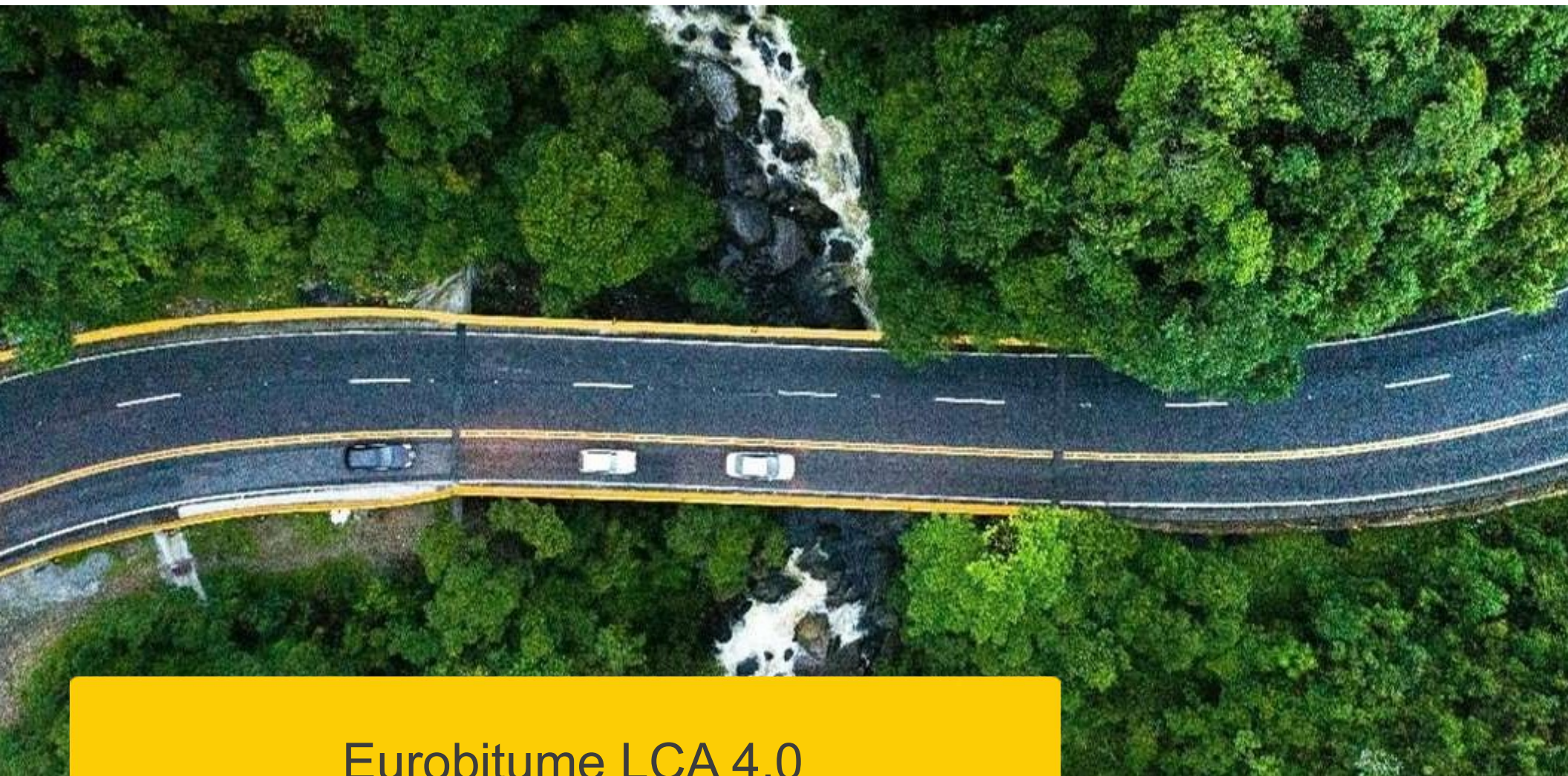




Eurobitume LCA 4.0

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Eurobitume LCA for bitumen 2025

