what happens with other waste equipment. Some small devices end up in residual waste, some at larger junkyards that have not fulfilled the requirements of the Electrical and Electronic Equipment Act. And some junk dealers sell old devices illegally to foreign buyers.

A viable alternative, that is to say, reparability and re-use designed to allow more lasting use of components and materials is only making slow progress at this level. Since 2021 all televisions, monitors, lighting products as well as large household appliances such as refrigerators, freezers, washing machines and dryers as well as dishwashers must meet minimum requirements for ease of repair. In addition to a longer useful life, the products should have an improved design making them easier to recycle. This also means doing without hazardous chemicals such as halogenated flame retardants in displays.

10. Endocrine disruptor substances in plastic products



Plastic toys for toddlers, some of which contain toxic substances, are often part of the equipment in kindergartens.

Photo: picture alliance/dpa | Julian Stratenschulte

In different countries varying standards also exist for handling hazardous additives in plastics. This is shown for example in the EU's RAPEX early warning system that warns about products that pose hazards to the safety or health of consumers. In Germany, too, countless consumer products made of plastic still contain chemicals that are harmful to health. Despite the fact that they are already banned in Germany, they are still sold here as components of imported products. We still manufacture other dangerous additives included in the production of plastic products, although this has been shown to be unnecessary. These situations are illustrated using the examples of diethylhexyl phthalate (DEHP) and bisphenol A (BPA).

DEHP was used in large quantities as a plasticizer, mainly in PVC. DEHP and some similar plasticizers from the phthalate group influence hormonally controlled developmental stages and can thus damage the health of children and, among other things, harm their reproductive system. Infertility, liver damage or behavioral disorders can later be triggered in children and fetuses in the womb. They are also suspected of causing diabetes.

But DEHP is still found in children's toys made of PVC. In 2019, in connection with RAPEX, toys were the most frequently rejected product group with a share of 29 percent. In 49 percent of the cases, dangerous chemicals were the cause, often including phthalate plasticizers. In 2019, the plastic doll "Beauty" from China, which consisted of 32 and 17 percent, respectively, of the phthalate plasticizers DEHP and DBP, was sold in the EU. But by no means are all children's toys containing these pollutants detected. Measurements in kindergartens showed that the contamination of house dust with plasticizers there is up to three times higher than in average households.

No hormone-like plasticizers for children's use

As early as 2011 and 2012, the European Chemicals Agency placed four phthalate plasticizers, including DEHP and DBP, on the candidate list of substances of very high concern under the European Chemicals Regulation REACH because of their harmful effects on reproduction. In addition, in February 2017 they were declared endocrine-disruptive in humans and in December 2018 declared substances subject to authorization. As a result, since July 2020, both pollutants may no longer be used in the EU in concentrations above 0.1 percent by weight of all phthalates used in products for consumers. The ban applies to manufacturers and suppliers within the EU as well as to importers of goods from outside the EU. Nonetheless, contaminated product imports are repeatedly introduced onto the market, whether because the legislators cannot carry out comprehensive controls of imported goods due to a lack of trained staff or because of online retail trade where controls are essentially impossible.

Bisphenol A (BPA) is a component of both the plastic polycarbonate and of epoxy resins, the latter of which is used in the lining of food cans. With annual production of around 4 million tons internationally (2019), this substance is a mass-produced chemical. BPA can escape from resins and plastics during use, can be detected in the human organism, and is omnipresent in the environment.

As early as 2012, the World Health Organization (WHO) deemed as proven that BPA contributes to the development of diabetes and obesity in humans, affects the development of children, and can lead to infertility. It also has harmful effects on reproduction and development in fish and amphibians. Nevertheless, with few exceptions, in Germany, too, it can still be used as a raw material for polycarbonate and for the lining of food cans and the inside coating of water pipes.

Impose effective bans on hormone disrupters

For reasons of consumer health protection, Bisphenol A (BPA) was already banned in baby drinking bottles by the EU Commission in 2011. This was preceded by national bans in France and Denmark. In January 2017, BPA was placed on the candidate list of substances of very high concern under REACH due to its harmful effects on reproduction; in June it was initially classified as endocrine-disruptive in humans, and in 2018 also for the environment. In 2018 the ban on baby feeding bottles was extended to all beverage containers and bottles made of polycarbonate for infants and toddlers. For other materials that come into contact with food, only an upper limit was set in 2019 for the amount of BPA that can be transferred to foodstuffs. Since January 2020, the use of BPA in thermal papers (including cash register receipts) has also been banned.

