

A woman with long blonde hair is shown from the chest up, looking directly at the camera. She is wearing a grey turtleneck sweater. The background is a deep blue, and numerous small, white, feather-like particles are falling around her, creating a sense of motion and cold. The overall mood is serene and futuristic.

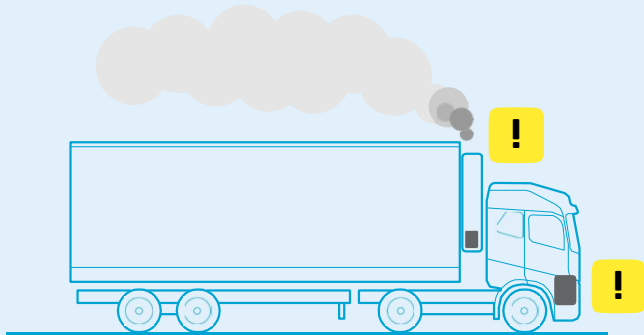
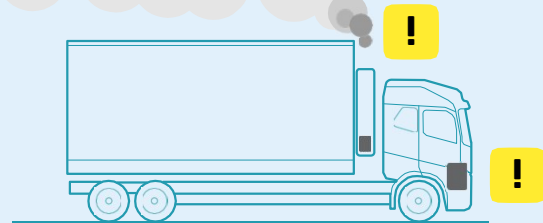
HULTSTEINS ❄️

Diesel-free refrigeration

CONTROLLED AIR & ELECTRIC
THAT WONT COST THE EARTH

Standard builds

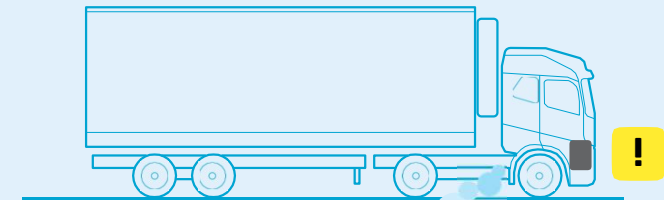
TWO-ENGINE TECHNOLOGY



Unregulated emissions emitted from diesel systems at a high level pollute the surrounding area.

Hultsteins vision

ONE-ENGINE HULTSTEINS TECHNOLOGY



Euro 6 - regulated emissions are less harmful and dispersed at ground level.

RED DIESEL BEING ABOLISHED ON 1ST APRIL 2022



HMRC- abolish red diesel on 1st April 2022.
Operators will see costs increase by £0.48p per litre.

CURRENT TRU DIESEL ENGINES

- ▶ TRU diesel engines are somewhere between 20 - 25% efficient.
- ▶ Unfiltered diesel engine exhaust.
- ▶ **Diesel TRU engines are noisy** and although some effort has been put into noise reduction. The majority of TRU diesel engines will not comply with PIEK low noise levels (60db measured at 7.5m).
- ▶ **Maintenance**- diesel engines will require more servicing and spare parts as the unit ages.
- ▶ **Modern Euro 6** truck engines are somewhere between 43 - 46% efficient.