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ential indicator



Comparison with previous study



Questions?

y a new LCA?

dated the reference year of the data
Previous version in 2020 ref. data from 2019

provide appropriate response to the main
shortcomings pointed out in the critical review of
the previous study

Criticism of choice of database for raw
materials(crude oil, HFO)

Criticism of not using primary data

improve credibility of data

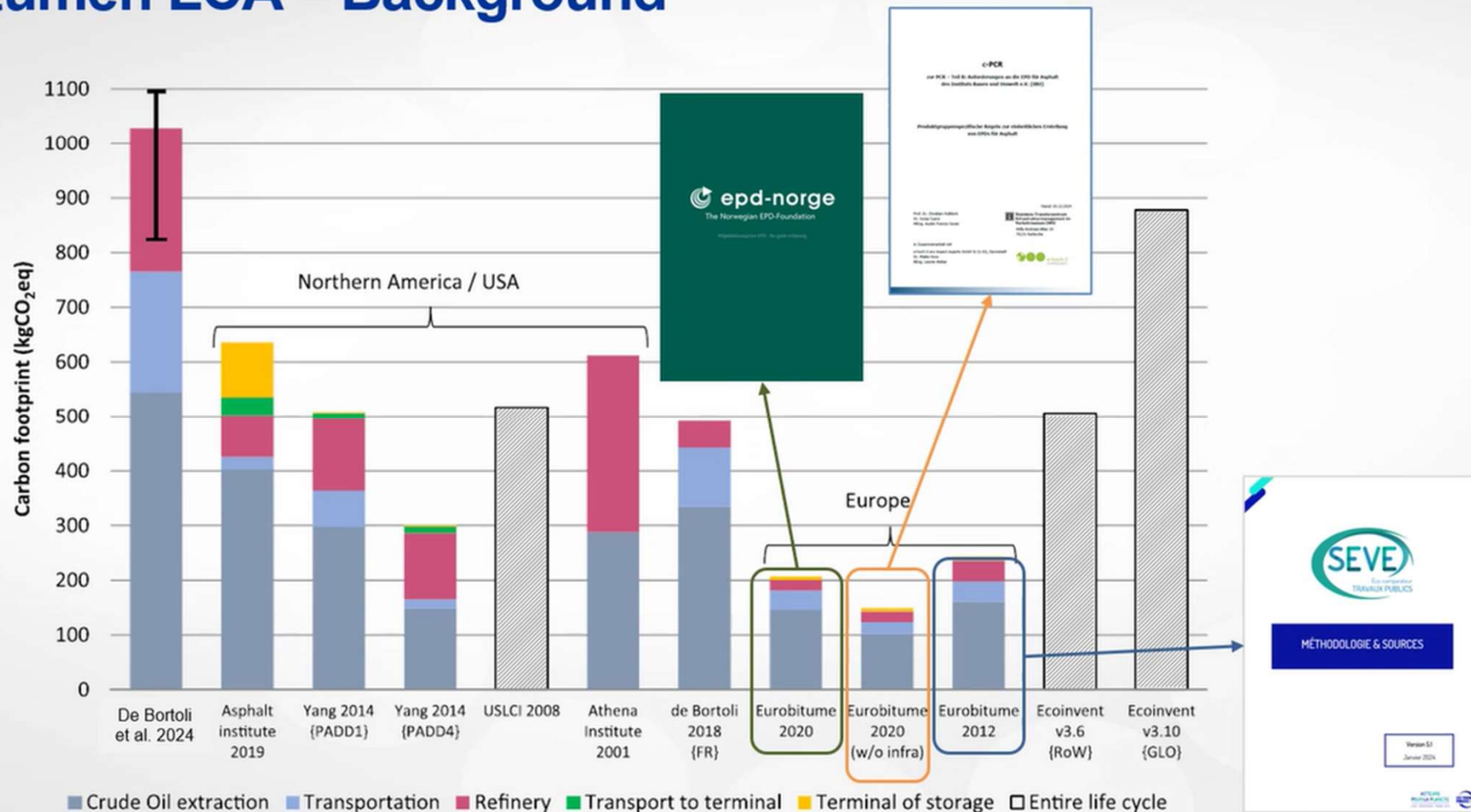
Previous version has been challenged because
of low value



