

Holistic Value Model for the mining industry

"ESG-adjusted NPV-model"

Presenter

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Partners

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Goals of the project

- Developing a new decision model for projects that incorporates ESG (environmental, social, governmental) factors in a comparable way to today's more easily calculated direct costs and revenues.
- With a new model, the industry can both show that ESG factors have a real impact on investment decisions, but also that by considering these factors new types of financially relevant short and long-term risks and opportunities will be included, and hence improve financial transparency and performance.



What we´re trying to answer in the project

CAN AND SHOULD ESG-FACTORS BE INCLUDED IN TRADITIONAL FINANCIAL MODELS FOR DECISION MAKING IN MINING?



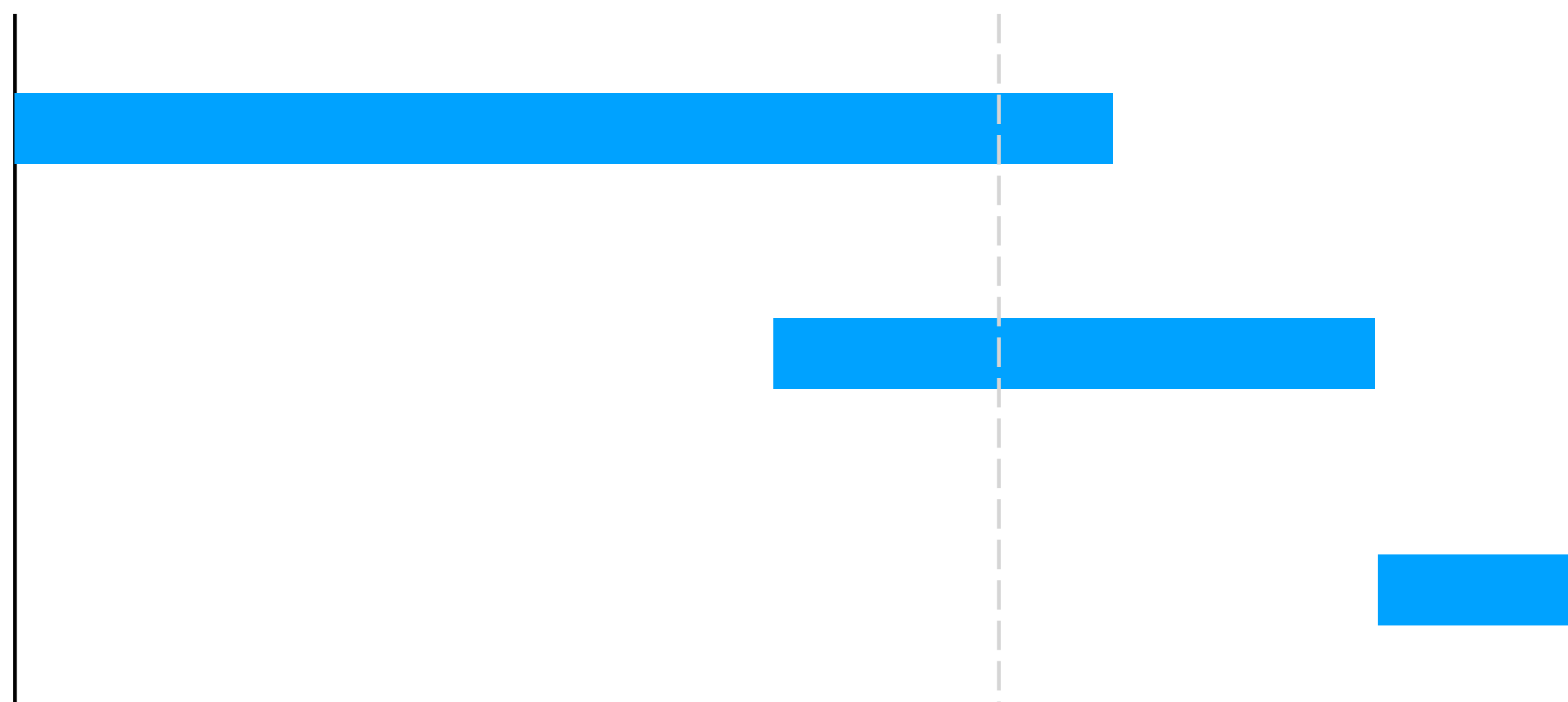
Project Plan

- 1 Concept model design through current state and best practice analysis
- 2 Pilot cases and proof-of-concept
- 3 Pilot evaluation, model adjustment and impact analysis

