CRC ORE

CRC for OPTIMISATION OF RESOURCE EXTRACTION

Transforming Resource Extraction and its Evaluation

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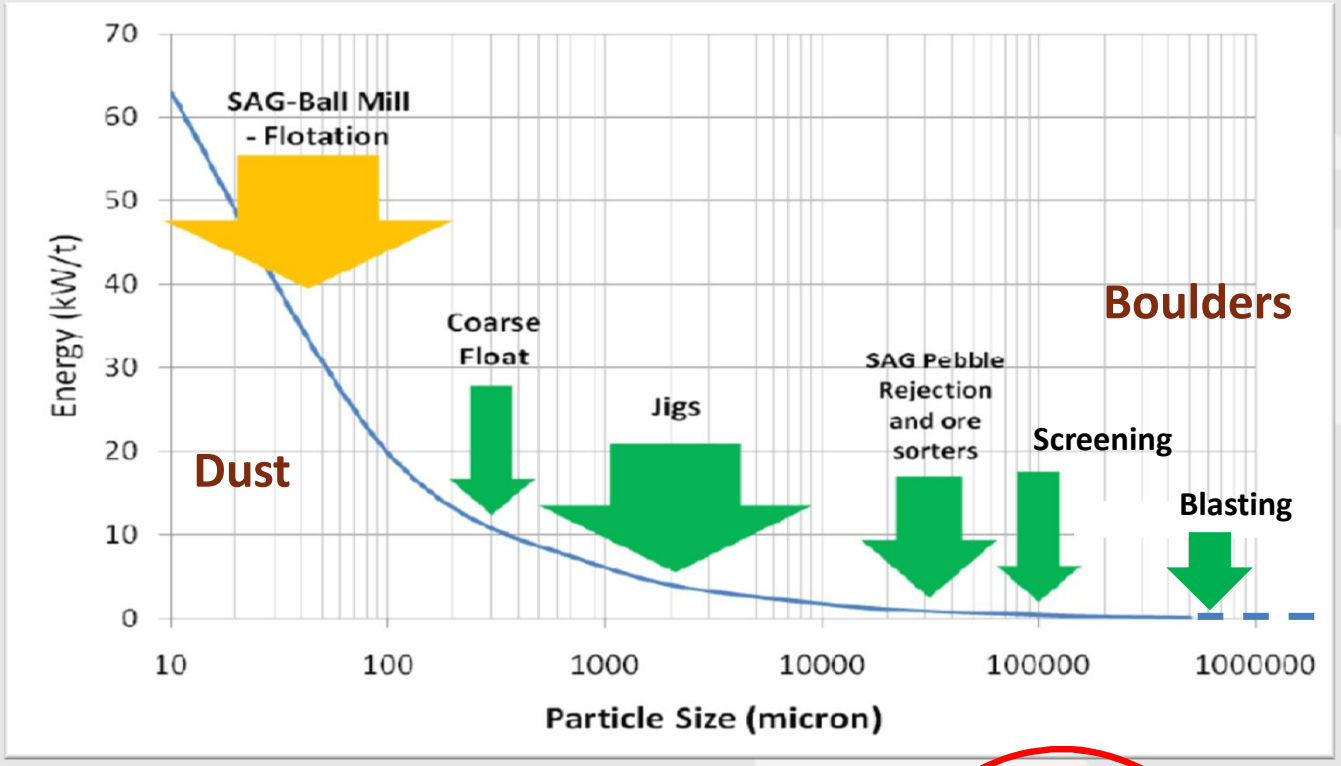
CRC for Optimisation of Resource Extraction