The Eurobitume Life Cycle Assessment 4.0 for bitumen



Bitumen LCA – Background



Comparison of bitumen carbon footprints, per ton

Source: *Environmental life-cycle impacts of bitumen: Systematic review and new Canadian models*, Anne de Bortoli et al., 2024, *Transportation Research Part D 136*

Scope of the study

Reference unit 1 t bitumen / 1 t oxidised bitumen

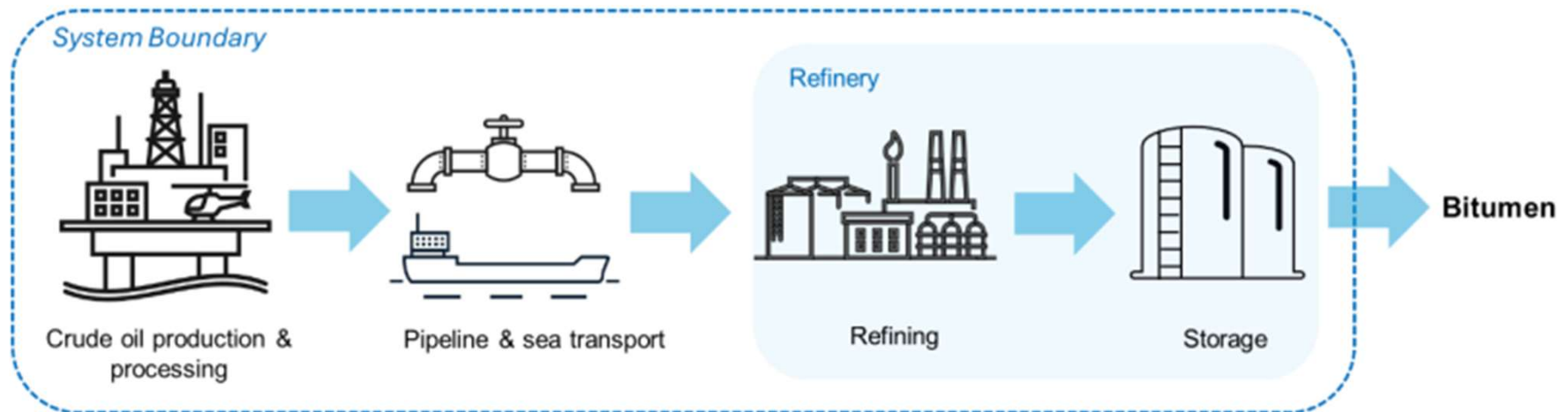
Representative of bitumen production in EU & UK