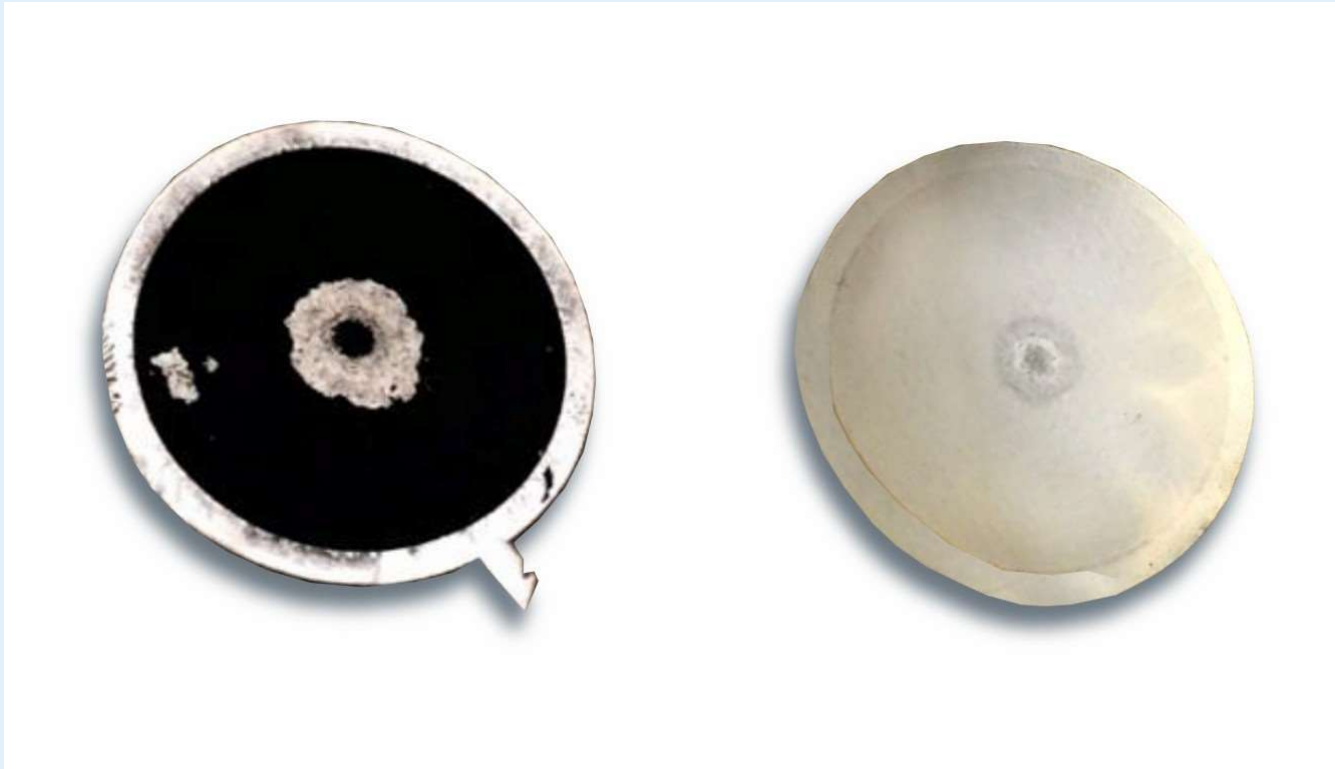
PARTICULATES AND EMISSION

- ▲ Current diesel TRU engines.
- ▲ No facility to capture DPM or NO_x.
- ▲ Emitted directly to atmosphere after combustion.

- *A diesel TRU emits 200 to 500 times more fine particles of DPM per km driven in comparison to a Euro 6 engine.**
- *A Euro 6 truck with a diesel TRU running will emit approximately 400% more NO_x per km driven than one without.**