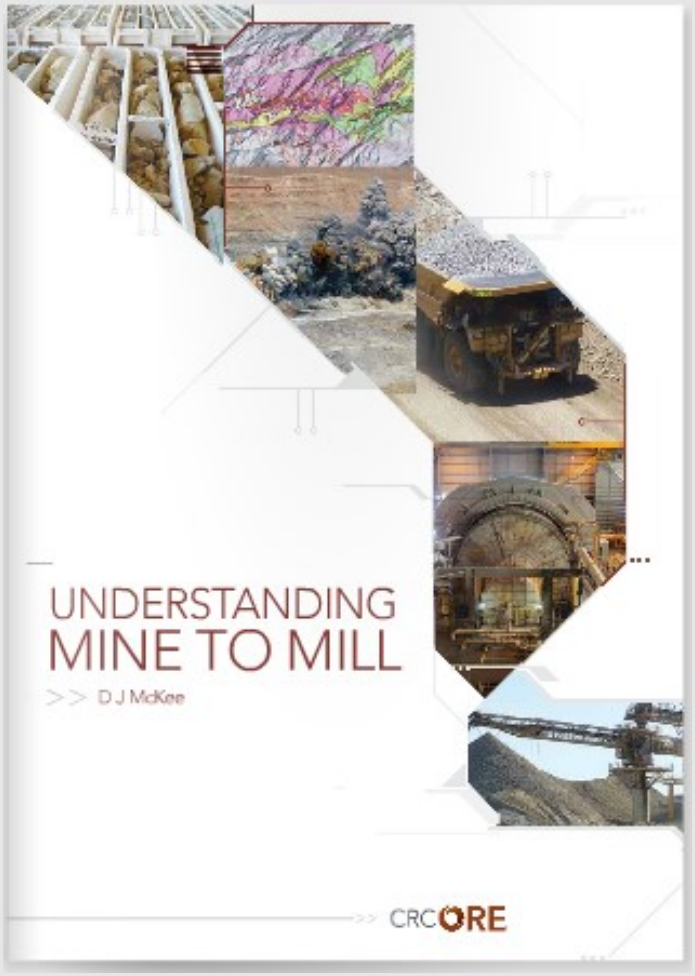
CRC ORE was launched in 2010 for 5 years to address the mining challenges associated with deteriorating resource quality, increasing energy consumption and declining industry productivity

Working with industry to create value from the integration of proven technologies in novel ways that assist in maintaining the viability of operations beyond periods of high commodity prices

Metal Mining is about the Separation of Valuable Minerals

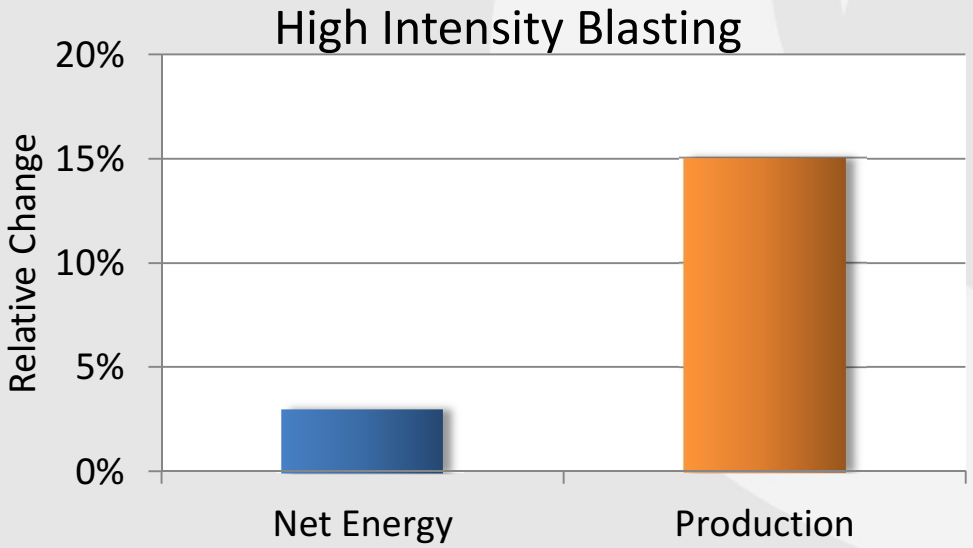


Mine to Mill

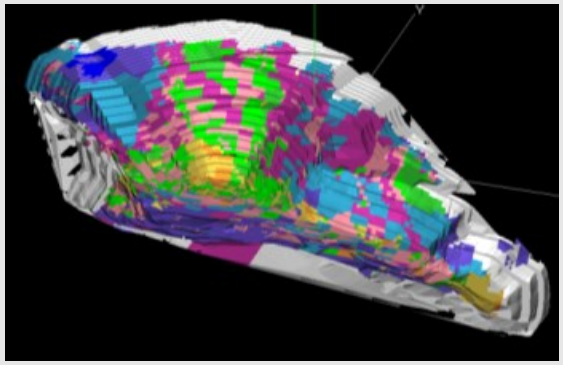


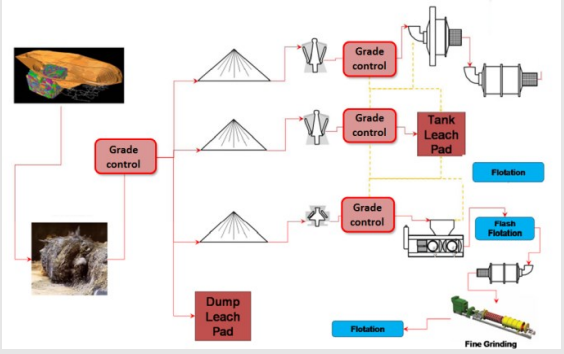
Energy inputs at different stages of production are not equally efficient at breaking and fracturing rock

