

Bitumen Life Cycle Inventory



19.1.2012

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www.eurobitume.eu

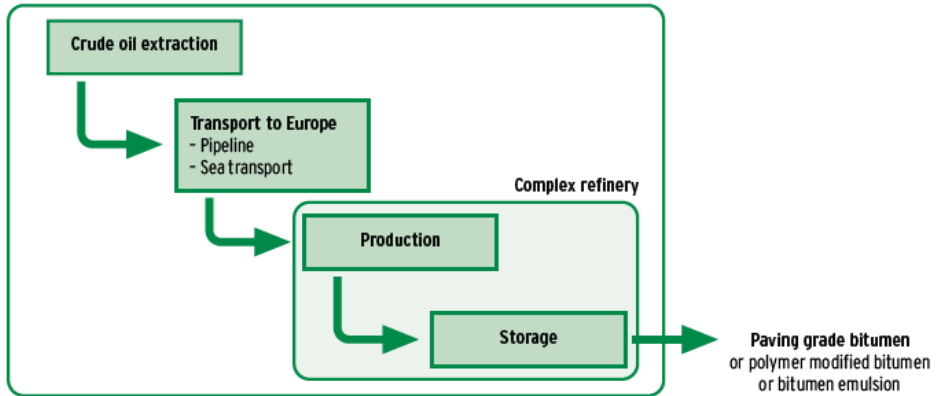


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System boundaries for bitumen LCI