**Low CV^p report. Development of emission. Testing for TRUs, june 2019.*

PARTICULATES AND EMISSION

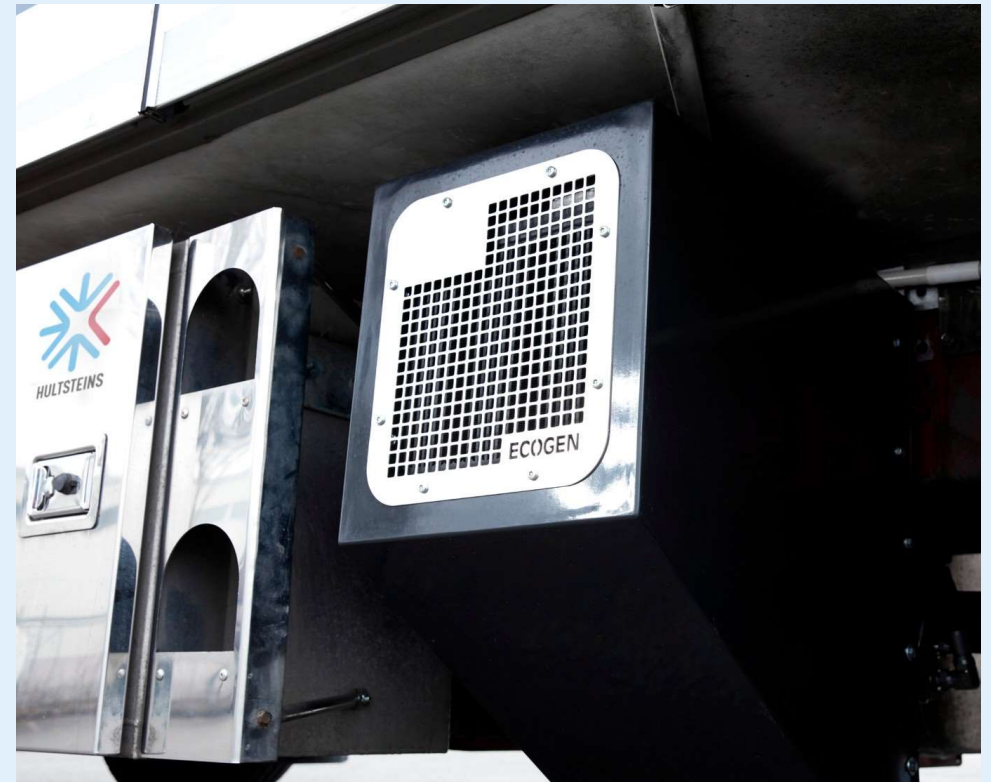


HULTSTEINS - PRODUCTS

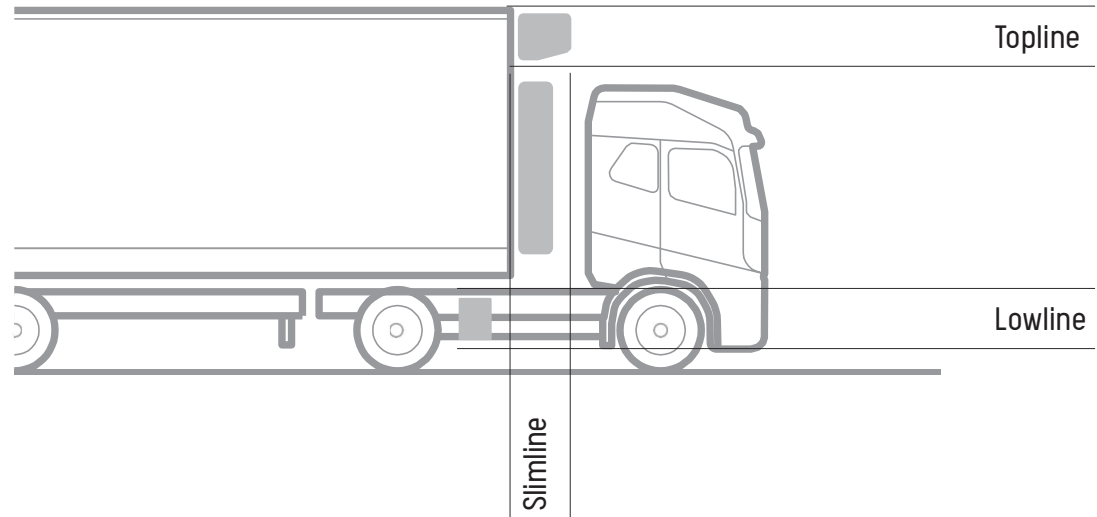
Hydraulic driven Fridges



Ecogen



