

Methodology Description

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I. Starting Points

Commodities have long been a blind spot in the field of sustainable investment, but precisely this asset class contains many ESG risks and potentials.

There are many social and environmental challenges associated with commodities. But they are also part of the solution.

Sustainable (physical) raw materials exist. However, they are not (yet) investable via commodity exchanges.

The rfu Commodity Rating fills an important ESG gap in the spectrum of asset classes.

The extraction of commodities is usually associated with significant social and environmental risks: e.g. destruction of ecological and social structures through large scale mining projects, clearing for arable land and pastures, precarious working conditions in developing and emerging countries and much more. At the same time, commodities are the basis of social prosperity, without which the provision of important goods, a reliable energy supply or food security would not be possible.

If you want to responsibly procure raw materials in physical form, standards and differentiated offers already exist, for example in the form of organic and regional food, metals based on recycling or energy from renewable sources. For financial investments in commodities, however, only standardised world market products are available via the capital markets, which at first glance severely limits the possibilities for responsible investing. Ultimately, sustainable investment strategies are about avoiding or improving the bad and selecting or promoting better alternatives. Furthermore, for a long time there was a lack of methodological foundations in the form of sound ESG analysis and rating procedures that were practicable for the financial industry.

Since the critical discourse on the topic of "food versus fuel" in the wake of the food price crisis in 2008/2009, a number of ex-food commodity strategies have been implemented, but in our view they take too superficial an approach to the multi-layered impacts of commodity production and use. In order to close this methodological gap, rfu, as an experienced provider of ESG research, decided to expand its coverage to include commodities and thus to fill one of the last ESG gaps in the spectrum of asset classes. The methodology of the rfu Commodity Rating was developed in 2018.

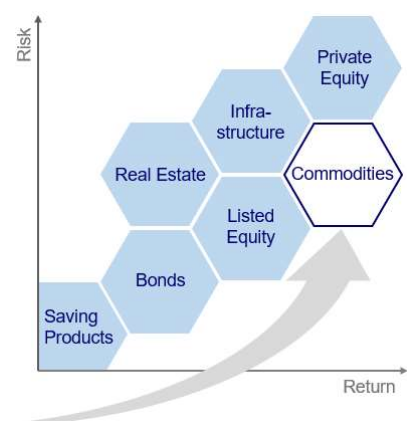
ESG Risks of Commodities

- climate change, extensive land use, loss of biodiversity, destruction of ecosystems and pollution, ...
- low human rights and employment standards, community conflicts, corruption, ...
- increasing wealth gap between "North" and "South"

★ ESG Opportunities

- changing production technologies (recycling, organic)
- extended life cycles, green applications, ...
- critical customers (fair trade, green & social procurement)
- potential source of wealth for developing countries

Availability of ESG Investments by Asset Classes



II. Basic Structure of the Model

The rfu Commodity Rating comprises the social and the environmental impact over the entire life cycle from production to utilisation.

How can a commodity be analysed from an ESG perspective?

At the beginning, there was the question of how to approach the asset class of commodities methodically, since they follow a different delimitation logic to that of companies or states. Any attempt at a bottom-up assessment by deriving the ESG characteristics of a commodity - e.g. copper or wheat - by aggregating the ESG ratings of all (or at least the largest) companies in the copper industry or wheat farmers and processors is doomed to failure for several reasons: (i) no sufficient ESG coverage in the OTC markets and especially in the small scale sector, (ii) mining and food companies are mostly diversified into several products etc.

In the rfu methodology, hypothetical "world commodity corporations" are assumed

Nevertheless, commodities are produced in corporate structures, and we have therefore developed the conceptual model of a global sole and exclusive manufacturer - in the above examples a hypothetical "World Copper Group" or "Global Wheat Corporation". For this we use the basic structure, the criteria and the weightings of the rfu Corporate Methodology, which has been tried and tested on thousands of companies for over 15 years.

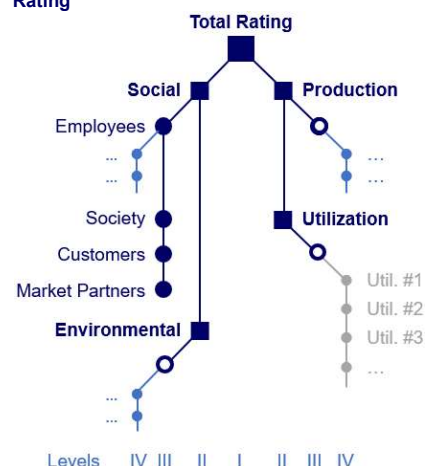


The model differentiates between the environmental and social dimensions as well as between production and use

The model is structured in such a way that it differentiates between (1) the social and the environmental dimension (corresponds to the left main branch in the adjacent figure) and at the same time (2) differentiates according to the life cycle phases of production and utilization (in the figure the right main branch). These two branches below the total rating (Level I) represent Level II of the model.