Jan 2023

Today

June 2024



1

Concept model design through current state and best practice analysis

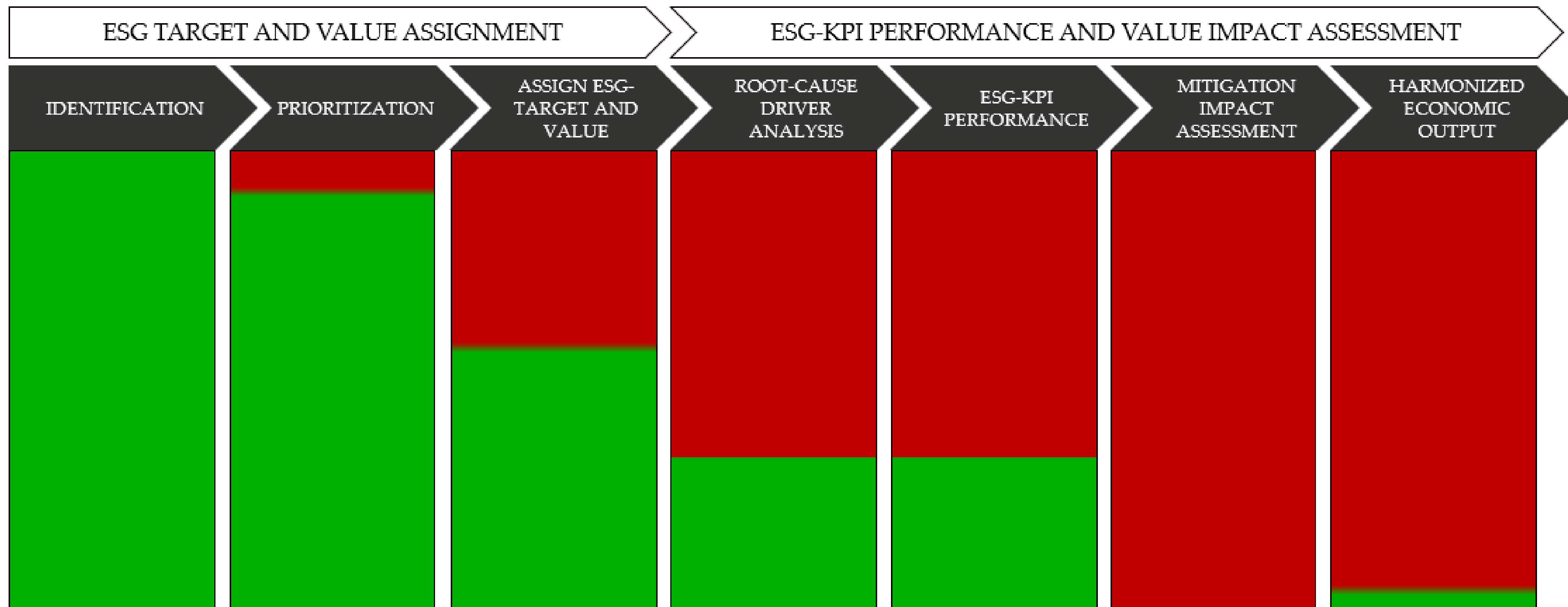


Completed

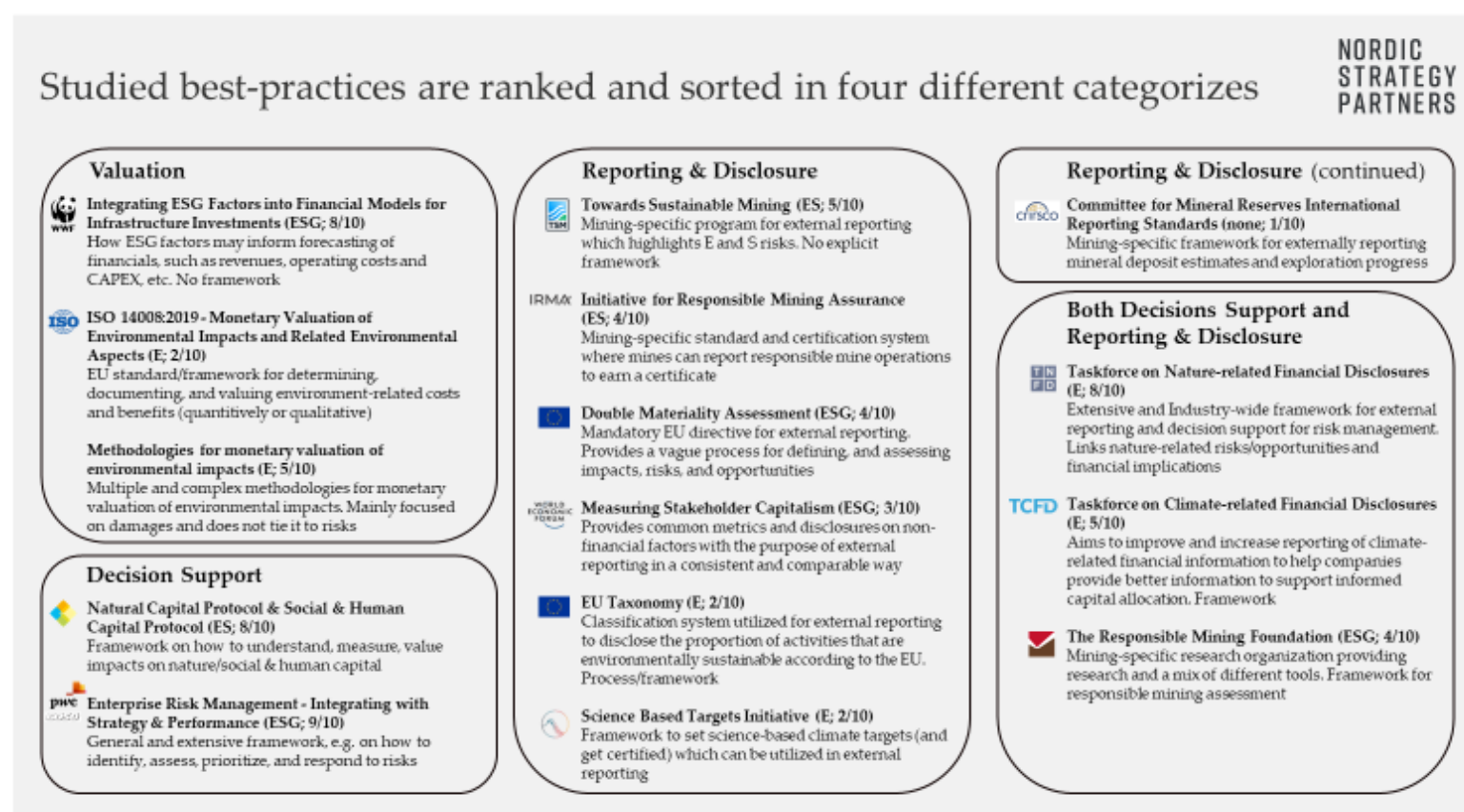
- Results shared and discussed with project partner group and external parties – both in Sweden and abroad
- Two focuses
 1. Identify and map useful model examples
 2. Examine the value and need for a new approach from a wider, mining external, perspective