FRIDGE RANGE



Topline



Slimline

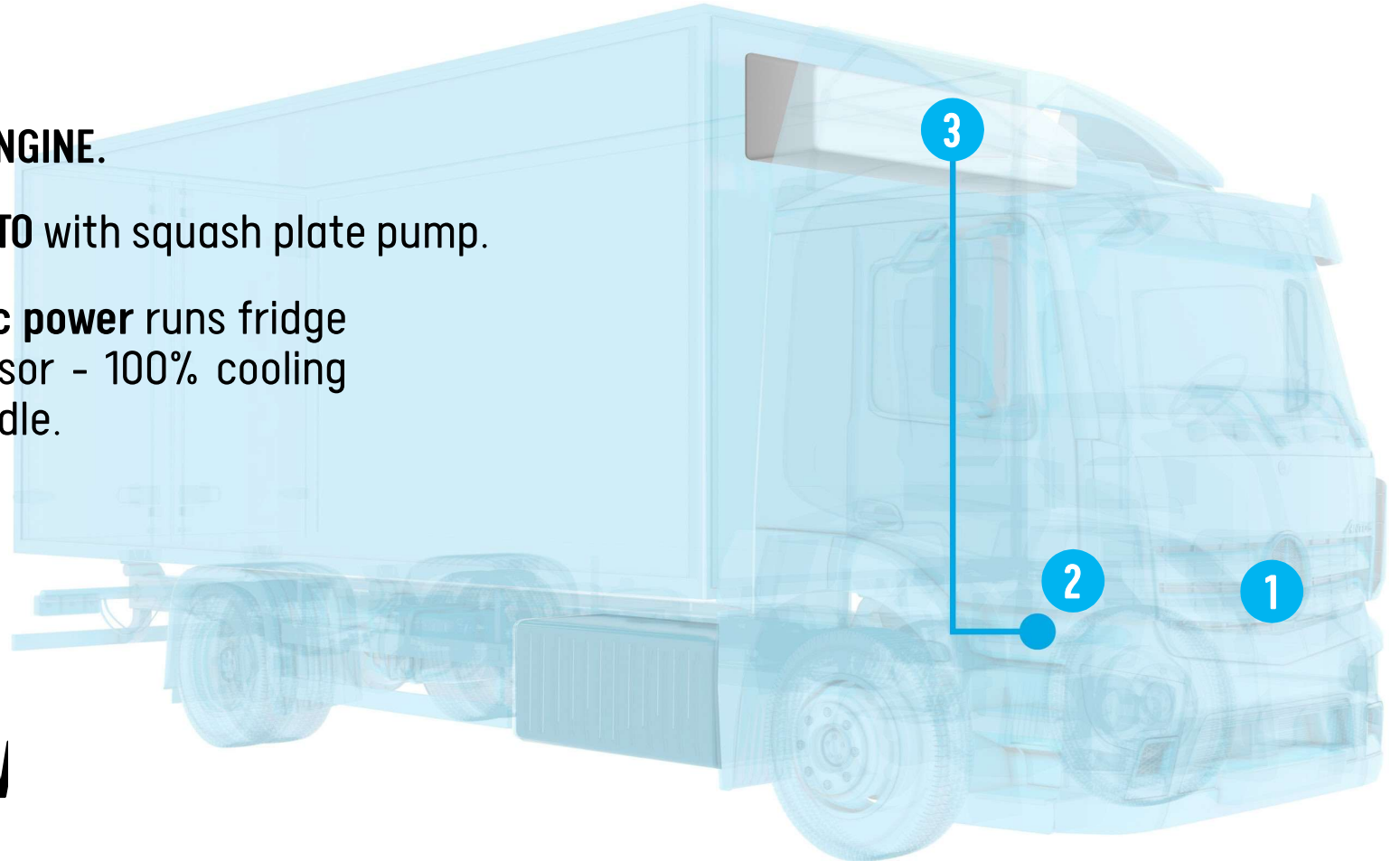


Lowline



ECOFRIDGE HYDRAULIC DRIVE

- 1 EURO 6 ENGINE.
- 2 Engine PTO with squash plate pump.
- 3 Hydraulic power runs fridge compressor - 100% cooling even at idle.



