Circular battery flows

Patricia van Loon
Assistant Professor Supply and Operations Management
Chalmers

European Commission

English

CHALMERS UNIVERSITY OF TECHNOLOGY

Climate Action

Home | About us | Climate change | EU Action | Citizens | News & Your Voice | Funding opportunities

Home > EU Action > Transport emissions > Overview

Overview

”Flagship 1: Boosting the uptake of zero-emission vehicles, renewable & low-carbon fuels and related infrastructure”

EC (2020) Sustainable and Smart Mobility Strategy

PAGE CONTENTS

The EU transport sector and its contribution to reaching climate neutrality

Transport represents almost a quarter of Europe's greenhouse gas emissions and is the main cause of air pollution in cities. The transport sector remains one of the only sectors of the EU economy where emissions are still above 1990 levels (see graph below). Within this sector, road transport is by far the biggest emitter accounting for more than 70% of all GHG emissions from transport in 2019

To achieve climate neutrality, we need to reduce transport emissions by 90% by 2050. Road, rail,

THE ROLE OF THE SUPPLY CHAIN ON EV BATTERY PERFORMANCE OVER THE FULL LIFE CYCLE

Significant amount of retired EV batteries. Giving opportunities (and demands) for reuse, 2nd use, and recycling.

2nd life applications and recycling infrastructure not yet (fully) developed due to current low volumes.

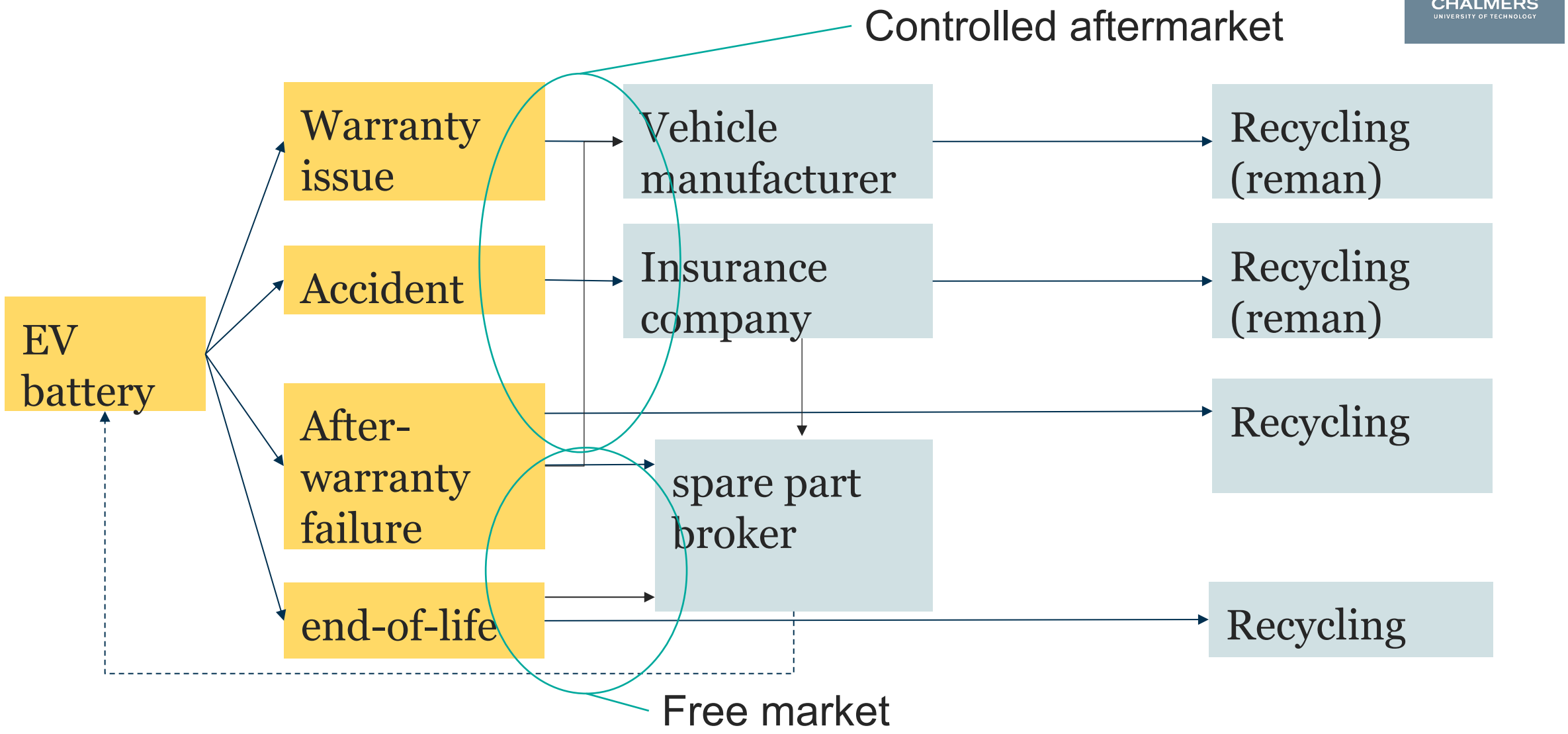
Uncertainty in battery degradation and actual lifetime.