Data collection from 17 refineries in Europe and UK

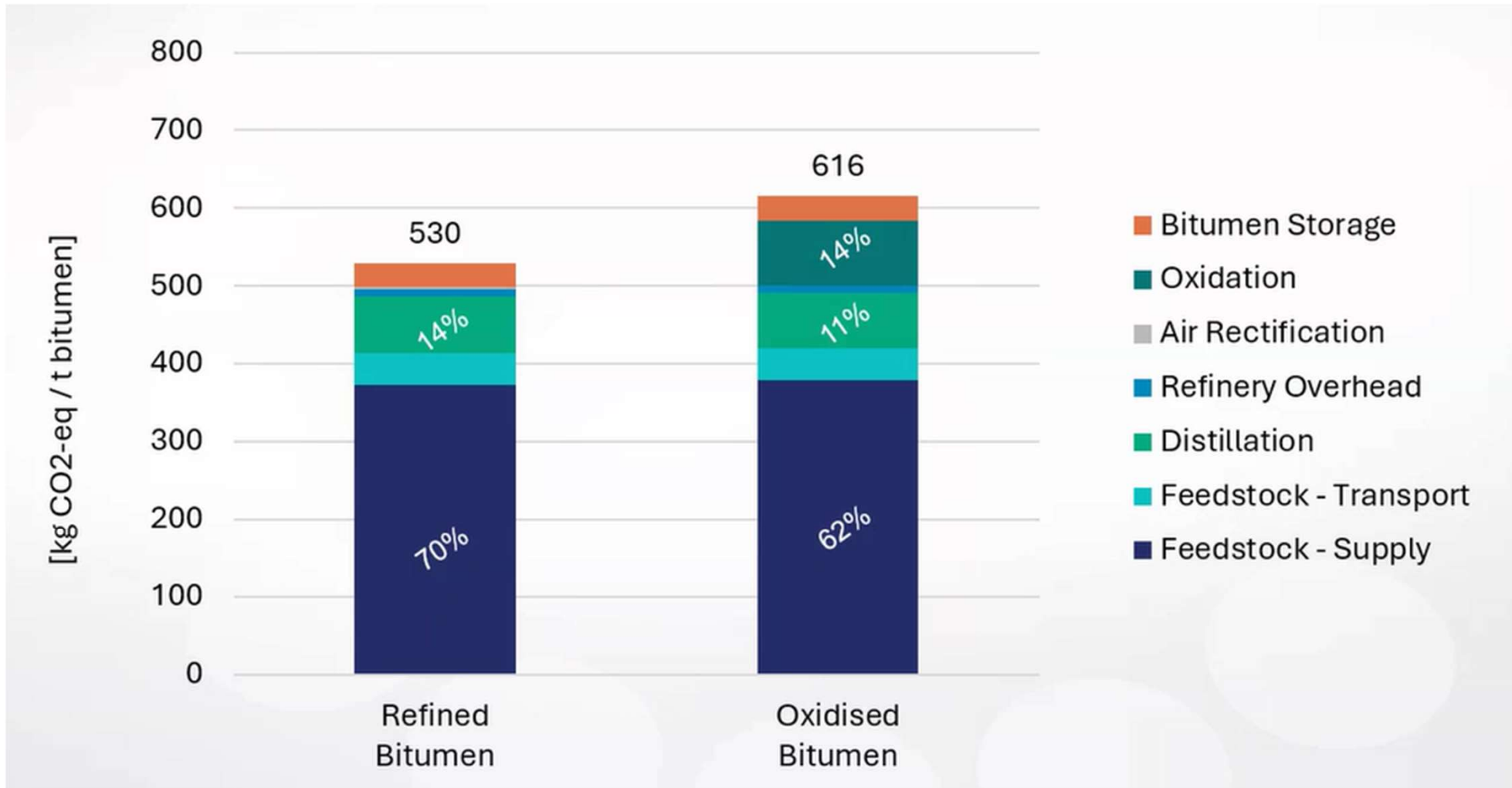
Estimated to represent 75% of the bitumen production of EB members.