ECOGEN LOW

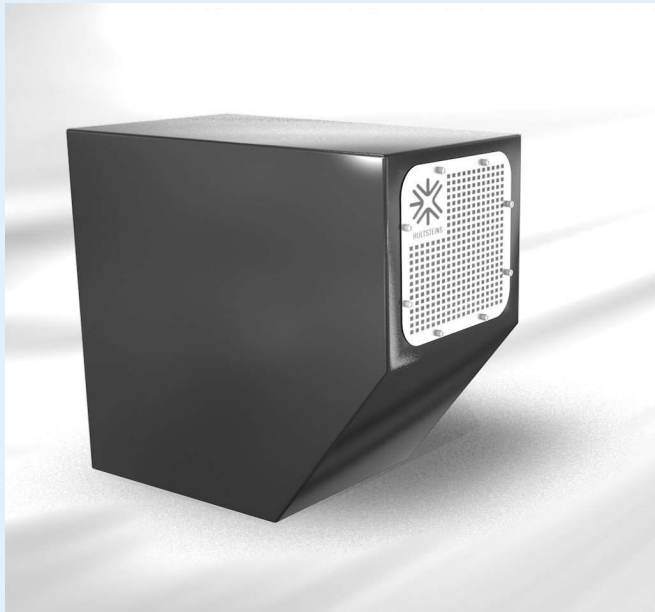
FEATURES AND BENEFITS OF HYDRAULIC DRIVE FRIDGE

- ▶ **100% cooling capacity - even at idle.**
- ▶ **80-90% fuel saving.***
- ▶ **Over 95% reduction in DPM and No_x.***
- ▶ **Over 85% reduction in Carbon.***
- ▶ **Constant temperature:** Hultsteins "Intelli Start™" - automatically starts and stops the truck engine to maintain temperature set point.
- ▶ **Clean air:** Emissions governed to Euro 6 standard.
- ▶ **Five years service & warranty included in price** (subject to T&C's).
- ▶ **Maximum reliability:** All Hultsteins fridge units are designed for simple yet reliable operation + long working life.
- ▶ **Universal compatibility:** Works with any truck fitted with a PTO (Power take-off) from 7.5 to 26 tonne.
- ▶ **Noise reduction:** All Hultsteins fridges are quiet and are ideal for night time deliveries.
- ▶ **Heating option:** Supplied by truck engine coolant system.

** Compared to Diesel TRU*



ECOGEN – BRIDGING TO AN ELECTRIC FUTURE



Ecogen Lowline [20/30/50 KVA]

