

The Green transition challenged by the metal supply chain.
How will Europe become climate neutral by 2050? Challenging the EU Green Deal
(Flemish Parliament, Brussels, March 12, 2020)

--- Q&A during the keynote presentations ---

<p>Prof. Ester van der Voet, are there existing examples to have technology free from 'critical metal/material'?</p>	<p>For example: wind turbines use Neodymium for their magnets. It is possible to make iron-based magnets instead. They perform slightly less, but are used as an alternative already. For solar panels, the use of materials is still changing as technology development is not nearly at an end. It is not too long ago that only 12 elements were used for computer chips. Now it is over 60. So, given man's ingenuity I think this should be possible. (Ester)</p>
<p>The metal recycling rate graph is from 2010. I guess that 10 years ago metals like cobalt (for instance) were not in the highlight as today. Isn't there a more update graph about metal recycling? and if not, when is a new graph expected?</p>	<p>metal recycling data are not standardly collected. Individual studies differ in their estimates. In the following market exploration, it is stated that around 10% of cobalt waste is recycled, leading to a few percent of recycled content in total production (Hamilton, C. 2017: Cobalt: Solving for a Supply Constrained market. BMO capital markets, Global Commodities, 4 december 2017). Waste statistics are generally of low resolution, making it impossible to trace individual small-scale elements. The British Geological Survey reports on scrap production, but as far as I know not for small-scale metals like cobalt. For larger scale metals such as copper and aluminium, BGS is a good source, updated annually. For smaller scale metals there is no such data source, unfortunately. The best source of information would be the Cobalt Institute (https://www.cobaltinstitute.org/). (Ester)</p>
<p>Prof. Ester van der Voet noted IPR promoting Sustainable Development License to Operate - which seems a good idea, but we are a long way from current Social License to Operate - so it would be good to know how such a new system would be adhered to?</p>	<p>Please find more information about the 'SDLO' in the IRP report in question (to which I did not contribute): https://www.resourcepanel.org/reports/mineral-resource-governance-21st-century (Ester)</p>
<p>What are the criteria to get the SDLO label?</p>	<p>The SDLO is a proposal from the International Resource Panel, it is not something one can apply for at this moment. The report will contain some proposals for criteria. It can be downloaded from this website https://www.resourcepanel.org/reports/mineral-resource-governance-21st-century (Ester)</p>

<p>What is the most positive change that the mining sector could take? E.g. byproduct recovery, reduce fossil fuel use, improve waste management, improved stakeholder engagement...</p>	<p>From an environmental and climate perspective, the most positive change would be that primary (especially large-scale, industrial) mining is limited to the extraction of resources which are indispensable to the energy transition. In the short term, reducing energy use (especially fossil fuels), improving waste management and addressing other environmental impacts are of course crucial. Transfer of technologies can help. But most importantly, stronger regulation at local, national and international level is needed in order to ensure that positive action does not depend solely on the goodwill of (some) companies.</p> <p>From a social point of view, respect for the principle of free, prior and informed consent (not merely one-sided ‘consultation’) should be a top priority in all policies addressing stakeholder engagement around mining projects. (Wies)</p>
<p>What is the source for your slide on environmental conflicts? (Wies)</p>	<p>The map in my slide on ‘reserves & vulnerability to conflict’ was taken from the report ‘Green conflict minerals’ (IISD, 2018). (Wies)</p>
<p>Question to Wies Willems: How do you judge the feasibility of an EU-level 'devoir de vigilance' legislation as it exists in France today?</p>	<p>Political momentum for mandatory human rights and environmental due diligence has been building up over the last years, pressured by national initiatives in several EU countries (with France being the most important example). A recent study commissioned by the EC (March 2020) affirms that voluntary measures are failing and that there is urgent need for regulatory action at EU level (moreover with broad support for this call among EU companies). In the context of the corona crisis and the debate on the relaunch of the EU economy, political support for EU-wide legislation has become more unsure, though.</p> <p>On the legal/technical side, there are several aspects which would have to be defined, such as scope, liability, etc., but there are several inspiring and practical examples that can be drawn from – including the French law. So, technically it should be feasible. Also, within an EU context, an EU-wide legislation would make more sense (level playing field) than different national laws (Wies).</p>
<p>Remark on import reliance of EU: this is indeed an important issue. However, something you may not forget is that some countries actually have more or less a monopoly on specific CRMs, e.g. China holds about 90% of rare earth production a few years ago (now it has dropped to about 70%, cf. Lynas, Australia & USA). Also remember what happened during the REE crisis in 2011.</p>	<p>Important remark. The reality of market control must indeed be taken into account, and at a multilateral level possible abuse of market power is something the WTO (and/or a possible future UN body on natural resources) should be vigilant about. At EU level I think we need both balanced raw materials and trade diplomacy with non-EU-countries (this is where the EU in many cases also has leverage to push for stronger social and environmental standards), and policies to decrease our dependence on imports. (Wies)</p>