The fact that the lining of food cans containing BPA is unnecessary can be seen in Japan, where since 2010 such food can linings have been replaced by polyester-based plastic coatings. And in France, BPA has been banned in all materials coming into contact with foodstuffs since January 2015 because of its harmful properties.

Political approaches

International treaties on chemical safety

The shifting of highly risky areas of production to other countries was already addressed in the 1972 United Nations Stockholm Declaration. In Principle 21 it states: "States have . . . the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities... do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction." However, this was not enough to prevent the chemical accidents in Seveso in 1976 and Bhopal in 1984. The declaration did not establish direct liability for private companies, in these cases the liability of chemicals manufacturing corporate groups Hoffmann-LaRoche and Union Carbide Corporation.

At the United Nations Conference on Environment and Development in 1992 in Rio de Janeiro, for the first time environmental policy was linked with the principle of sustainable development. This marked the birth of the Framework Convention on Climate Change and the Convention on Biological Diversity (CBD). The subject of chemical safety was not upgraded, but the dimensions of the problem were better recognized and solution approaches formulated. These include the obligation to liability and compensation, the prohibition of double standards, the precautionary principle and the polluter-pays principle with the concept of internalizing environmental costs. However, no real improvements resulted. Following this, in Johannesburg in 2002 at the world summit "Rio + 10," the international community called for the enforcement of international liability rules.

From Montreal to Basel and from Rotterdam to Stockholm all the way to Minamata

So far, the international community has negotiated and passed five specific treaties in which it addresses individual aspects of chemical safety. In contrast to the declarations mentioned above, they are legally binding.

The first was the **Montreal Protocol**. This treaty regulates the phasing out of the use of chemicals that destroy the ozone layer in the stratosphere. Initially, the focus was on chlorofluorocarbons (CFCs), which

were used in cooling systems and insulating materials. With the banning of "human activities which modify or are likely to modify the ozone layer," this protocol adopts the precautionary principle for the first time in international law. The precautionary principle calls for political intervention against impending damage if there are valid reasons for concern, even without conclusive scientific evidence of damage having already occurred. The protocol is part of the first treaty of the United Nations to be ratified by all member states. And it works: the ozone layer is repairing itself.

The subsequent **Basel Convention** regulates the export of hazardous waste by companies as well as the disposal of such waste. Since then, the export of hazardous waste has required the consent of the exporting country, all transit countries, and the importing country. Export without prior written consent is prohibited. This protects states that do not have the necessary technical resources for handling hazardous waste. In 1995 the Convention was supplemented with a ban on exporting hazardous waste from industrialized countries to the rest of the world. This prohibition came into force in 2020. However, it is still possible to illegally export electrical and electronic waste by declaring it functioning scrap (Example 9). Until now, ship recycling has been completely neglected (Example 8).

With the third convention, the **Rotterdam Convention**, also known as the PIC Convention, binding rules for international trade of hazardous chemicals were laid down for the first time. The convention stipulates that certain chemicals and pesticides may only be exported if the recipient country agrees to the import after it has been made aware of the danger (PIC, prior informed consent). The convention has led to more transparency, especially in the trade of pesticides, and has improved administrative processes. However, it does not offer any means of providing better protection for people using hazardous pesticides under conditions of poverty, because here, above all, more rigorous local occupational safety standards would be necessary. There is still no consensus on some particularly dangerous substances such as asbestos (Example 6).

This was followed by the **Stockholm Convention**, also known as the POP Convention (POP = persistent organic pollutants). It prohibits the production and trade of, for now, 12 organic pollutants that are toxic, persistent and bioaccumulative – the so-called “dirty dozen.” In addition to the ban on, among other things, PCB and DDT, it also minimizes unintentional build-up of dioxins, which occurs as by-products of technical processes. It is the first convention to prohibit certain chemicals globally. So far, meetings of the states parties have agreed on adding 17 more persistent organic pollutants to the original list. The basis for decision-making is the polluter-pays principle and the findings of international investigations into adverse impacts of these chemical substances on the environment and on people.