Data collected from 2023 production

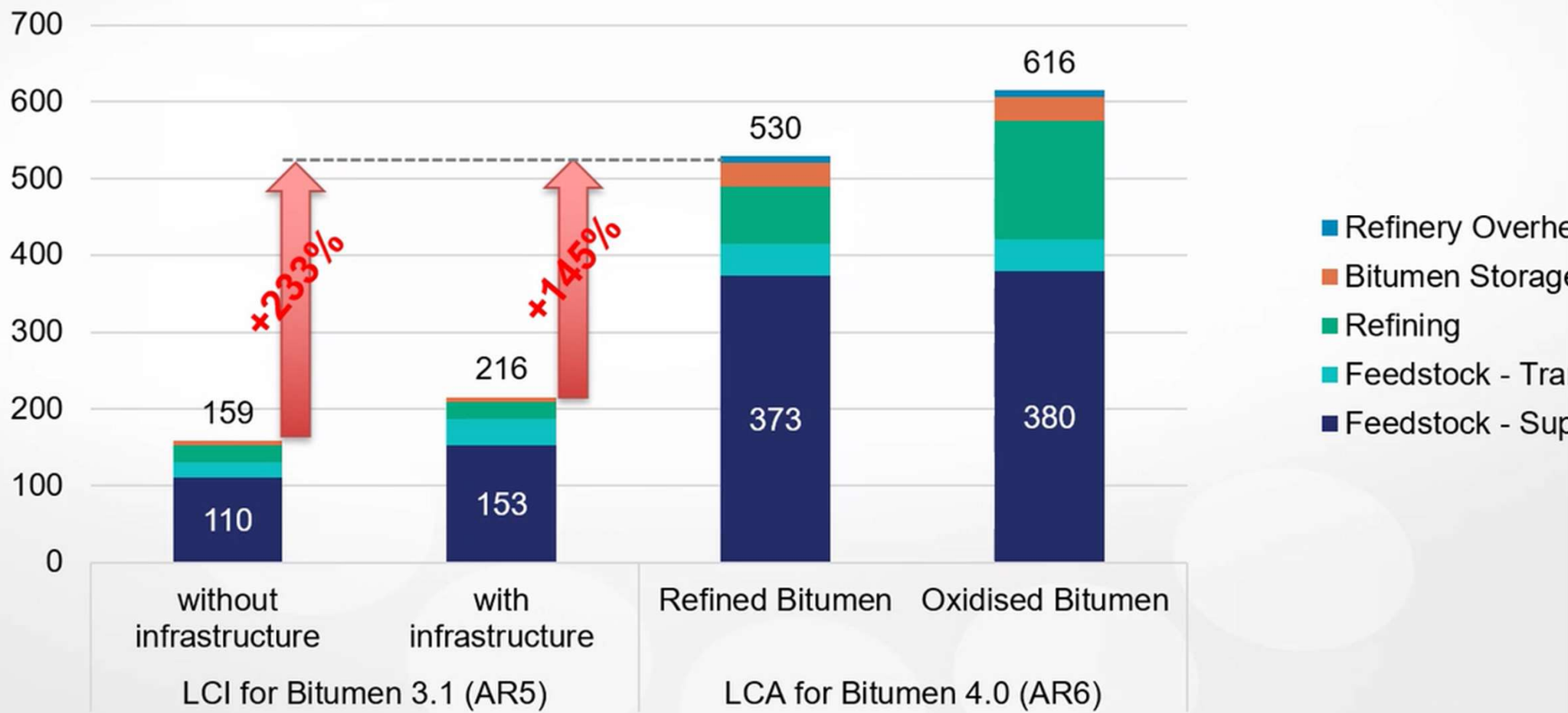
System boundaries: cradle-to-gate, including crude oil production, transport, refining and storage