1 Concept model design through current state and best practice analysis

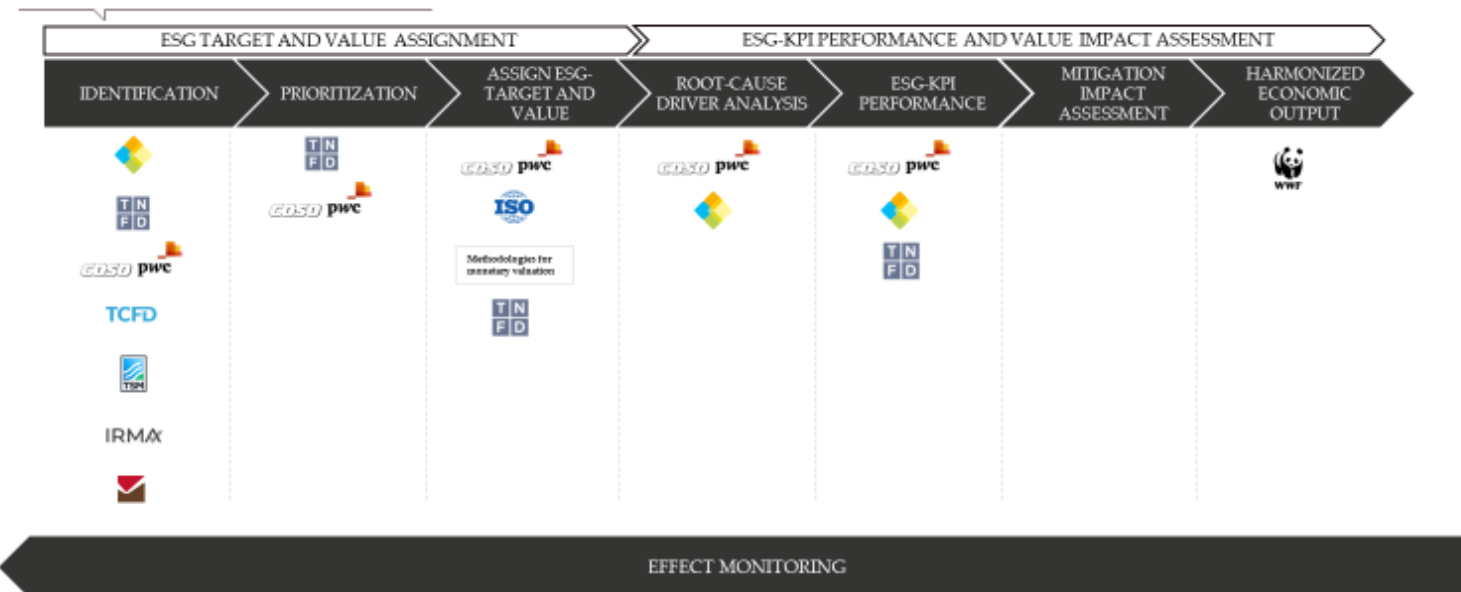


1 Concept model design through current state and best practice analysis



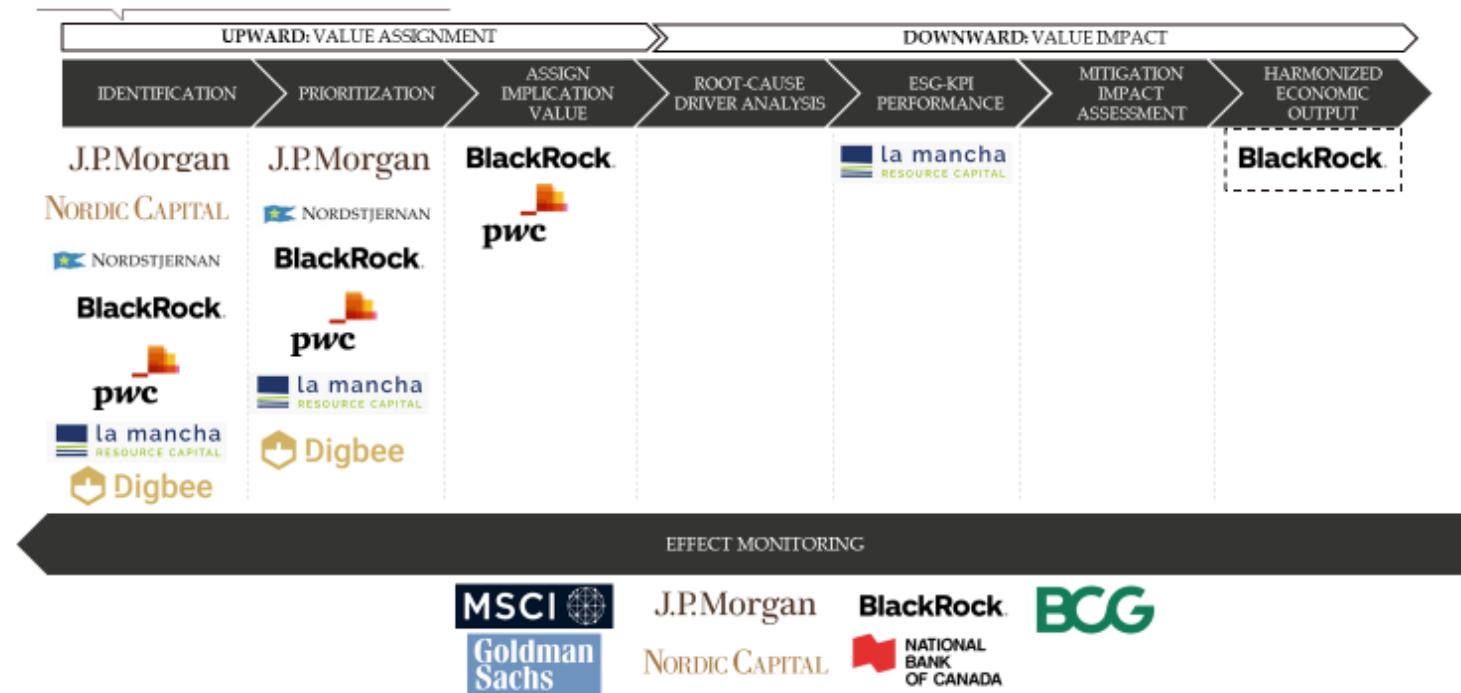
Valuable input provided by participants

Based on proposed ESG Valuation process flow



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Based on proposed ESG Valuation process flow



1

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

STRATEGIC ASSESSMENT

- Company/site specific
- Done every 3-5 years
- Done by experts

1. ESG IDENTIFICATION AND VALUE ASSIGNMENT

1A: IDENTIFICATION

- Identify potentially relevant risks/ opportunities
- Site-based or company wide
- Internal audit w. 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