The **Minamata Convention** seeks to curtail the emissions of mercury all over the world. Mercury is a toxic chemical with disastrous effects on the brain and nervous system. The aim of the convention is to ban the use of mercury in all products and processes and to limit emissions of mercury such as occurs when burning coal. The Minamata Convention initially prohibited the use of mercury in fever thermometers, fluorescent lamps and switches, but has not yet even begun formulating guidelines for the largest source of emissions, gold mining (42 percent of worldwide airborne emissions) (Example 1).

Terms and conventions	Contents	Ratified	Came into force
The Montreal Protocol	Material(s) that lead to depletion of the ozone layer	1987	1989
Basel Convention	Movements of hazardous wastes between nations and disposal of such hazardous wastes	1989	1992
Rotterdam Convention (PIC Convention)	International trade in certain hazardous chemicals and pesticides	1998	2004
Stockholm Convention (POP Convention)	Persistent organic pollutants (POPs)	2001	2004
Minamata Convention	Emissions of the heavy metal mercury	2013	2017

Possible solutions

Apart from the five individual treaties on chemicals safety, there is no overarching political strategy for all dangerous chemicals in all stages of their life cycle: from the mining of raw materials to production, trade and use, all the way to waste and disposal.

Strategic Approach to International Chemicals Management (SAICM)

The Strategic Approach to International Chemicals Management (SAICM) could take on this role. The SAICM agreement was agreed upon in Dubai in 2006 under the mandate of the United Nations Environment Programme (UNEP). It includes roundtables on pressing problems in dealing with chemicals, at which representatives of industry and civil society enter into discussions on an equal footing with governments. One drawback: The decisions that are made are not binding under international law.

The overall goal of SAICM was to minimize the negative effects of the production and use of chemicals on people and the environment by 2020. This goal has clearly been missed. What direction will now be taken is to be decided at an international conference, which due to the ongoing Covid-19 pandemic is not expected to take place until 2023. Germany holds the presidency and can thus take the lead role in this process. The new target is now 2030. Until then, the adverse effects of chemicals and waste on people and the environment should be substantially reduced. This is what it says in the United Nations Sustainability Goals from the fall of 2015. To do this, however, SAICM must become more demanding, especially with regard to liability and financing:

- The eight working groups that work on special topics – such as endocrine-disrupting compounds, or forever chemicals per- and polyfluoroalkyl substances (PFAS) – should set goals with deadlines. If these goals are not achieved, binding guidelines must be worked out.
- This will require money, especially to support the countries of the Global South most strongly affected

in establishing the capacity for environmentally friendly chemicals management. For, despite the devastating consequences for people and the environment, necessary measures for the safe handling of hazardous substances are chronically underfunded.

- The United Nations must give the issue of chemical safety equal priority on the environmental agenda alongside climate and species protection as a prerequisite for making more funds available for chemical safety.

Friends of the Earth Germany and other environmental groups are also calling for a financial contribution from industry based on the polluter-pays principle, which is anchored in EU environmental law in the Rio Declaration of 1992 and since 2007 by the Lisbon Treaty. The global chemicals industry is the fastest growing economic sector and is likely to more than double its sales to over US\$ 11 trillion between 2017 and 2030. However, the chemicals industry scarcely contributes to the considerable costs of damage that result from the production and use of problematic substances. According to conservative estimates by the World Health Organization (WHO), these involve 1.6 million premature deaths and an annual tally of 45 million years of illness-related incapacity to work. In addition, there are costs that cannot be quantified, for example for the remediation of polluted soil and water. Friends of the Earth Germany therefore demands that the manufacturers of basic chemicals be obliged to contribute 0.5 percent of their annual revenue. This levy alone would generate around € 10 billion annually – enough money to ensure the development of the necessary capacities and infrastructures for appropriate chemical and waste management worldwide.

