

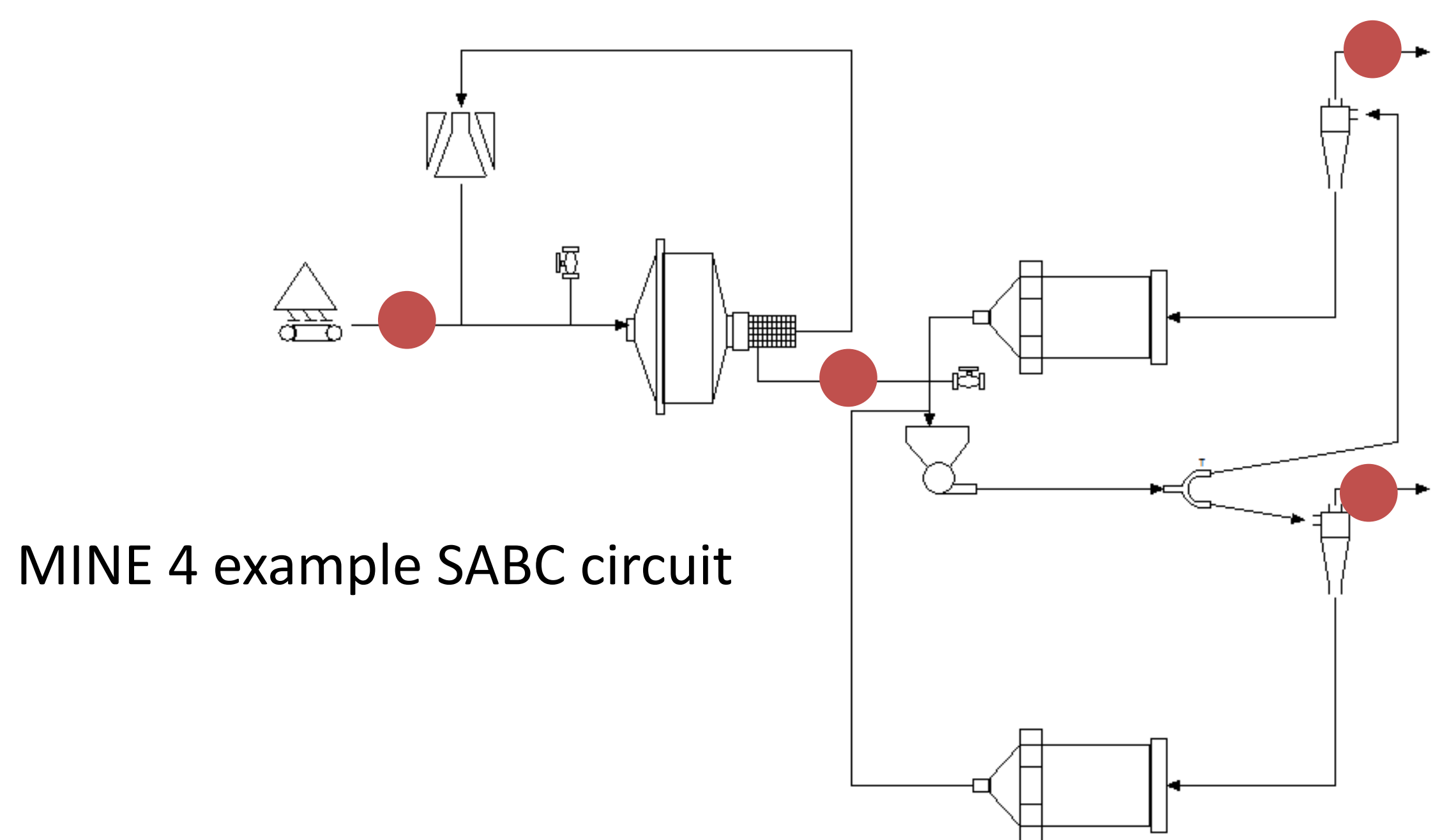
# SIZE SPECIFIC ENERGY CURVE FOR CIRCUIT REVIEW

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## CASE STUDIES

Identification of equipment inefficiencies within a circuit can be visualised using the size specific energy method and comparing the performance of each sub-circuit

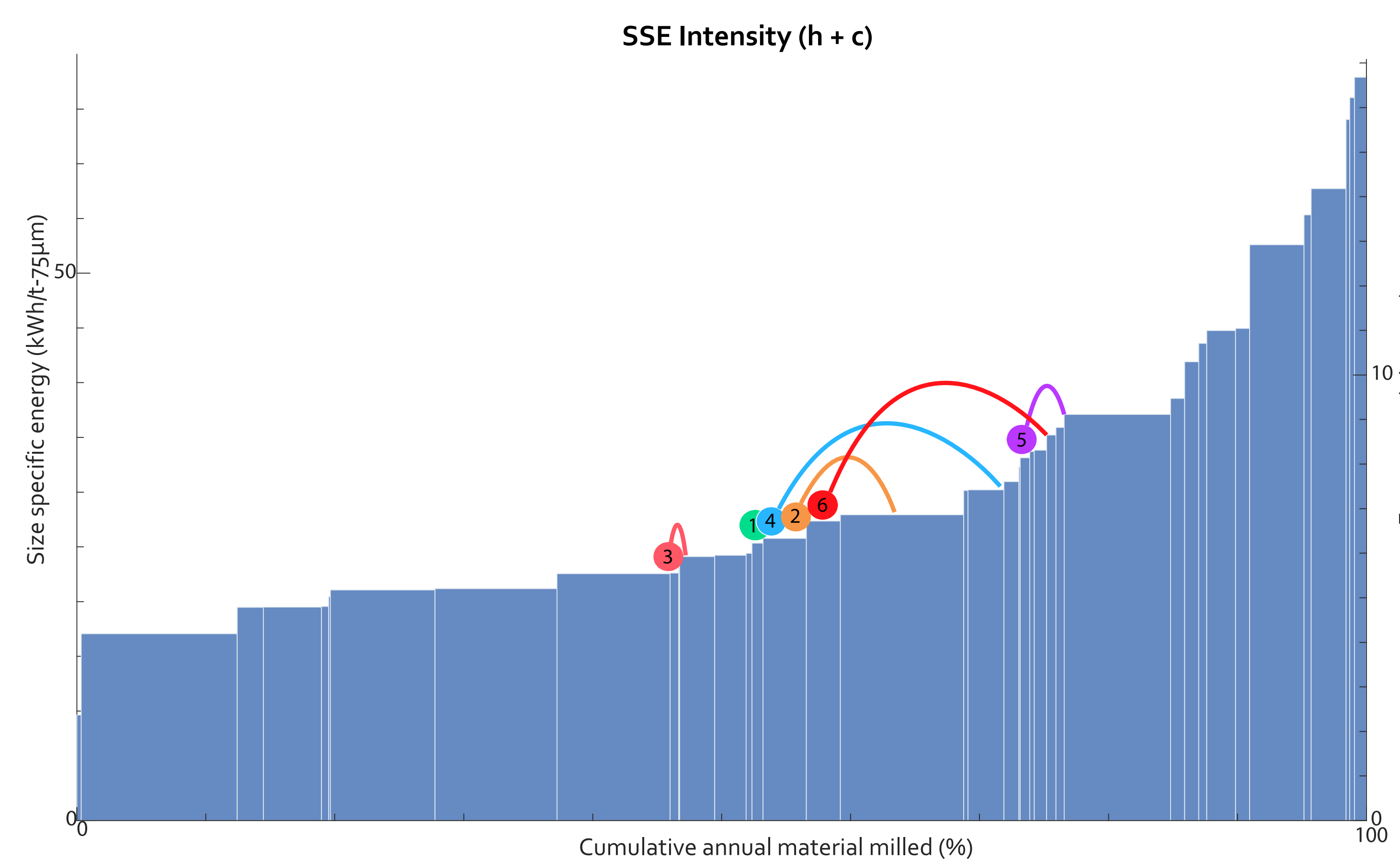
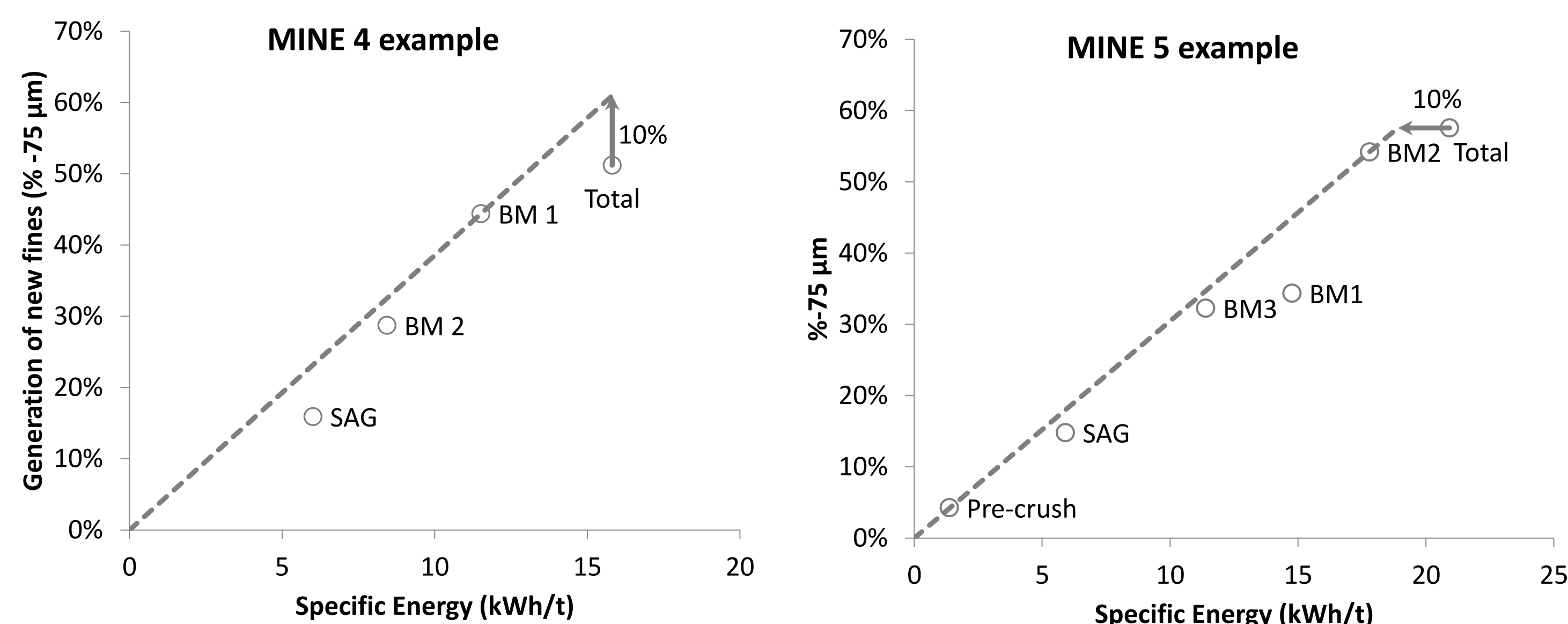
- MINE 1 The only circuit where both the SAG and ball mill were achieving the same SSE and no relative underperformance was identified.
- MINE 2 The SAG mill was found to consume 1.2 MW more power than the ball mill and generate less new -75  $\mu\text{m}$  material.
- MINE 3 There were three SAG mills and three ball mills in this circuit, although no equipment exceeded the prescribed threshold, two of the SAG mills were found to be slightly under achieving.
- MINE 4 The SAG mill and one of the ball mills was identified as the limiting element due to reduced mill speed in the SAG and inefficient classification within this standard SABC circuit.
- MINE 5 One ball mill was operating with a SSE over 20% greater than that of the whole circuit, possibly due to an extremely high recirculating load, additionally the SAG mill performance was also identified as slightly reduced due low ore filling.