<p>When we are required to balance values (balanced regulation), who decides which value is more important - do we need a framework for decision making in these instances?</p>	<p>As long as environmental values have to be compared, scientific methods can help to assess the relative importance (e.g. water contamination versus global warming). However, if social values and environmental values have to be balanced, it will be a political choice (Jan)</p>
<p>Is it true that each container is checked when moved by truck as hazardous waste?</p>	<p>Administrative check, yes, not a physical check. We are pleading for in depth audit of the receiving party and then ‘tacit approval’ + ad random checks for individual shipments (Jan)</p>
<p>Umicore: what’s your take on sector-specific mandatory supply chain due diligence as suggested by Wies?</p>	<p>It is fully justified that a society sets minimum criteria (e.g. food safety; why not ethical sourcing?). But ‘mandatory’ is always a minimum. It could give a false peace of mind feeling. And mandatory should be mandatory for everyone. There are many leakages in the actual conflict minerals regulation. (Jan)</p>
<p>Q mr Tytgat : to what extent is there supply chain monitoring by the public @Umicore ?</p>	<p>Our supply chain in 3rd party audited. We are in favour of e.g. a ‘battery passport’ revealing the origin of raw materials to our direct customers. (Jan)</p>
<p>Talking again about the metal recycling rate graph, could we distinguish among those metals which are not recycled because are not collected from those for which the technology is not ready yet or, more, from those for which the technology is not convenient (i.e. more expensive than the primary production technology)?</p>	<p>At this moment, concerning battery metals, cobalt, nickel and manganese could be recycled and there are a lot of attempts by battery producers to do it in industrial scale in China. Actually the amount of recycled cobalt already exceeded the amount of locally mined cobalt in China. The motivation is clear: the cost of mineral rocks is increasing because of increasing demand of electric vehicles. However up to now, there is still no available technology to recycle lithium.</p> <p>But like the recycling of plastics, we should not let the price to determine whether we recycling something. Therefore extra input will be needed to recycle metals related to newer means of energy/mobility. (Au)</p>
<p>Why do the major brands pay/treat better their workers than the smaller ones?</p>	<p>Generally speaking, in China, larger factories follows labour regulations better than smaller factories. Part of the reason comes from the fact that after years of campaigning from international civil society, more brands are disclosing their production sites such that NGOs are able to monitor the working conditions there. But still, the working conditions is just in the minimum level as regulated by law.</p> <p>In my presentation, I showed that surprisingly the working conditions in a battery factory are better than in an ordinary electronics factory. Such a difference does not</p>

	<p>come from the difference in scale of factory, but in the product. As vehicle battery is an expensive product (40-60% of the material cost of an electric vehicle), it is likely that the employers prefer a constant labour force instead of earning by minimizing the workers' salary. (Au)</p>
<p>Question to Mr. Lap Hang Au: Is China investing in research to develop Cobalt-free batteries and EV batteries free of rare earth minerals in general, for example Lithium-Sulphur batteries?</p>	<p>Yes (Au)</p>
<p>Lap Hang Au: what are the possibilities to form unions in China?</p>	<p>In China, workers can only form unions under the umbrella of All China Federation of Trade Union (ACFTU). Independent unions are not allowed. The ACFTU is part of the Communist Party and in a lot of workplaces, the unions leaders are not elected but appointed by manager.</p> <p>Sometimes, workers' effort to form unions are disrupted even though they follow the official procedures under ACFTU. In June 2018, workers in a factory called Jasic in Shenzhen tried to form union in this way. The worker representatives were then fired and workers and students who held solidarity actions to support them were arrested and detained. (Au)</p>