- Increasing blasting energy can reduce energy requirements for crushing and grinding, and increase the throughput of the mill
- Net result is a slight increase in energy consumption but an improvement in energy productivity



Grade Engineering Addresses Feed Quality Improvement



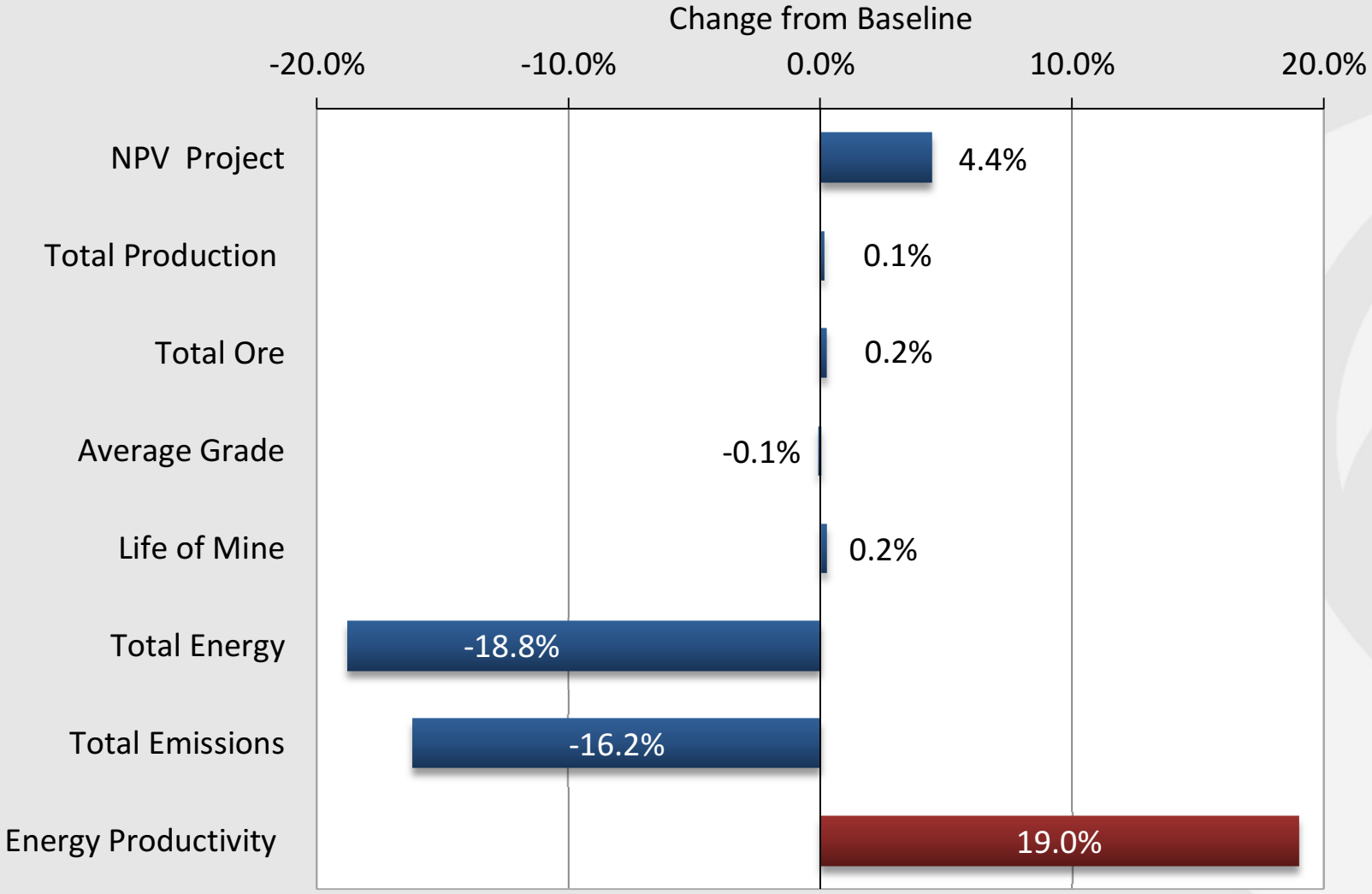


Grade Engineering focusses on improving feed quality with outcomes having a change agent effect on whole of business optimisation