- MINE 6 Poor classification and a coarse competent feed resulted in the primary mill generating 7% lower -75  $\mu\text{m}$  material at a slightly higher energy specific energy in comparison to the secondary mills.



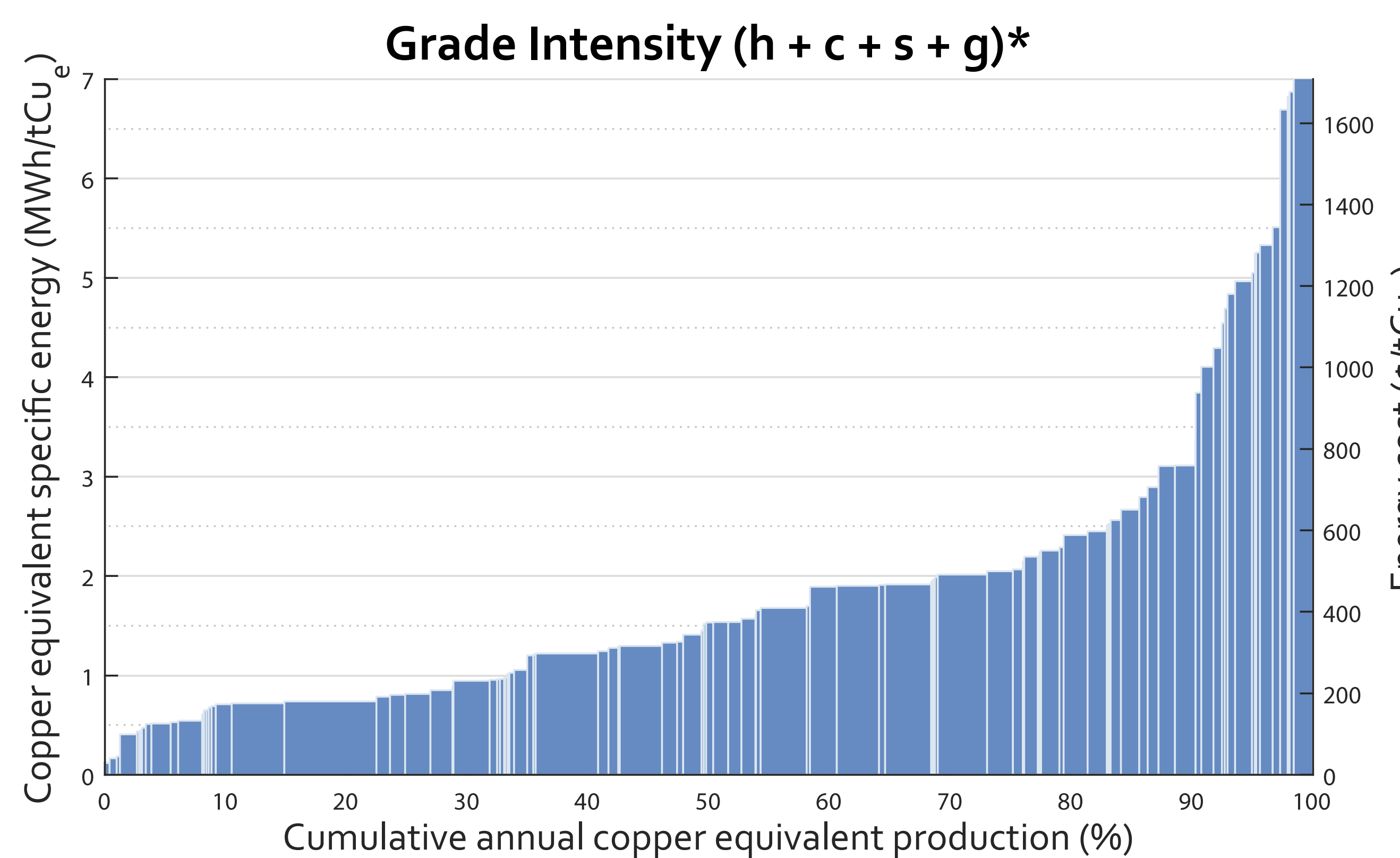
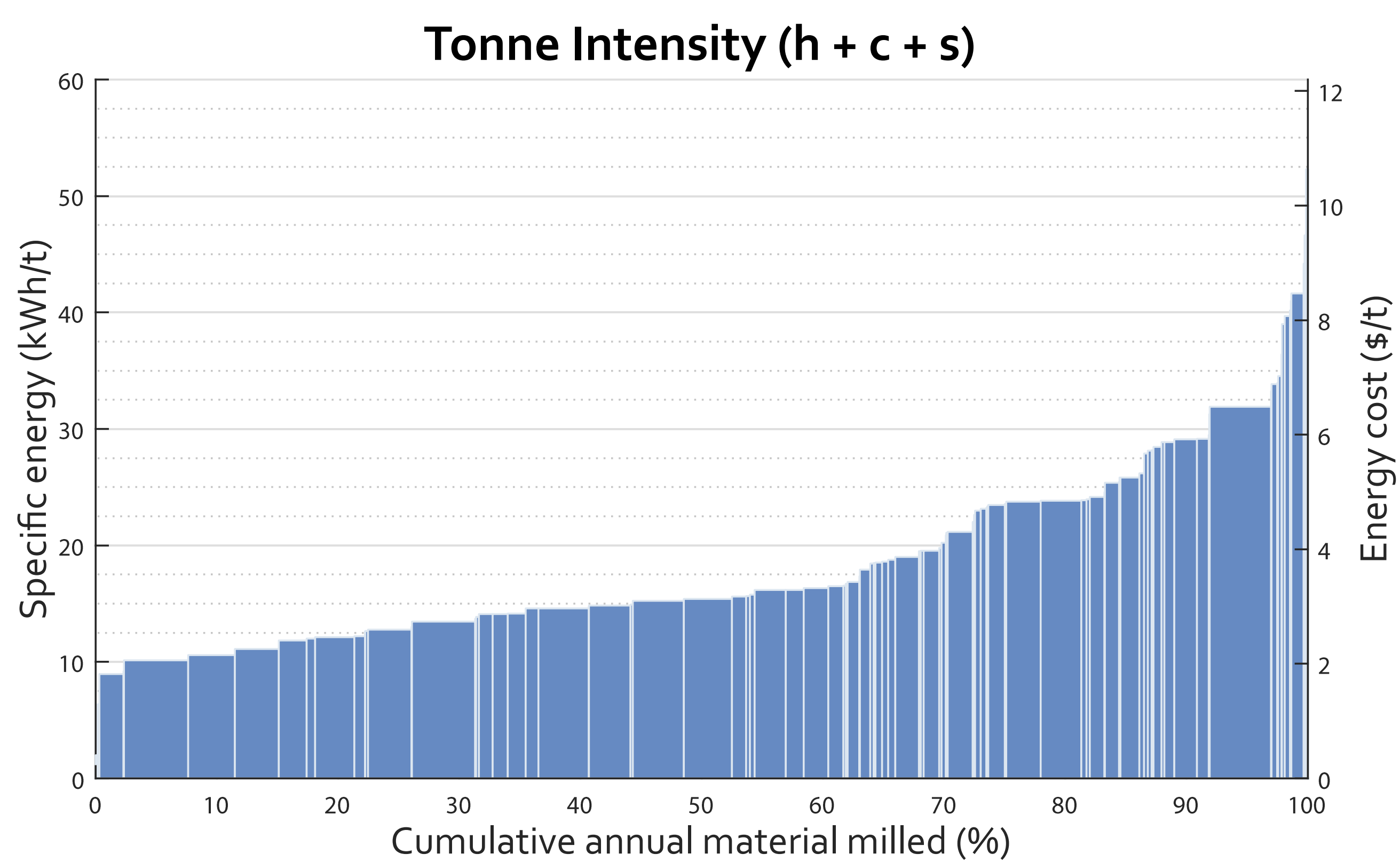
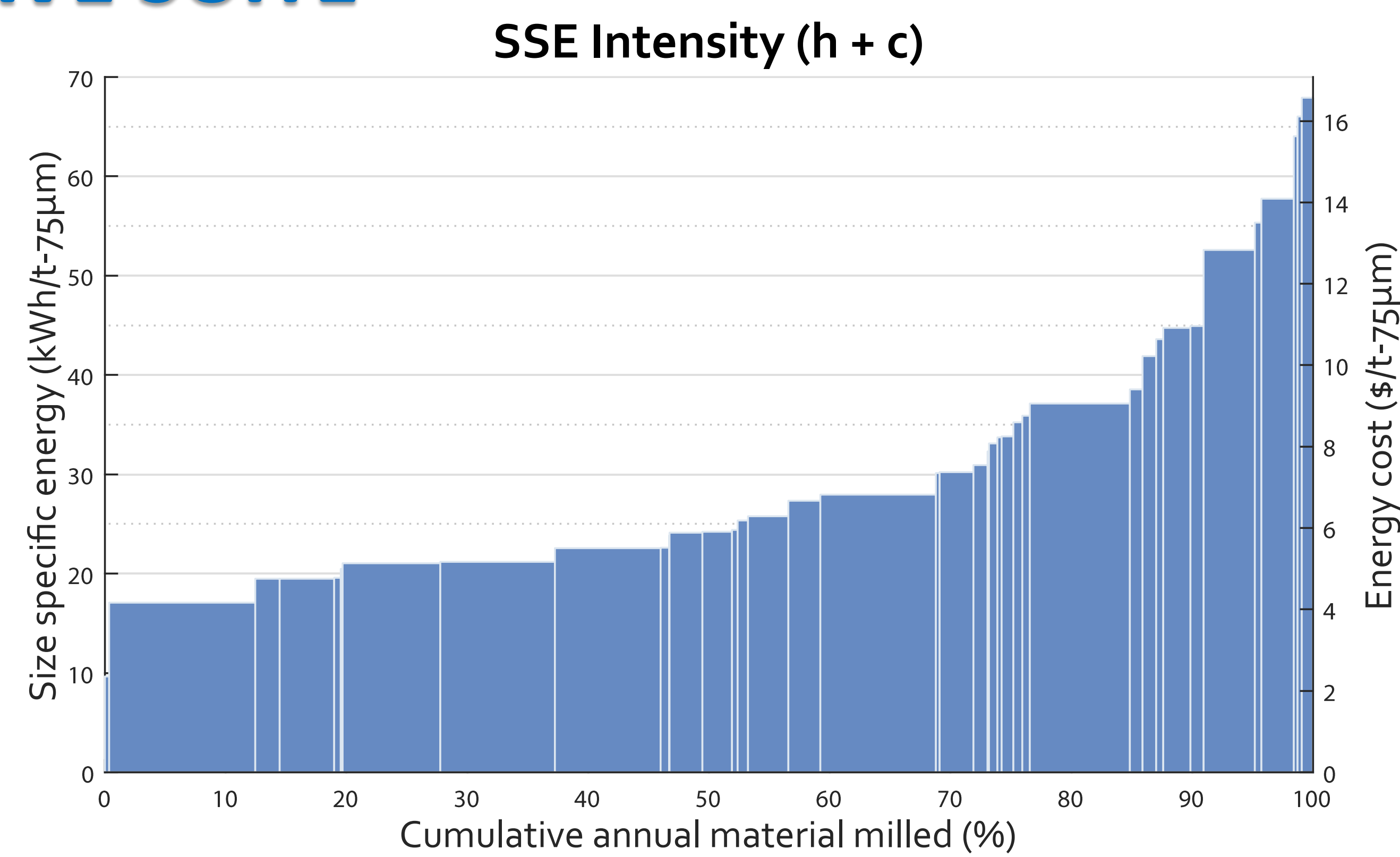