Binding supply chain controls

The chemicals industry has been promising to act responsibly in accordance with its "responsible care" model for many years. But if this industry took these principles seriously, Bayer CropScience, for example, would not be allowed to export any highly dangerous

pesticides (Example 6) for use under conditions of poverty. Only half the textile companies joined the German "Textile Alliance," which the then German Development Minister initiated after the collapse of the Pakistani sewing factory Rana Plaza and the over 1,000 fatalities in 2014, and a wave of withdrawals began in 2018 (Example 5).

Only one-fifth of 2,250 large companies surveyed in 2019 by the Federal Ministry for Economic Cooperation and Development responded to a survey concerning implementation of their duties of care with regard to human rights. In September 2019, a broad coalition of civil society groups, including Friends of the Earth Germany, submitted a petition to the Federal Ministry of Labor and Social Affairs calling for a supply chain law to be enacted. In December 2019 a total of 42 Germany companies committed themselves to upholding a German law on duties of care with regard to human rights and the environment. Among those supporting it were start-ups, trading cooperatives and major corporations such as Hapag-Lloyd, Nestlé Deutschland and Tchibo.

In March 2021, the German Federal Cabinet finally agreed on the draft of a German Supply Chain Act, which was passed by the Bundestag on June 11, 2021. With the draft law, the German government is switching over to binding requirements regarding human rights and the environment. However, companies are only required to comply in full with their duties of care vis-à-vis direct contractual partners. For major discount chains, for example, those purchasing tropical fruit, this would only involve suppliers based in Germany, not the plantations in the countries of origin where the fruit is harvested. On the plantations, the

companies would only be obliged to take action if they had concrete knowledge of possible human rights violations. In addition, the Supply Chain Act does not include any provisions regarding civil liability that would have made it easier for those affected by human rights violations to sue for damages in German courts. Ultimately, not enough companies are being made responsible – in the first step only around 600 and from 2024 around 2,800 – far too few for an industrialized country like Germany in a globalized world, because far smaller companies can also contribute to serious environmental damage and human rights violations. In addition, environmental due diligence is only included in the law in a rudimentary form.

A stronger political signal came from Brussels in March 2021 when the European Parliament passed a draft law from its own legal committee by a wide majority regarding an EU-wide supply chain law. Compared with the proposed text from Germany, the draft law would subject companies to more comprehensive accountability and due diligence obligations, obliging them to respect human rights but also to comply with appropriate environmental standards in their global supply chains. This would apply to all companies that sell their products in the internal market, regardless of their size. Clear enforcement and sanctioning mechanisms are intended to ensure that the specified standards are adhered to. The EU's Justice Commissioner had already spoken out publicly in favor of significantly stricter regulations than those that were discussed and ultimately passed into law in Germany. The background to this is the outcome of a Commission study according to which only every third EU company reviews its global supply chains with regard to human rights and environmental impacts.

Concepts developed by Friends of the Earth Germany (BUND)

Embracing an ecologically and socially fair world

As early as 2030, the world's population would need two of our planets if we continue to do business as we have up to now. The gap between consumption and the resources the earth can provide is widening. And so is the divide between rich and poor and industrialized countries and the Global South. It was for this reason that in 2015 the General Assembly of the United Nations (UN) adopted 17 sustainability goals. Among the goals are a world without hunger and poverty, a healthy life for everyone, less inequality, more climate protection, halting the extinction of species. These UN sustainable development goals apply worldwide and should be met by 2030, and should ensure peaceful coexistence on earth, within ecological planetary limits scientists and environmentalists argue cannot be crossed if humanity is to avoid catastrophe.

A great deal of change is necessary to achieve these goals: economically, ecologically and socially. Such a change requires commitment by everyone: civil society, governments, companies, science, as well as cities and municipalities. Politicians must create the framework conditions for reducing the consumption of energy, materials and soil. For Friends of the Earth Germany, social justice and environmental policy go hand in hand. It is important to shape the turnaround of energy, transport, agriculture and resources with social responsibility, to distribute costs fairly, and to improve the quality of life for all people.