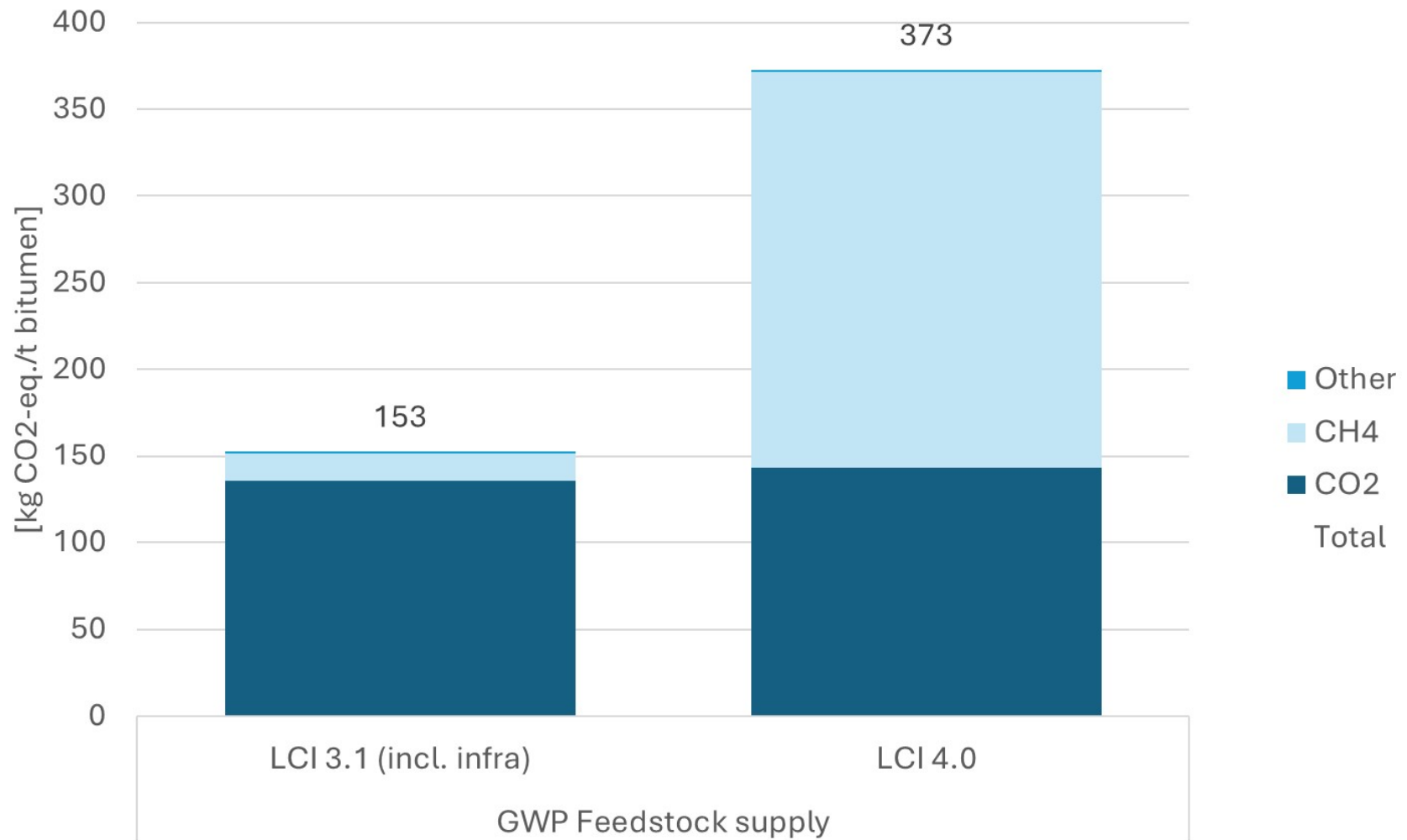
Global Warming Potential (GWP100) indicator results