BREAK-DOWN ANALYSIS

- Done on each driver
- Re-tested annually
- Done by experts

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

PROJECT ASSESSMENT

- Done by every project responsible
- Economic output

3. ESG ECONOMIC IMPACT ASSESSMENT

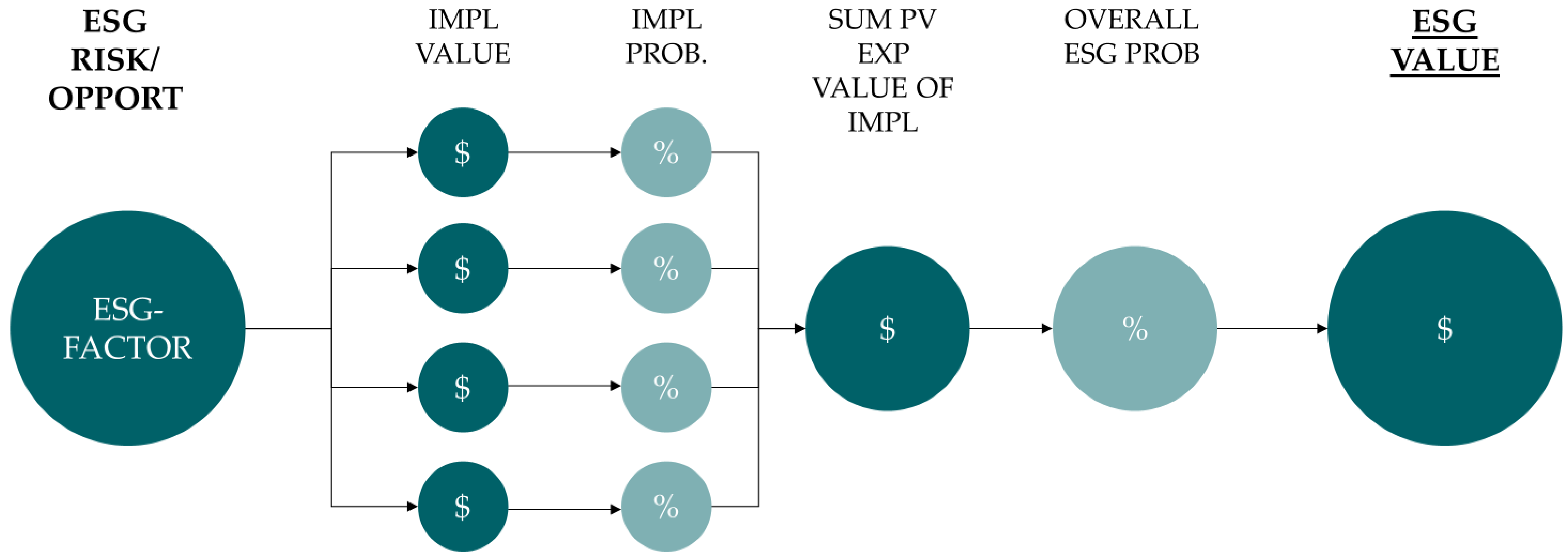
3A: PROJECT IMPACT ASSESSMENT

- Assess magnitude of how specific action effort in project effects 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