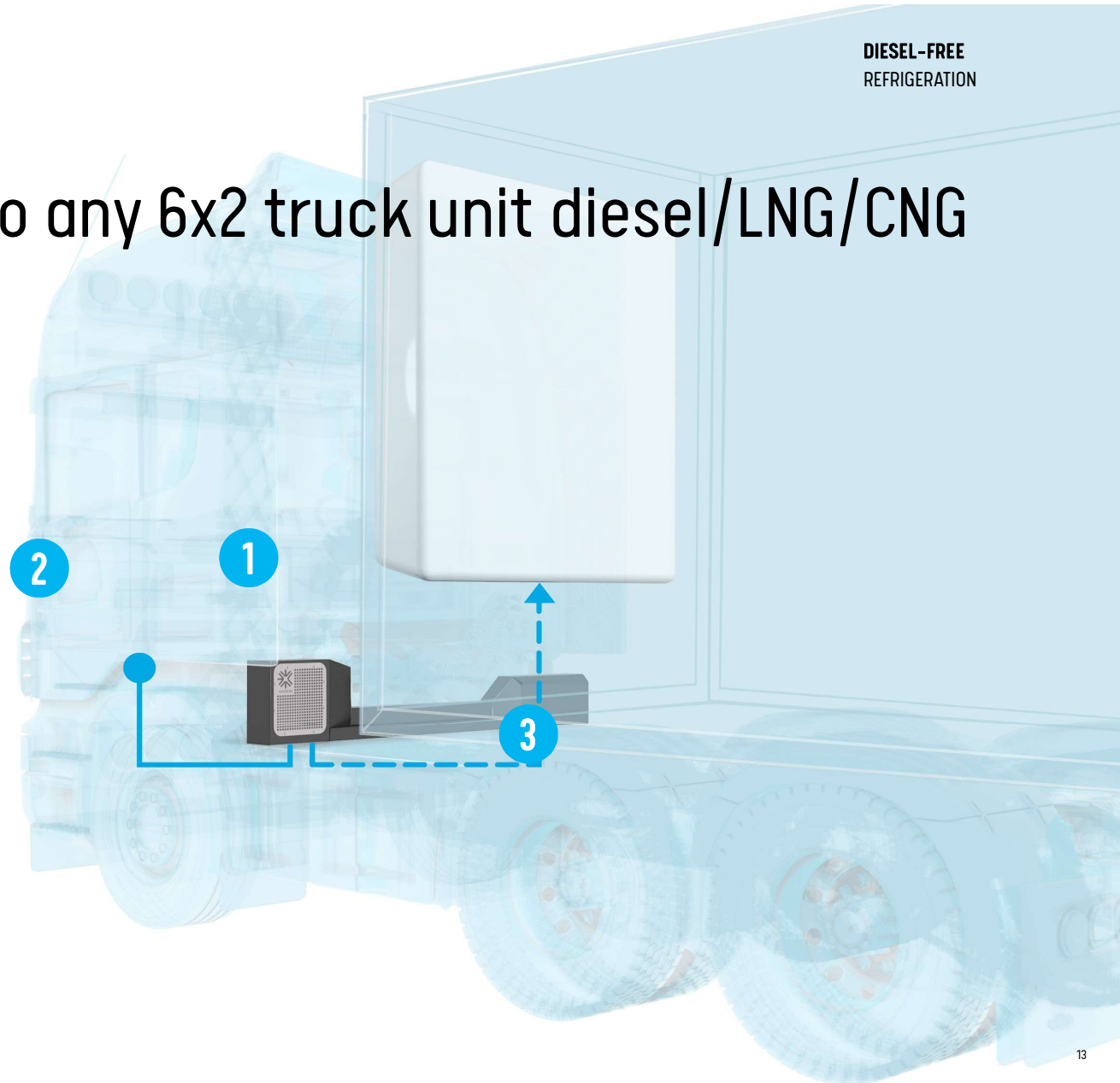


Ecogen Slimline [30 KVA]

ECOGEN SLIMLINE - fits to any 6x2 truck unit diesel/LNG/CNG

- 1 Ecogen Slimline - 30 KVA.
- 2 Euro 6 Engine - fitted with PTO.
- 3 Full Fridge Capacity even at Idle - 400 V @ 50Hz.

- ▶ Truck powered hydraulic generator.
- ▶ Powers any marque of fridge.