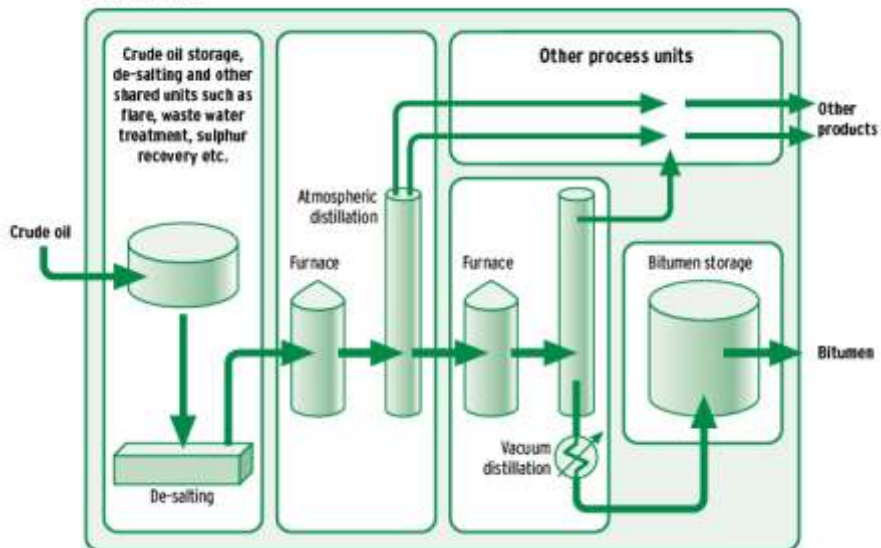
System boundary



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Complex refinery



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Bitumen LCI 2011

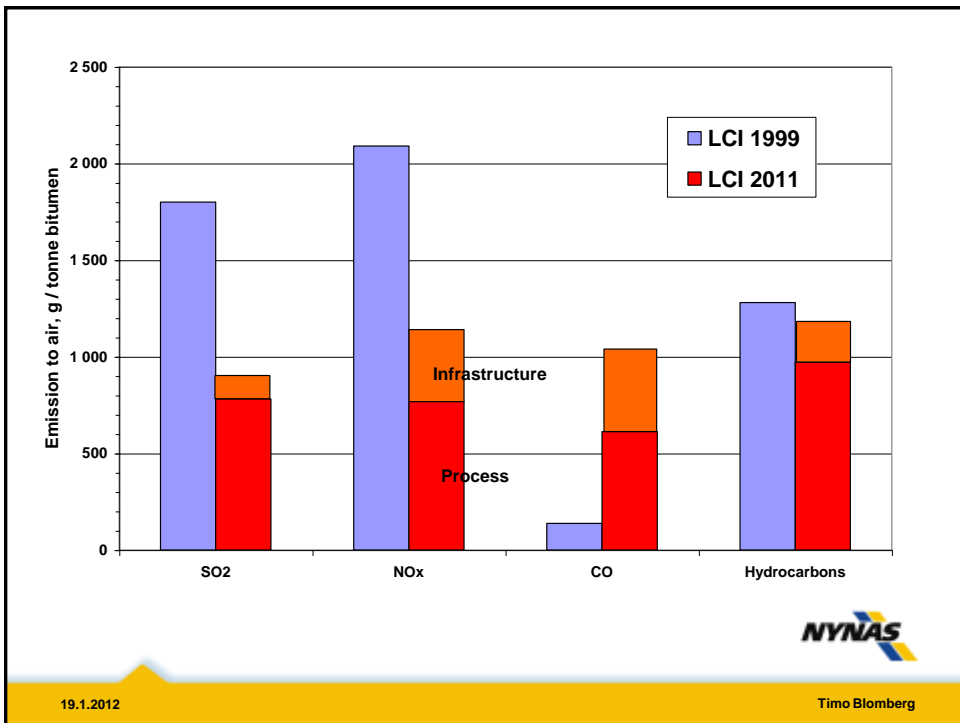
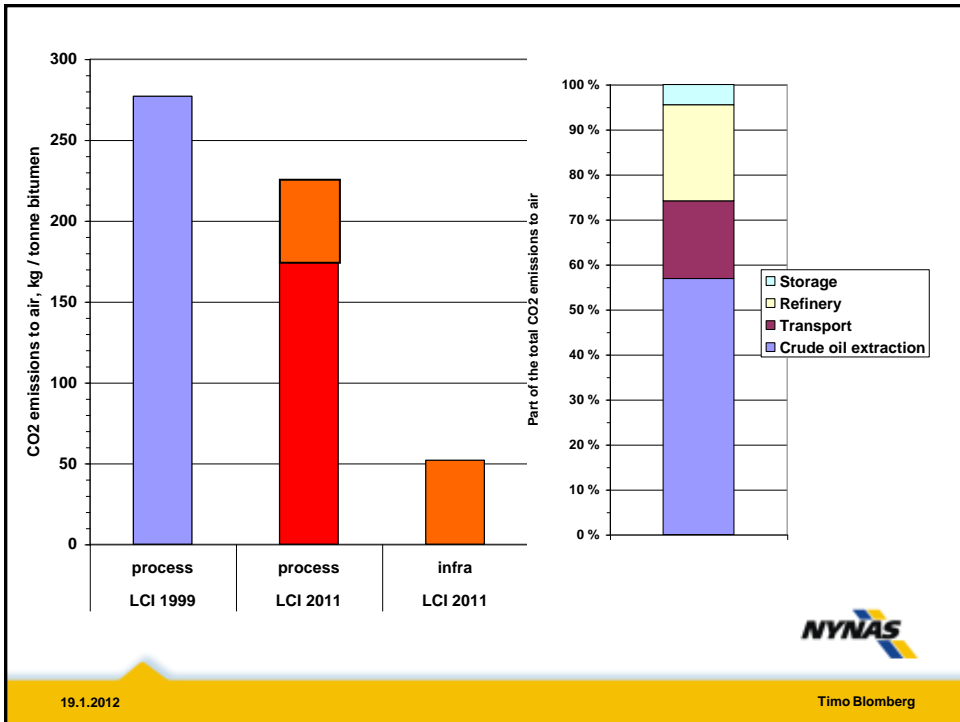
- Use of the latest data
 - Oil & Gas Producers' data from 2009
 - Eurobitume & Concawe data for energy and air emissions
 - Concawe data for water emissions from 2010
- Latest revisions of ISO standards
 - Allocation
 - Infrastructure
- Sensitivity evaluation on processes and paving grade bitumens
- Penetration range 20 ... 220 (EN 12591)
- PMB and emulsion

