Holisticic Value Model for the mining industry
“ESG-adjusted NPV-model”

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The aim of the project

Can and should ESG-factors be included in traditional financial models for decision making in mining?
Just to set the scene: What is Net Present Value (NPV)?

- The basis for most decision support materials in any industry is Net Present Value Calculations
- The calculation in itself is solid and commonly accepted as a great tool for comparing attractiveness of different options
- The model include a few key logics:
  - Future values are worth less today – this is relative to the “cost of capital”, expressed as a discount rate
- Only parameters that can be quantified will be included in the model
Project Plan

1. Concept model design through current state and best practice analysis
2. Pilot cases and proof-of-concept
3. Playbook development and impact analysis

Timeline:
- Jan 2023
- Today
- Aug 2024
Concept model design through current state and best practice analysis

**ESG TARGET AND VALUE ASSIGNMENT**
- Identification: 100%
- Prioritization: 90%
- Assign ESG-Target and Value: 60%

**ESG-KPI PERFORMANCE AND VALUE IMPACT ASSESSMENT**
- Root-Cause Analysis: 70%
- KPI Assignment: 30%
- Impact Assessment: 100%
- Economic Output: 95%

Examples found
Examples not found
Key questions that need to be answered by ESG valuation model

1. CAN WE IDENTIFY RELEVANT ESG-RISKS?
2. WHAT VALUES WOULD THESE RISKS IMPOSE TO OUR BUSINESS?
3. HOW CAN WE MEASURE HOW MUCH WE IMPACT THE RISKS BY ANY ACTION?
4. HOW CAN WE MEASURE THE VALUE OF IMPACTING THE RISKS?
Overview of model

1. ESG IDENTIFICATION AND VALUE ASSIGNMENT

1A: IDENTIFICATION
- Identify potentially relevant risks/opportunities
- Site-based or company wide
- Internal audit with potential external support

1B: PRIORITIZATION
- Initial prioritization of most important ESG-related risks and opportunities

1C: ESG TARGET
- Assign ESG-target state and numbers

1D: QUANTIFY VALUE
- Conduct financial implication analyses – identify effects on key factors: Business, trade, liquidity/access to funds, operations etc.
- Assign timing of implications

2. ESG OPERATIONALIZATION PREPAREDNESS

2A: ROOT-CAUSE ANALYSIS
- Identify factors driving the risk – e.g. construct a root-cause analysis to map out contributing areas of the risk/opportunity

2B: ASSIGN KPI:S
- Assign targets for each key driver
- Assign relevant KPI:s and targets for each driver risk/opportunity (attached to overall ESG-risk)

3. ESG ECONOMIC IMPACT ASSESSMENT

3A: PROJECT IMPACT ASSESSMENT
- Assess magnitude of how specific action effort in project affects each driver risk by assessing impact on ESG-KPI performance metric

3B: HARMONIZED ECONOMIC OUTPUT
- Standardize impact magnitude into an economic output model, e.g. ESG-factors harmonized into economic model output
## Pilot cases and proof-of-concept

### Mining project [closed]

- A closed mine site located in Sweden
- Different pre-studies have been conducted continuously throughout last 10-15 years – mainly to assess potential based on updated mineral prices and new technological and operational developments
  - Multiple NPV-calculation have been developed

**Pilot aim**

- Re-test NPV-calculation by adding ESG-monetary factors into already existing NPV-calculation
- Develop ESG-risk framework based on site-specific ESG-conditions, and assess how continuation of operations affects these risks in monetary terms

### Valorization project

- Related to a closed mine site located in Sweden
- There are potential of valorizing and developing new business opportunities by processing waste at the site

**Pilot aim**

- Develop new NPV-calculation for multiple potential valorization projects
- Develop ESG-risk framework based on site-specific ESG-conditions – most related to relatively well known risks, but also ESG-related opportunities
- Assess impact on each ESG-risk by each valorization project

### Potential SLO-project mining

- Potential to assess ESG-risks and opportunities related to a new mine site
- Pilot not started
End result: The method will be summarized in a comprehensive playbook.
Thank You!