ELECTRIC GREEN LAST-MILE

Scope

Validation of **battery-electric terminal tractor** operational feasibility in real-world inland terminal operations at multimodal facility in Venlo over two months continuous operation.

Goal

Assess electric tractor performance under typical logistics workflows, providing comprehensive evaluation of integration potential and operational reliability.

Benefits

- **Environmental**: Local emission-free transport with potential for complete green energy operations
- **Operational**: Superior handling characteristics and precise control in tight terminal spaces
- **Technical**: Immediate torque response beneficial for container positioning and docking
- **Social**: Reduced noise levels and smoother operation compared to diesel alternatives

Results

- ✅ Two months continuous operation without significant technical issues
- ✅ Battery capacity adequate for full 8-hour shifts under average utilization
- ✅ Positive driver acceptance evolution from initial skepticism
- ✅ Successful integration with existing terminal operations and workflows

Upscaling

- **Technical**: Technology demonstrates readiness for commercial deployment
- **Economic**: Requires clear business case justification for premium costs
- **Strategic**: Future developments (carbon pricing, cost reductions) may improve competitiveness
- **Transfer**: Experience supports broader industry electrification initiatives

Lessons Learned

- Driver skepticism transforms to positive acceptance through **hands-on experience**
- **Superior low-speed maneuverability** provides operational advantages
- **Higher Total Cost of Ownership** compared to diesel under current market conditions
- Low annual utilization typical of terminal tractors **limits economic benefits**

venlo

HUTCHISONPORTS

FIER SUSTAINABLE MOBILITY

SUPPLY CHAIN VALLEY

DISCOVER MORE

PIONEERS

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