The social dimension itself is in turn broken down into stakeholder groups (Level III): employees, society, customers and market partners (the latter include in particular suppliers and cooperation partners). The concrete criteria (Level IV) and indicators (Level V) are then assigned to these. On the right main branch, the evaluation of the utilisation dimension is derived from the different types of use (#1, #2 etc. in the figure) (Level IV).

Structure & Levels of the rfu Commodity Rating



III. Criteria & Evaluation

The production rating is based on the origin, supplemented by a commodity-specific additional research; the usage rating results from the application mix.

The criteria and weightings of the rfu Commodity Rating

Since the rfu model thinks of commodities as hypothetical companies, essential parts of the model structure, the criteria and the weighting logic are set up analogously to those in the rfu Corporate Rating model. From its broad set of criteria, those relating to performance or products are primarily used in the Commodity Model. On the other hand, all programmatic and thus company-specific criteria such as ESG strategy and the stakeholder investor are not included.

The weighting factors with which the individual criteria and dimensions are included in the overall rating are also similar to those in the rfu Corporate Model. Metallic raw materials are treated like the "Metals & Mining" industry, for agricultural products the weightings of the "Food & Beverage" industry are underlaid, and for energy sources those of "Primary Energy".

Assessment of a commodity's production phase via geographic basic impact and commodity-specific bonus and malus points

Significant environmental and social effects of commodities can be found in the production phase: from the exploration and development of raw material sources, through extraction to further processing and refinement. This applies to metals as well as to energy sources or agricultural and forestry products. The precise analysis and assessment of the associated technologies (e.g. mining, use of secondary raw materials, metallurgical processes) and conditions (e.g. with regard to work, human rights, governance) is therefore an important component in the rfu Commodity Model.

The global mix often has a focus on high-risk countries in terms of human rights, working conditions etc.

There are close links between the geographical origin of a product on the one hand and social and ecological risks on the other. Commodities are often extracted in regions where labour and human rights standards are low, corruption is widespread and environmental laws are not very demanding. For these criteria, basic impacts are taken from the results of the continuously updated rfu Sovereigns Rating, which covers more than 160 countries and thus practically the entire world.

Inputs from commodity-specific research

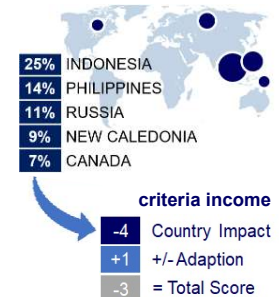
Commodity-specific information on the respective indicators, which suggest a positive or negative deviation from the initial value, is added to this basic impact. This data comes, for example, from media and NGO reports, statistics from industry associations and international organisations or scientific studies.

Criteria of the rfu Commodity Rating

The graphic shows the criteria of the rfu Commodity Rating along the social and environmental dimensions. Each criterion also receives a secondary assignment to production (light blue in the graphic) or to utilisation (light grey).



Example nickel: Countries of origin



- The basic country impact is significantly negative at -4 due to mining primarily in countries with high poverty ratios and low income.

+ But traditionally strong trade unions in the Ni-industry and lack of major controversies improve the score by +1 to -3.

The application mix determines the sustainability impact of the utilisation phase

Weighting and aggregation of the ratings leads to a score of -10 to +10 or a rating of C- to A+

Additional trends & potentials assessment

However, commodities are not produced as a means to an end in themselves but are ultimately used in the context of products. The analysis and evaluation of this usage phase is therefore at least as important as that of production. The spectrum of utilisations is wide and ranges, e.g. for metals, from general industrial applications, their use in vehicles, medical products or renewable energy production, to luxury goods or applications in the weapons industry. There is also a link to the rfu Corporate Rating for this. This recognises around 90 different subsectors with valuation ranges for the product benefits from a sustainability perspective.

Production phase ratings are on the negative side of the scale for most commodities. This is not surprising given the invasive processes involved in extracting ores and fossil fuels or in industrial agriculture. On the other hand, there are often applications with very positive social effects (e.g. for solar energy, medical technology, housing or human nutrition). The production phase is included in the overall result with weightings between 51% and 59%, those of utilisation are in the range of 41% to 49%. On the other hand, the social dimension is weighted between 44% and 53% and the environmental with 47% to 56%. These values are also derived from the rfu Corporate Rating.

This ultimately results in an overall score on the scale from -10 to +10, transformed into a rating on the nine-point scale from C- to A+. This scale is identical in its characteristics and logic to those in the rfu Corporate Model and the rfu Sovereigns Model. This means, that findings can be transferred in both directions.