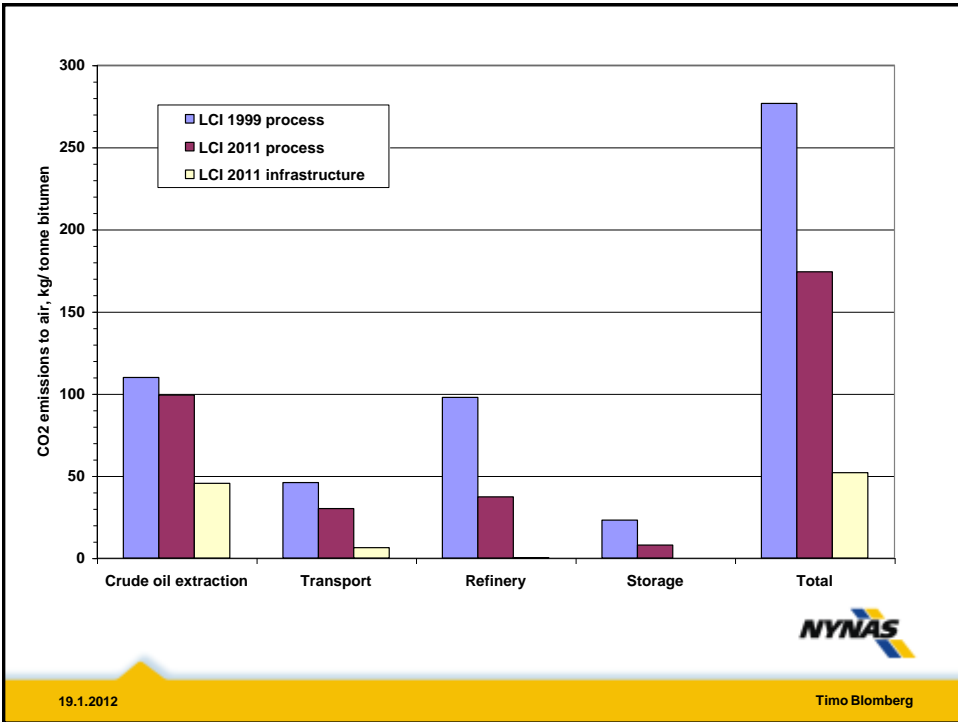
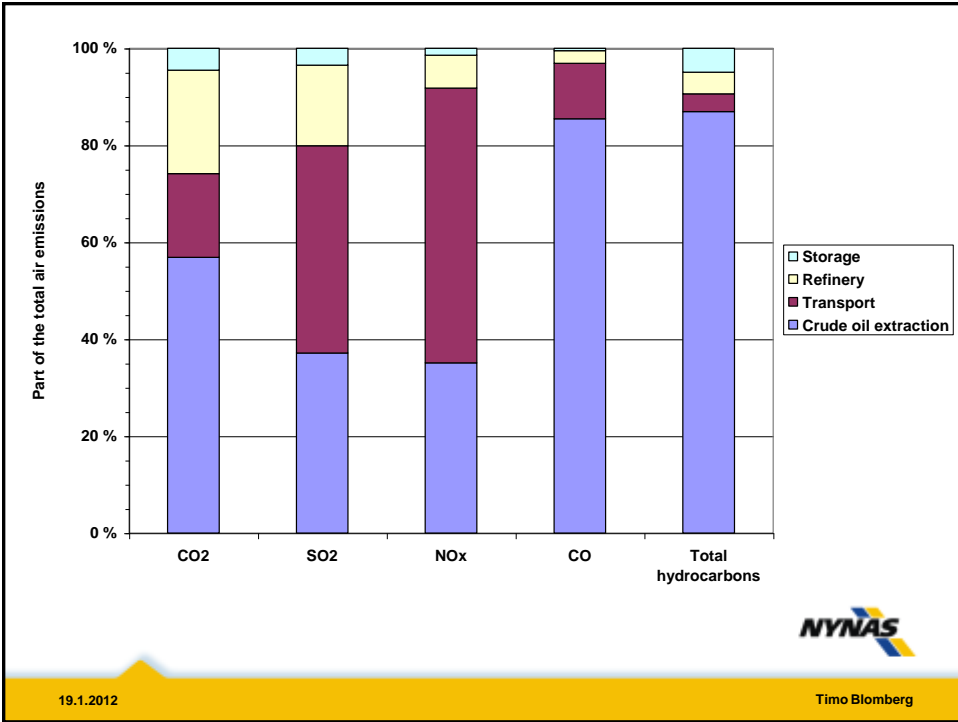