Given the steadily increasing production and distribution of materials and waste, many of which endanger the environment and health, we also need an ecological materials policy that relieves the burdens on our planet. Energy and resources must be used more efficiently, material-flow cycles must be closed, and the consumption of raw materials and chemicals must be reduced on a massive scale. The consumption of resources requires that caps and ceilings be imposed so that economic activity is possible within planetary boundaries. The chemicals industry's enormous demand for energy and fossil-based raw materials is

exacerbating the climate crisis. Persistent and toxic chemicals pose a threat to biodiversity and human health. The consequences are particularly serious where there is a lack of necessary infrastructure, meaning the countries of Africa, Southeast Asia and Latin America to which we relocate the dirty processes in manufacturing and export our plastic waste and electronic scrap as well as pesticides that have long been banned in our country.

Climate change, species extinction and the resource crisis were triggered by unfettered, unregulated markets and the pressure for constant economic growth. In order to solve the existential crises of our time, we need goals other than the accumulation of material prosperity. The increase in gross domestic product as an indicator of prosperity is no longer appropriate. We have to move away from wanting "always more, always faster, always farther" for individuals and move toward a society that treats nature and people with solidarity and care. Those who consume large quantities of raw materials must also be forced to pay a high price, for example by taxing primary building materials and material input. With this tax revenue, the state can achieve a social balance so that everyone has access to resources and can participate.

Establishing these connections and acting consistently in the political arena is the key to Germany and the EU's contribution to implementing the 2030 Agenda for Sustainable Development of the UN. Only in this way can we achieve a way of life that is no longer at the expense of future generations and the people of the Global South.

Demands for politics and the economy

We need a new chemicals and materials policy which encompasses the entire life cycle of chemical substances, from raw materials and chemicals themselves to their use in everyday consumer products, all the way to waste disposal. In view of the ever-increasing production of chemicals and the spread of hazardous substances and waste, a global approach is required so that economic activities do not exceed planetary boundaries. The chemicals industry must be reoriented

to conform with the principles of prevention and sustainability in Germany, Europe, and around the world. With its chemicals strategy for sustainability published in October 2020, the EU Commission presented the master plan for shifting over to green, sustainable chemicals. It is now a matter of putting this into practice. Because, without a sustainable materials policy, the goals of the United Nations for protecting biodiversity and combating climate change will not be achievable. As the largest producer of chemicals in Europe, Germany has particular responsibility. Therefore, Friends of the Earth Germany demands:

- Binding measures to achieve the sustainability goals of the United Nations with regard to sustainable production, consumption of chemicals and the protection of human health from chemicals;
- Rapid implementation of the EU chemicals strategy for sustainability and a pioneering role for the European Union in the sustainable restructuring of the chemicals industry;
- Further development of the Agreement on the Strategic Approach for International Chemicals Management (SAICM) – Germany and the EU are committed to ensuring that the measures adopted are made more binding and that indicators and schedules are set for the goals to be achieved;
- Strict application of the polluter-pays principle when handling chemicals – companies must take full financial responsibility for their products, from raw materials extraction through production to disposal;
- A levy of 0.5 percent of annual revenue from the production of basic chemicals to promote the development of the necessary infrastructures for the socially and environmentally compatible handling of chemicals in countries in the Global South;
- Consistent controls and tracking of violations of the export of hazardous waste from the EU to developing and emerging countries;
- Tightening the German Supply Chain Act and corresponding EU regulations;
- No double standards when dealing with raw materials, chemicals and waste:
 - Germany forbids companies located here from producing, storing and trading chemicals banned in the EU in other regions and adopts effective measures to implement such a ban at the EU level;
 - A mandatory Supply Chain Act for companies from Germany and the EU with the aim of securing compliance with EU safety standards for people and the environment along their global value chains; and
- A UN framework convention on materials policy with globally valid standards for sustainable raw materials, chemicals and waste management as well as absolute and binding targets for reducing the consumption of resources and chemicals.

Fewer chemicals protect the climate and biodiversity

The climate, biodiversity and materials-policy crises are closely interrelated: The use of pesticides and fertilizers in agriculture and the pollution of the environment with plastic waste is accelerating losses in biodiversity, and the highly energy-intensive chemicals industry with its enormous emissions of carbon dioxide is making the climate crisis worse. Friends of the Earth Germany therefore calls for chemicals and materials policy to be viewed as the third important pillar of a sustainability transition and to have it placed on the political agenda with the same importance given to the issues of climate change and biodiversity.

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