Concerns about raw material supply availability (e.g. cobalt, natural graphite). Variability in battery chemistry increases uncertainty.

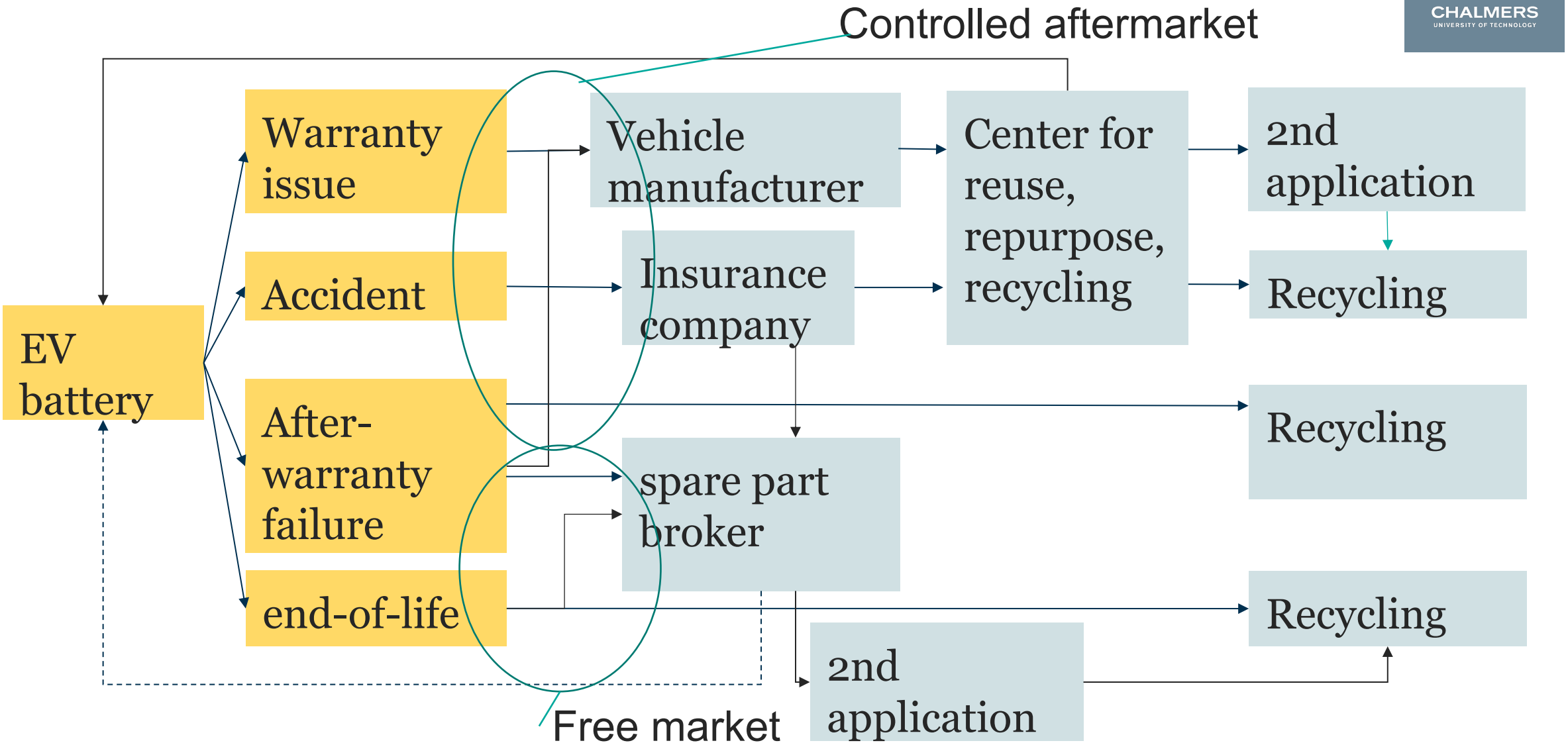
Social and environmental issues related to mining of materials.

Environmental impact of EV battery production.

CURRENT FLOWS



FUTURE FLOWS?



DEMONSTRATION PROJECT

Thank you for listening!

Contact details:

Patricia.van.loon@chalmers.se

+46 31 772 1875

https://www.chalmers.se/en/persons/loon/