

## Chapter 19: Future Energy Use and Emissions

- Flows of metal in 2050 could be lower than before if we shift towards lighter weight product design or more intense product use
- Assume that all sliders of the same type move together (“Scrap Division Sliders”)
- For steel, we can see that even without pushing all of the sliders forward to their maximum positions, we can reach a 50% reduction in emissions compared to current levels.
- Mean forecast of 25% is too high
- In order to meet the target, we need to use the sliders for CCS and demand reduction
- Alternative ways to move sliders:
  - Process and technology and led change: Using less by design, yield loss reduction, scrap diversion, and component reuse (move this twice as far)
    - This approach demands more effort from within the industry but less change of behaviour by consumers
  - Behaviour led change: change sliders that are related to behaviour at twice the rate to see what customers do.
  - Still need to rely on CCS and demand reduction to meet the targets
  - For steel, a preference for process and technology change is less effective than a preference for behaviour change
- The relativity of our different options for change
  - Helps establish priorities for short term action

- Capacity requirements and roadblocks
  - We anticipate the total global capacity for aluminium and steel to be enough
  - We must increase our capacity for recycling steadily between now and 2050
  - If we wish to achieve 50% cut in emissions, we must not build any new primary production facilities
  - Need to reduce primary production by one third over the next 40 years
  - Reduced emissions requires reduced primary production
  - Sustainable material future looks much more feasible with both eyes opens