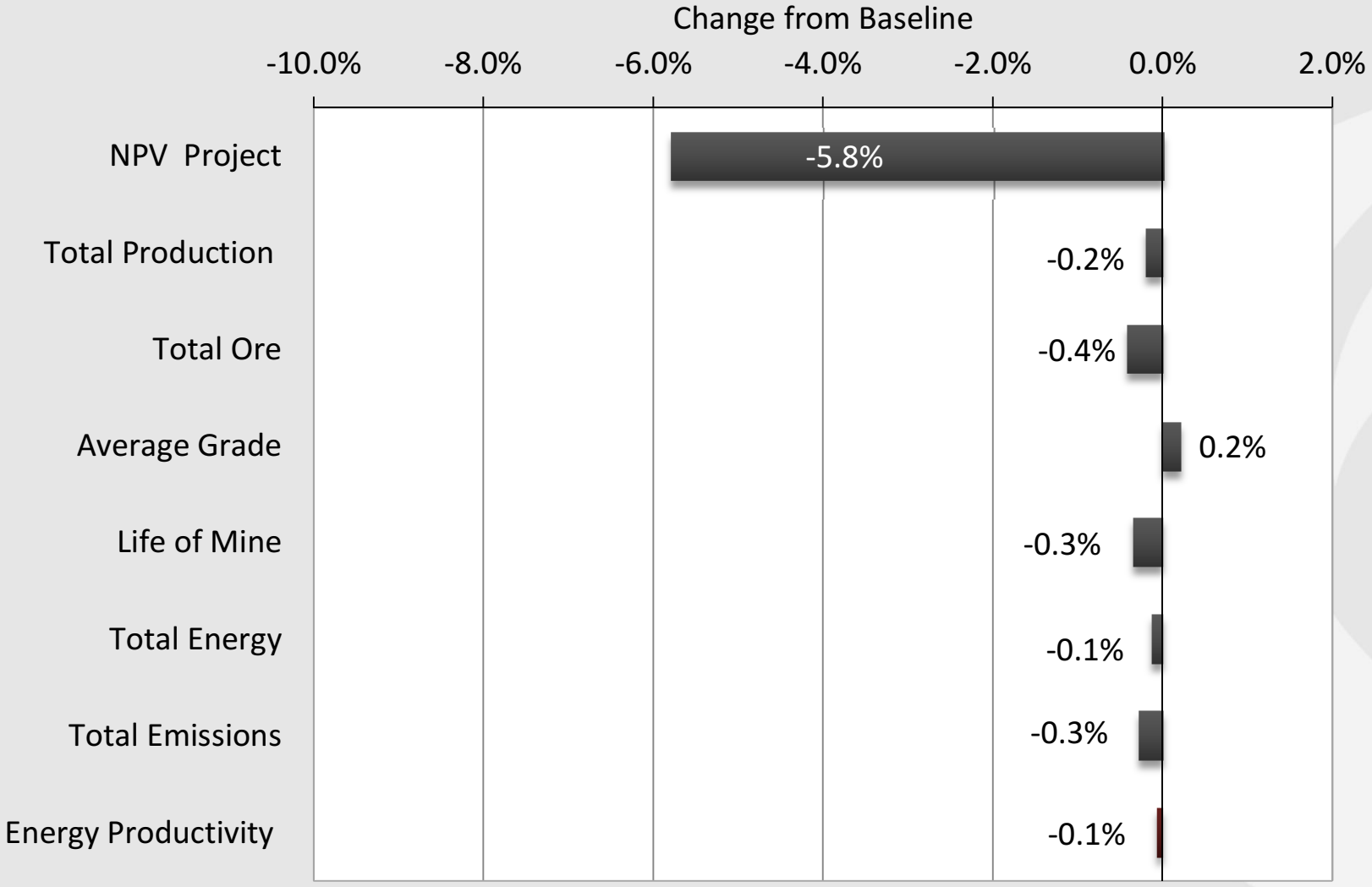
GRADE ENGINEERING

Double the Grade in Half the Tonnes

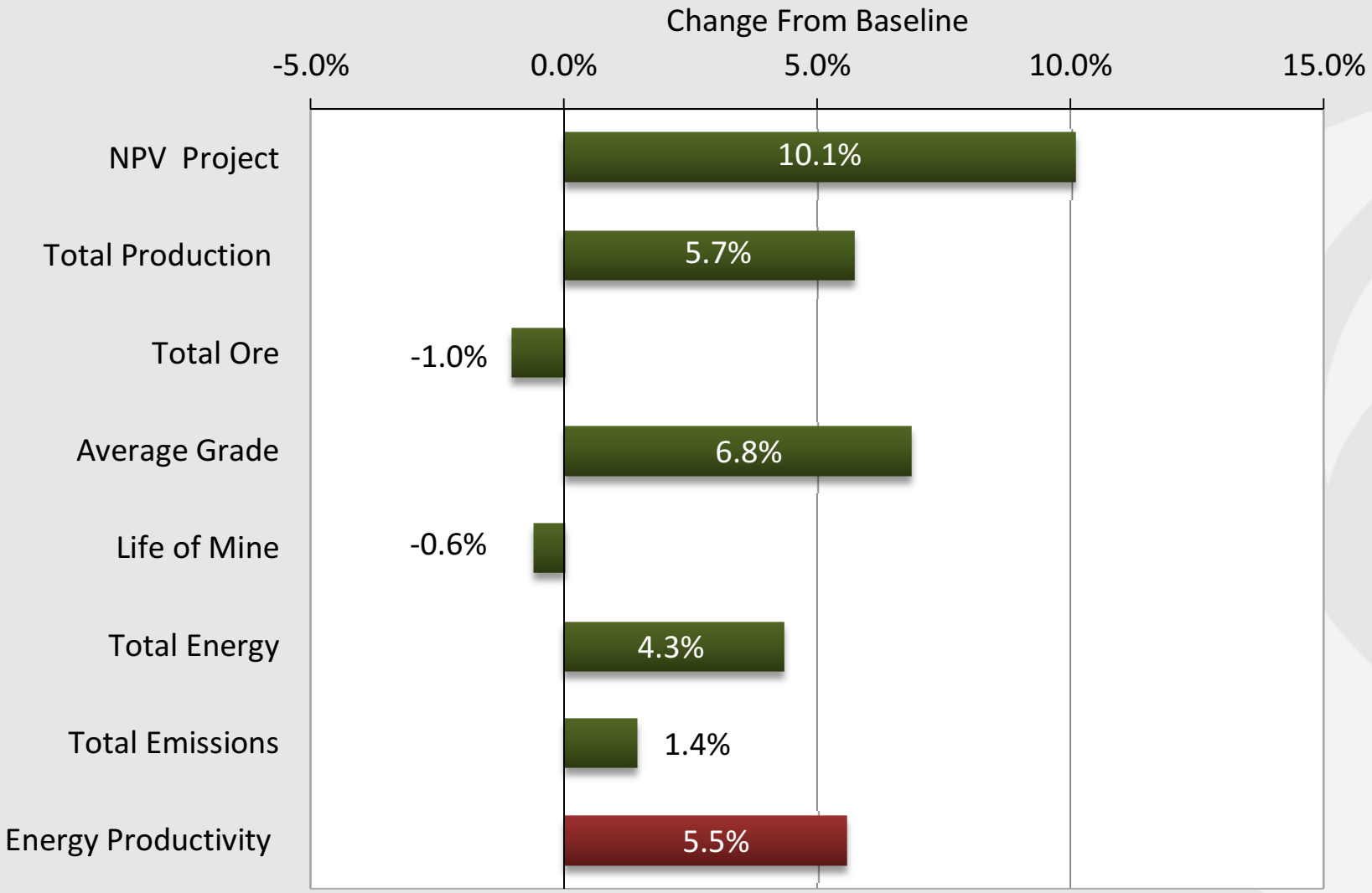
Production Impacts from Energy Efficient Equipment



Production Impacts from Emission Pricing



Production Impacts from Grade Engineering



Summary – Doubling Energy Productivity in Metal Mining

Separation of valuable minerals requires a reduction in size

- Removing barren material at coarser particles sizes

Not all energy inputs are equal

- Optimising the intensity of energy employed along the entire production chain to best achieve the desired outcome

Not all rock is the same

- Understanding the variability of the rock is fundamental to unlocking greater energy savings

Energy efficient equipment alone will not get us there

- A combined approach is required

SUPPORT ACKNOWLEDGEMENT

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