1. Motivation
- There is an increased use of vehicles with Li-ion batteries (LIBs)\(^1\)
- Storage of energy is needed in a future energy system with more intermittent generation from renewables\(^2\)
- Second use is desirable from a resource point of view\(^3\)

2. Goals of the LCA
- To determine which are the environmental hotspots in the assessed system
- To explore under which conditions second use of LIBs is most beneficial such as length of 1\(^{\text{st}}\) and 2\(^{\text{nd}}\) use
- To compare the 2\(^{\text{nd}}\) use of LIBs with a dedicated battery storage system such as a vanadium redox flow battery (VRFB)

3. System flow chart and modelling

4. Results
- Dedicated VRFBs have a larger GWP than 2\(^{\text{nd}}\) use LIBs
- Battery manufacturing (VRFB and LIB) and repurposing (LIB only) contribute significantly to GWP

5. Discussion and conclusion
- Allocation may have a significant influence on the outcome of the LCA \(\rightarrow\) What is an useful way and how can it be interpreted?
- The inventories used were for very different scales of storage \(\rightarrow\) Influence needs to be further investigated
- LCA model needs more detail to study trade-offs in the system

References