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Sustainable steel in the circular economy

Recycling: Roles, Opportunities & Challenges

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Steel a “champion” in recycling

- Value of metal scrap = embedded energy

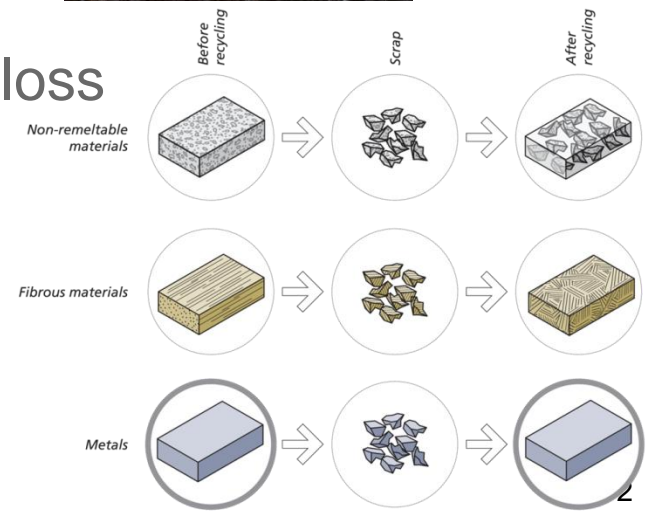


- Collection/separation = magnetic



- Properties recycled steel = no quality loss

- open loop recycling= flexibility



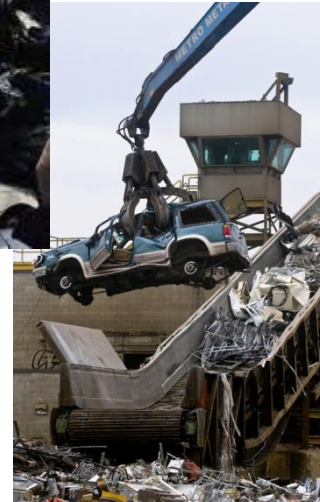


“Urban mining”: The recycling value chain

- (1) Collection



- (2) Pre-processing & sorting



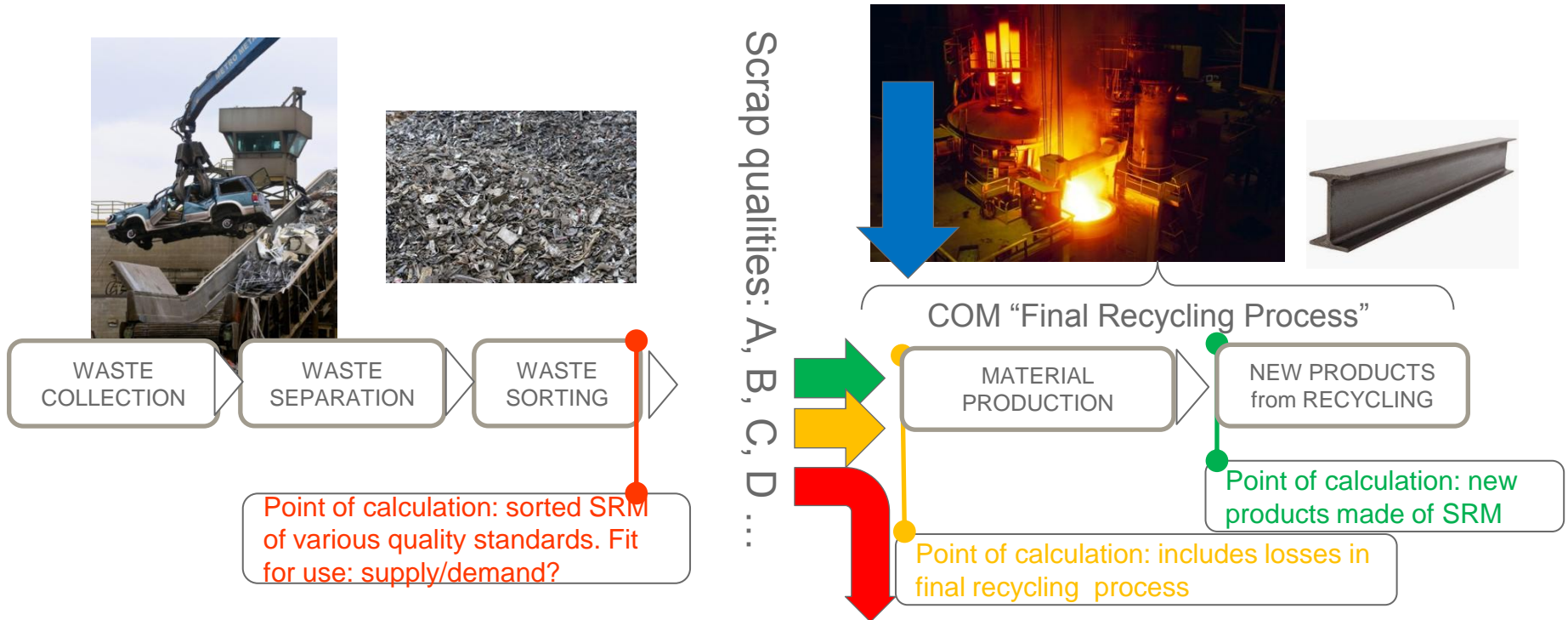
<https://youtu.be/qGvyhQJA4EI>



- (3) Final recycling process into anew product



Closing the loop: measuring performance



How close the loop over current practice:

- “Final recycling process” (input or output) ⇔ ‘real’ CE performance figures
- Guardian of secondary raw material quality: final recycling process is ultimate verification on fit for use (e.g. bulk scrap supply in truck vs. furnace melt)

Conclusion: closing the loop

- For EU to close the loop, scrap sorting has to achieve a quality standards to match demands of products made by EU steel sector and without recourse to export:
 - Scrap sorting and final recycling processing compliant EU environmental standards (IED). Additional environmental impacts of inferior quality secondary raw materials cannot be ‘exported’;
 - Creates jobs/local employment;
 - Reduces direct emissions (ETS);
- To close the loop over current practice, measurement has to be at “final recycling process”:
 - Provides the ‘real’ recycling performance;
 - Automatic feedback on secondary raw material quality: ‘the proof of the pudding is in the eating’!

Thank you

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BACK-UP SLIDES