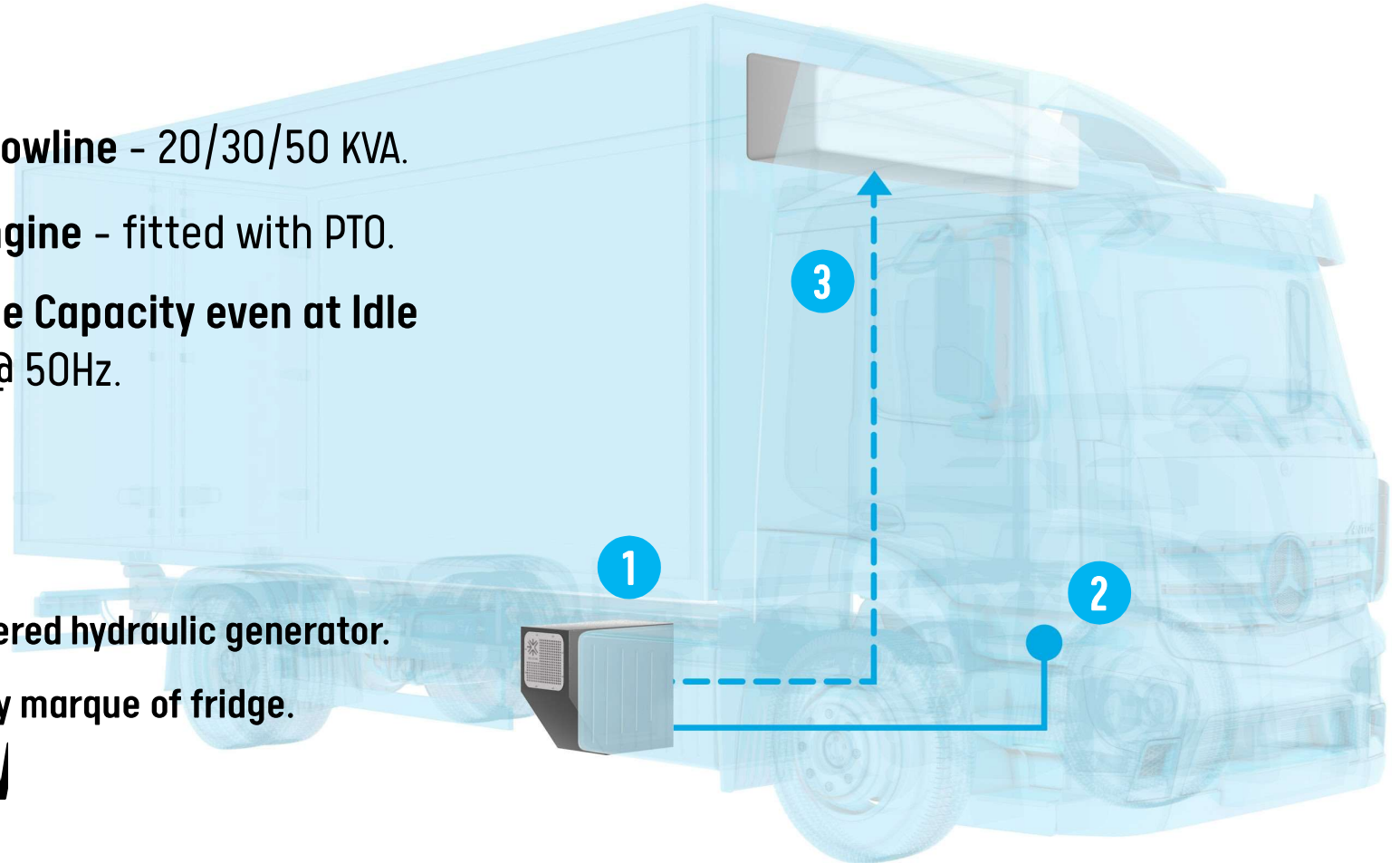


ECOGEN LOWLINE – EG

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- ▶ Truck powered hydraulic generator.
- ▶ Powers any marque of fridge.

ECOGEN LOW



BENEFITS OF ECOGEN

- ▶ **75-85% saving on diesel.***
- ▶ **Over 70% saving on Carbon.***
- ▶ **95% saving on DPM.**
- ▶ **Reduced noise.**
- ▶ **Very low R&M costs.**
- ▶ **Reduces diesel engine maintenance costs.**
- ▶ **Extends fridge diesel engine life.**
- ▶ **Designed for long working life.**
- ▶ **Easily swaps onto different vehicles.**
- ▶ **Fits to all truck engines fitted with PTO.**
- ▶ **Runs all Thermoking, Carrier & Frigoblock fridge units on electric .**

**in comparison to diesel TRU*



HULTSTEINS ❄️



HULTSTEINS 2021

- ▶ **Launch Electric range** of slimline fridge units.
- ▶ **Hultsteins - Lithium power packs for trailers.** Modular with various size battery packs.
- ▶ **Charging**
 - EcoGen
 - Grid





HULTSTEINS



Thanks!