Example: value calculation logic



Pilot cases and proof-of-concept



Two pilot cases have been selected together with Boliden

1. Rakkejaur
2. Laisvall

- Data collection ongoing

NEW BOLIDEN



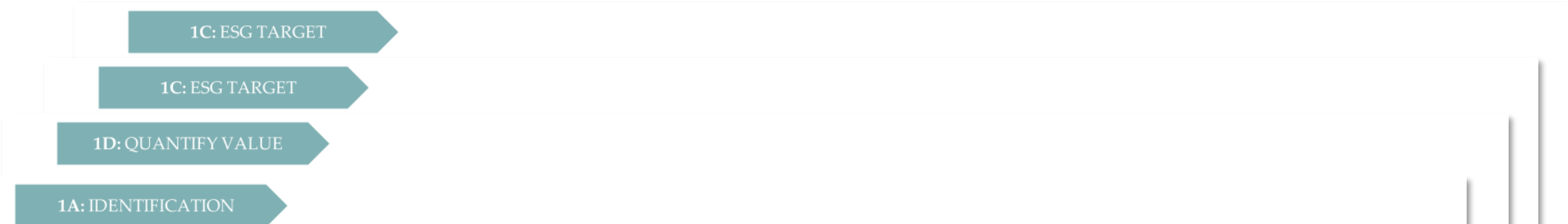
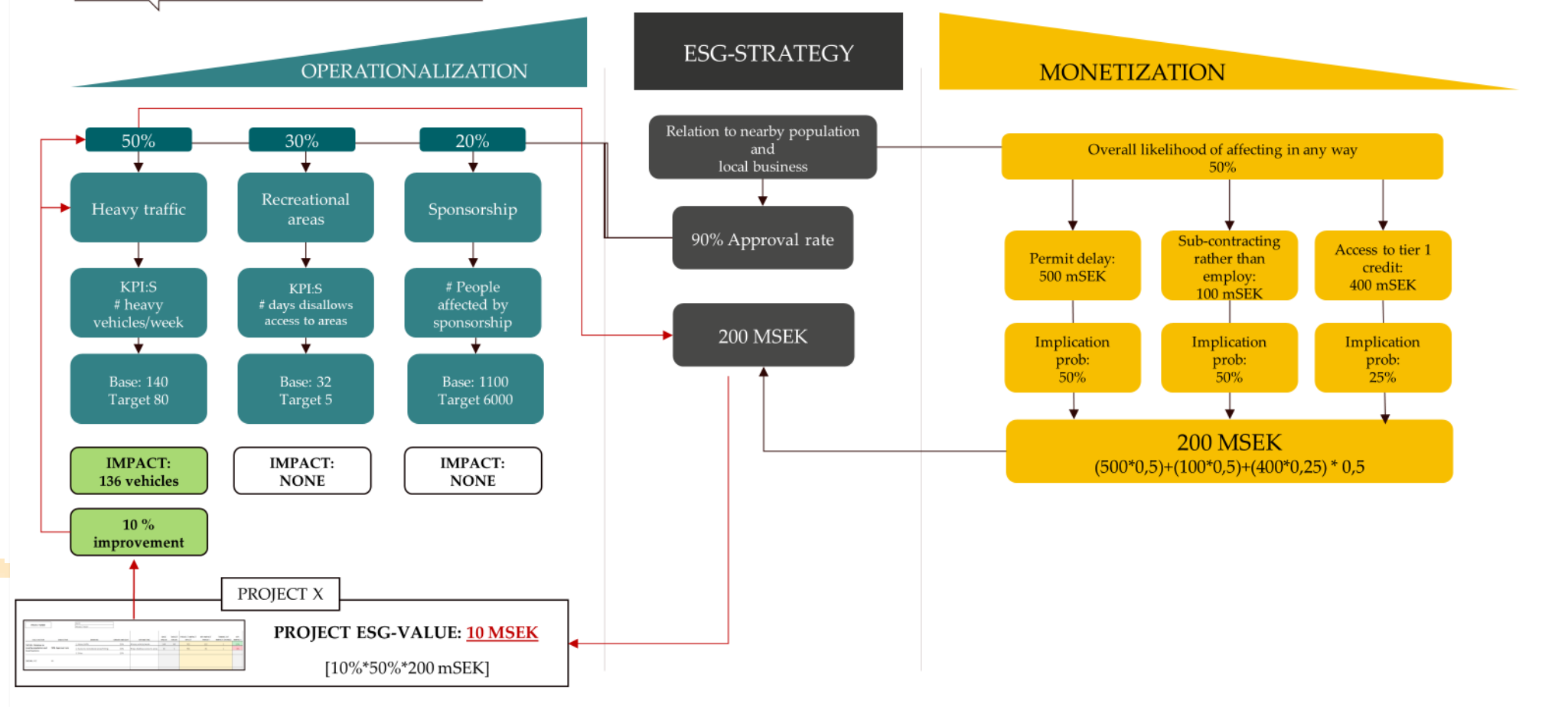
Activities forward

1. Global benchmarking - *Completed*
2. Model development - *Ongoing*
3. Pilot testing – *Ongoing*
4. Dissemination – *invited to conferences in Prague and Dublin to*
5. Framework guidebook development - *To start in April*



End result: The method will be summarized in a comprehensive playbook

Example overview



1A: IDENTIFICATION

AIM

- This step aims at identifying a long-list of potential risks and opportunities related to ESG-factors
- No prioritization needed

KEY ACTIVITIES

- Inventory analysis:** Given that the company has a risk (and perhaps opportunity) inventory, determine which ESG-related factors have or have not been identified
- Internal audit:** Utilize suitable techniques for risk identification. Involve and conduct meetings with ESG risk owners, risk management, and sustainability practitioners
 - Facilitated Workshops; Interviews; Questionnaires and Surveys; Process Flow Analysis; Leading Risk Indicators & Escalation Triggers; Loss Event Data Tracking
- External audit:** Identify potential external experts and sources to further make risk/opportunity identification comprehensive

OUTPUT

- Long-list of factors that with reasonability will affects the company or site :**
 - E-S-G?
 - Opportunity or risk/both?
 - Short description

Thank You!