

**Strategic Materials for a Low-Carbon Future: From Scarcity to Availability**  
**2-3 November 2017 – Session Summary**

**Breakout 3a: Scaling up recycling of complex products**

What are the current economic, technical, legal or social obstacles to scaling up recycling of complex products such as electronic items and energy products such as batteries or solar PV panels? Can new forms of collaboration between businesses and institutions help? How much can we expect to collect from recycling? Can design of products facilitate recycling of components? Can products be designed to be safer to recycle?

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Moderator: Hans Eric Melin, Founder, Creation Inn

- The challenge is not technical recycling of the material - precious metals are already recycled in jewellery, chemistry and so on. But complex products pose technical and scale challenges: they need to be dismantled and sorted by component or material. Would-be recyclers need information about what materials are in a product (and this can change very rapidly, depending on product design). They need sufficient scale to make recycling economically viable. They need to be able to recycle the same material from different products together (eg. car batteries and small electronics). And they need to develop industrial processes to do this, and build technologies that must last for decades with very little knowledge of the type of waste that will be collected in 5 to 10 years' time.
- One problem is that manufacturers do not currently have any incentive to care what happens to products at the end of their life. Another is that waste management firms are often slow to move and there is a lot of resistance from the industry to digitalize. This means that we don't collect data, that could improve waste management.
- A third issue is that consumers do not seem ready to pay for the additional cost of recycling.

However, recyclers can go up the value chain and remanufacture products (not materials). That gives them a chance to change the way products are made.