Part of the analysis is also a qualitative assessment of the trends and potentials of the individual commodities, which is detached from the actual rating model. This is less to be interpreted in the sense of an outlook but provides a forward-looking statement on the expected or possible contributions of the individual commodity to a sustainable economy. Here, for example, it can be appreciated that some metals currently have a more conventional mix of uses but will play important roles in energy transition in the future.

Example palladium: Utilisation Mix



The very diverse utilisation portfolio of palladium comprises socially valuable application (medical), overall neutral ones (e.g. consumer electronics) but also products of lower social usefulness (e.g. jewellery). The result is a weighted total utilisation score of +0.7 (scale +10 to -10).

Example nickel: aggregation

Production Score x Wght. + / - Utilisation Score x Wght. = total score



Scoring & Rating Scale



Example Copper: trends & potentials



From a sustainability perspective, the increasing importance of renewable energy, e-mobility and sanitation makes copper a commodity with a promising future.

IV. Processes & Documentation

2-year frequency of analysis updates based on an

ISO9001-certified quality management;

Coverage of about 70 commodities from all categories.

Data sets and back-ground information

Analyses are updated every 2 years

Quality management and ongoing optimisation of the methodology

Coverage of about 70 metals, energy sources, forest and agricultural commodities etc.

Outlook on product offering and coverage

The documentation includes the complete data sets for levels I to IV, consisting of ratings, scores and weightings. Brief descriptions can be found in fact sheets and in-depth information and interpretation is included in comprehensive ratings reports.

The dynamics of change in the ESG status of commodities is relatively low compared to individual companies and is more likely to be seen in the medium term. The analyses and ratings are therefore periodically updated every two years. Significant events - especially negative ones - are usually taken into account via the risk-oriented and global view, so that the ongoing news flow, for example on environmental accidents or industrial conflicts, is already anticipated. In exceptional cases, however, we reserve the option to update out of turn.

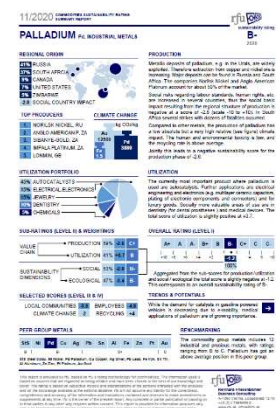
The research processes at rfu are subject to a quality management system certified according to ISO 9001. Corresponding process descriptions, quality indicators and continuous improvement processes (CIP) exist for commodity research. At the methodology level, this includes the ongoing collection of experiences and feedback and regular optimisation of the methodology. Here, however, the principle of continuity is paramount and historical rating time series can claim comparability.

The coverage included 15 important metals and energy products in the first analysis run in 2018/2019. In 2020, coverage was expanded to over 30 products including agricultural commodities and to 55 in 2022 including lumber, pulp and emission allowances. The current universe comprises about 70 commodities and a tool for the evaluation of specific futures on electricity.



+++ GOLD + GOLD LBMA + SILVER + SILVER LBMA + PLATINUM + ALUMINUM + COPPER + LEAD + NICKEL + TIN + IRON ORE + STEEL + STEEL SCRAP + PALLADIUM + ZINC + TUNGSTEN + MOLYBDENUM + LITHIUM + COBALT + NEODYMIUM + REC + EEX + ETHANOL + BIODIESEL + RENEWABLE DIESEL + HYDROGEN + COAL + CRUDE OIL + CRUDE OIL BRENT + CRUDE OIL WTI + NATURAL GAS + US NATURAL GAS + HEATING OIL + UNLEADED PETROL + GAS OIL + UK NBP GAS + DUTCH TTF NATURAL GAS + LNG + MILK + LEAN HOGS + FEEDER CATTLE + LIVE CATTLE + CHICKEN + OATS + RICE + CORN + SOY + SOYBEAN MEAL + SOYBEAN OIL + PALMOIL + WHEAT + KANSAS WHEAT + RAPESEED + SUNFLOWER SEEDS + CANOLA + ORANGE JUICE + COTTON + COFFEE + COCOA + SUGAR + RUBBER + LUMBER + PULP + EUROPEAN PULP + CHINESE PULP + EUA + CCA + RGGI +++

The rfu aims to continuously expand the coverage to include important commodities. In the future, a growing supply of commodity contracts with explicit ESG properties can be expected.



V. The rfu

Austria's specialist for sustainable investment
with a focus on niche asset classes and
market segments.

The rfu specialises in
the ESG assessment of
niche asset classes

rfu research, based in Vienna and founded in 1997, is Austria's specialist for sustainable investment. With an experienced team of 13 employees, we support institutional clients in the development and implementation of sustainability-oriented investment strategies.

A particular focus of our work is the coverage of asset classes and market segments for which there has previously been no or only insufficient coverage with ESG research.

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