



Science For A Better Life

Measures of Bayer Antwerp to reduce CO₂ emissions as part of the Lean & Green initiative.

Cefic workshop 26/11/2014





Lean & Green









- ❑ Lean & Green program started in the Netherlands by Connekt (2007)
- ❑ Connekt and VIL started the project in Flanders (2012)
- ❑ Goal: reduce logistic CO₂ Emissions with 20% within a 5 year period
- ❑ Reason for Bayer Antwerpen NV to be a pilot:
 - Strong feeling about environment and sustainability
 - Focus on CO₂ Emission reduction in production, logistics not consciously in scope
 - Former safety and cost reduction measures had also a positive impact on CO₂ emissions
 - Opportunity to learn to quantify and monitor CO₂ emissions in logistics

Most important Measures



1. Modal shift from barge to pipeline (caustic soda)

⇒ impact:








- No loading of barges 
 - No transport by barges 
 - No unloading of barges 
 - Transport by pipeline 
 - No more concentration of the product at supplier 
 - No more dilution of the product at Bayer 
-   CO₂



Most important Measures

2. Optimize payload for Coasters to Spain from 3000 to 5000T




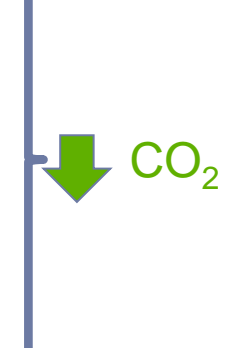
⇒ impact:

- Load coaster with 3000 T 
 - Load barge with 2000 T 
 - Transport to transshipment quay 
 - Tranship barge into coaster 
 - Transport to Spain (less transports with higher tonnage) 
-   CO₂

Most important Measures

3. Compressed air for pneumatic transport of granulates

⇒ impact:

- Compressed air not used any more from the site distribution grid at 5,5 bar. 
 - Compressed air from the grid not to be reduced to 3,5 bar for conveying => a lot of energy is lost 
 - Installation of a compressor of 3,5 bar 
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- A large blue bracket on the right side of the list groups the first two items. A green arrow points down from the bracket, and the text "CO2" is written next to it.

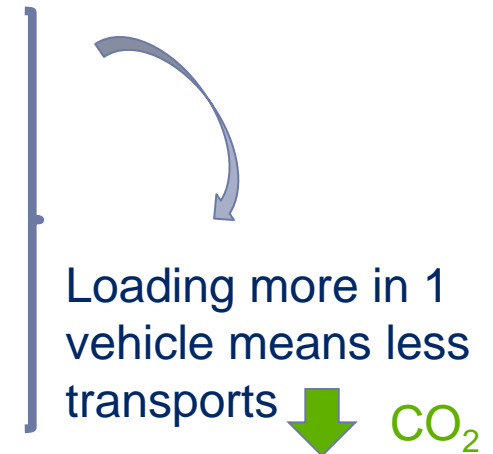


Most important Measures

4. Payload optimisation packed goods for road, multimodal and overseas transport

⇒ impact:

- Increase load per pallet for trucks
- Optimize pallet load in containers





some smaller measures

1. Forklifts on electricity instead of diesel or gas ↓ CO₂
2. Transport avoidance: dangerous product by road and tank containers overseas
=> today transport only by shortsea and inland navigation; CO₂ emission much lower ↓ CO₂
3. Reduce waste flow of a certain production stream ↓ CO₂

Thank you for your attention !