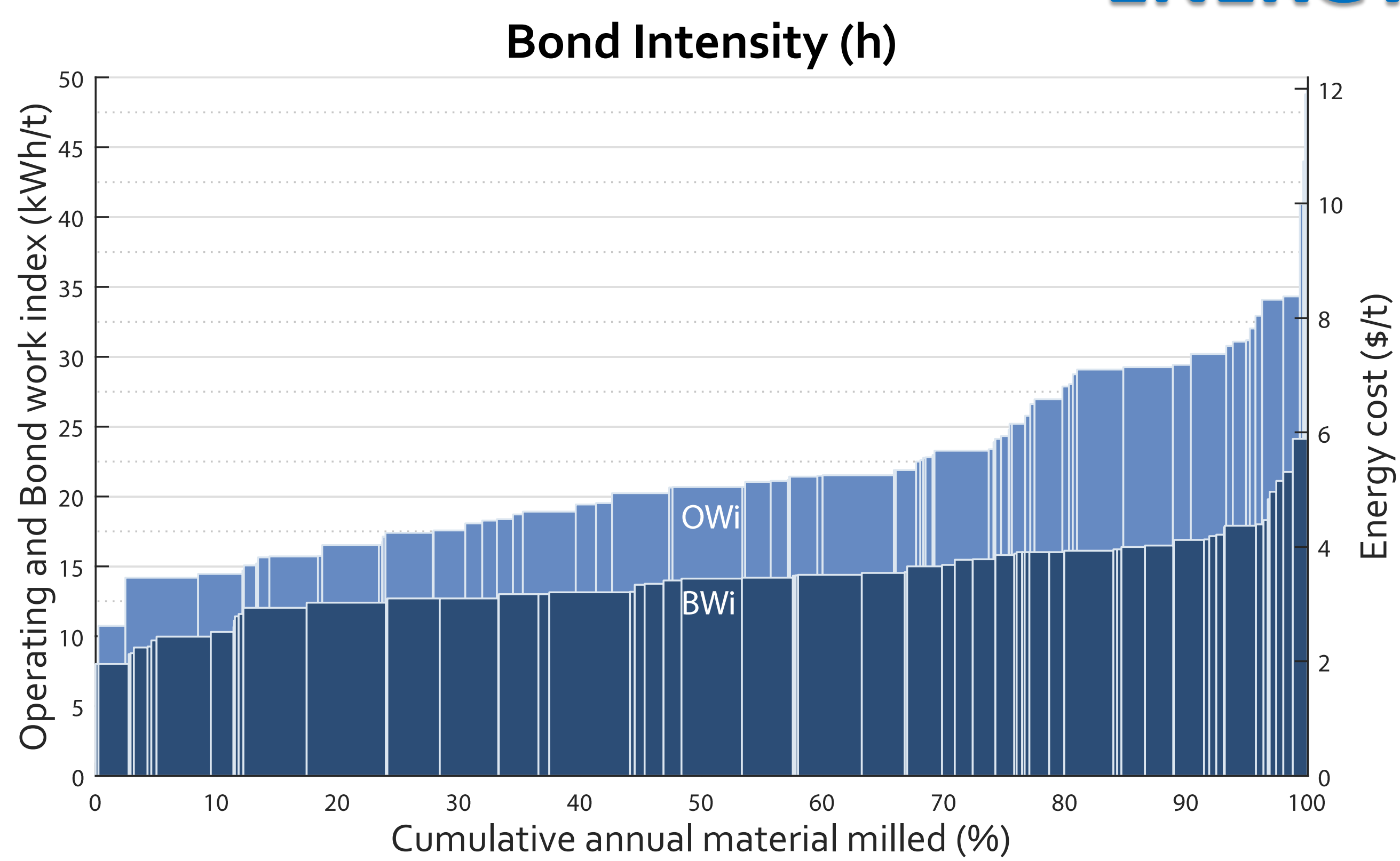
MINE 4 example SABC circuit

## RESULTS

Generation of new -75  $\mu\text{m}$  is a simplistic approximation for surface area generation and gives a more accurate prediction of equipment performance in comparison to  $P_{80}$



## ENERGY CURVE SUITE



as at 24-Aug-2015

\* (hardness + circuit + size + grade)