Global Warming Potential (GWP100) indicator results

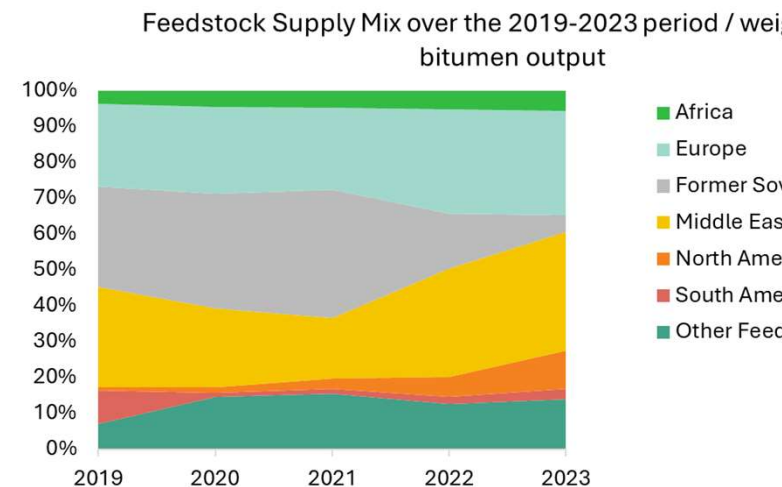
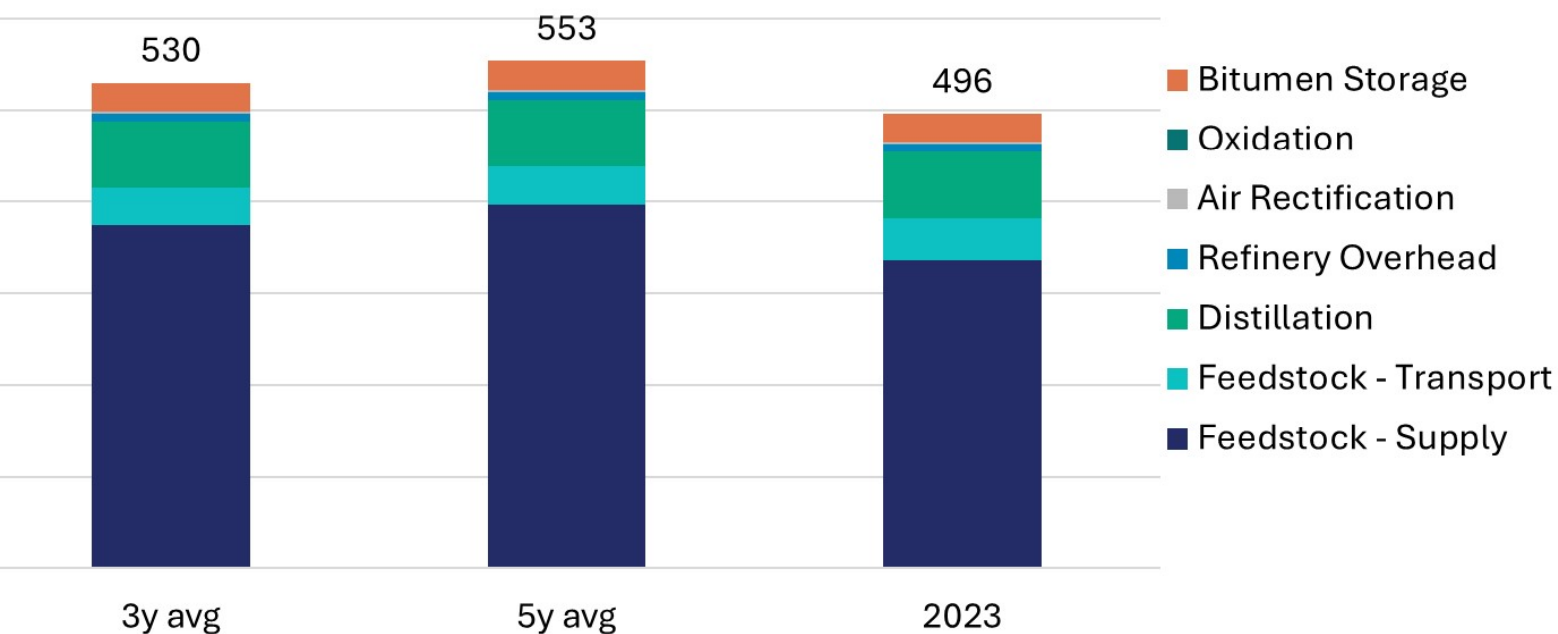


Impact of crude oil dataset



ect of crude oil basket

GWP100 (AR6) / Primary Data - Energy Allocation /
Variation in Crude Oil Mix Supply Time Period



Infrastructure & Storage

Infrastructure contributes to an increase in the VP100 less than 1 %. Therefore, infrastructure is finally been excluded

Primary data collected in the study for the storage of the bitumen resulted in an energy consumption increase to ~500 MJ of steam, fuels and electricity per tonne of bitumen, representing around 6% of the VP₁₀₀ of bitumen.



Major factor influencing GWP increase

Change in crude oil database and crude oil basket

+ 102 %GWP

Modification of the allocation method at the refinery

+24 % GWP

Change in bitumen storage model at the refinery

+12 % GWP

iverables available on the Eurobitume website

A report

I dataset in ILCD format (on
quest)

mmmary and comparative analysis
h LCI 3.1

Focused on the global warming
potential indicator GWP

Q



The Eurobitume Life Cycle Assessment 4.0 for bitumen



Life Cycle Assessment 4.0 for bitumen

Summary and comparative analysis on the
Global Warming Potential indicator



Questions?