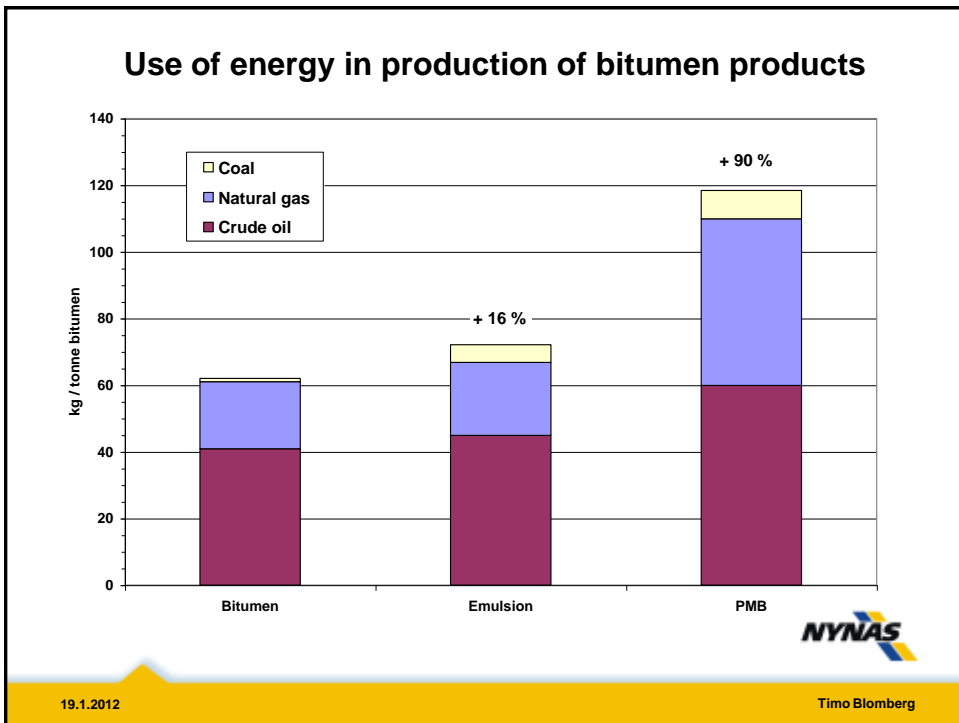
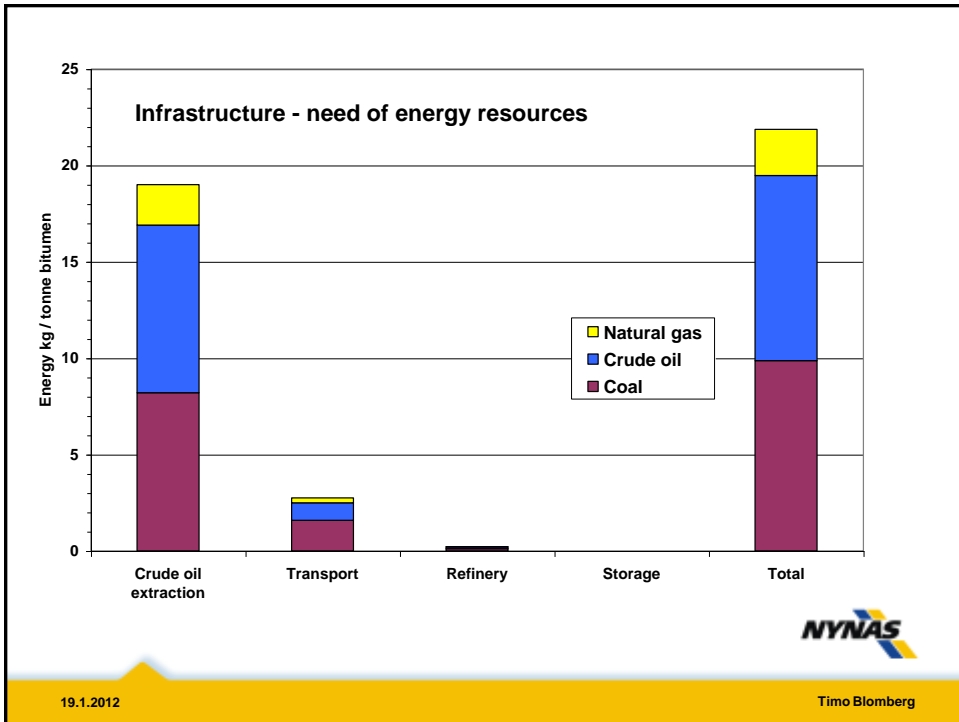
Major differences with the 1999 report

- Crude oil slate (61% FSU, 18% ME, 11% SAm, 10% EUR)
- Pipeline transport from FSU
- Value allocation principle for refining
- Other processes: semi-blowing, solvent extraction, vis-breaking
- Infrastructure: crude oil wells, ships, pipeline, refinery
- LCI for PMB and bitumen emulsion
- Peer reviewed









Main causes of improvements

Mega trends

- Tighter sulphur limits in the fuel
- More restrictive limits for the refinery emissions
- Increased energy efficiency

Recycling



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Sustainability

Three dimensions

- Environmental
- Social
- Economic

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.



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