

ECOGEN

# Transforming diesel TRUs to electric hybrid

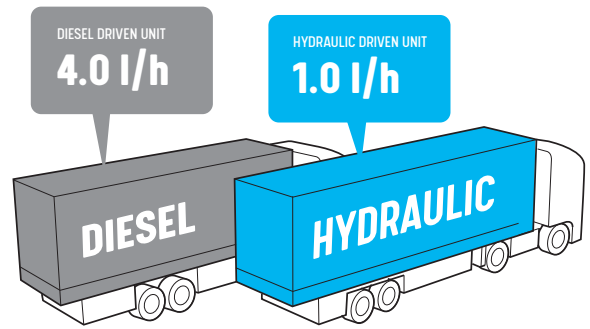


AN ELECTRIFYING EXPERIENCE

HULTSTEINS ✨

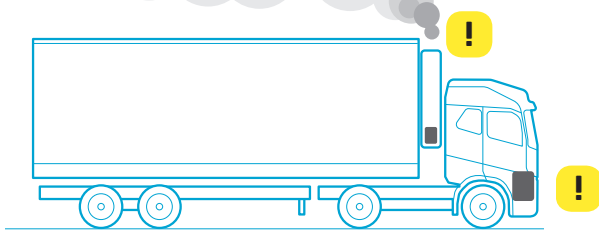
## CUTS EMISSIONS AND FUEL

A refrigerated vehicle using one engine to power both the truck and fridge, cuts emissions by more than 90% and fuel by up to 75% - compared to a vehicle using two engines to do the same job.

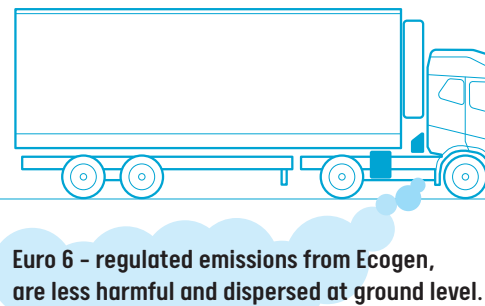


### TWO-ENGINE TECHNOLOGY

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



### ONE-ENGINE HULTSTEINS TECHNOLOGY



## DIESEL COLD HARD FACTS

### 1 DIESEL FUMES ARE CLASSIFIED AS A GROUP 1 CARCINOGEN.

This is a known and proven cause of cancer in humans.

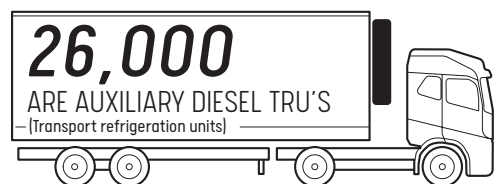
### 2 Diesel refrigeration is usually driven by an integrated diesel engine - which is a significant source of harmful pollution and in the main, poorly regulated. Added to the truck, this means two polluting diesel engines operating at the same time on one vehicle.

### 3 Most truck exhaust fumes enter the atmosphere at a low level, whereas the fridge exhaust emissions are discharged at a higher level effectively showering the general public & driver in harmful materials.

### 4 THERE ARE NO SAFE LEVELS OF AIR POLLUTION.

Every organ in the body is affected as detailed by WHO.

### 5 THERE ARE APPROXIMATELY 84,000 REFRIGERATED TRUCKS ON THE ROAD IN THE UK.



### 6 In 2019 transport accounted for around a third (34 per cent) of all carbon dioxide emissions. The large majority of emissions from transport are from road transport. Source: Government National Statistics 26th March 2020

# WELCOME TO ECOGEN – BRIDGING THE GAP TO AN ELECTRIC FUTURE

**Hultsteins, is a Swedish and British hydraulic refrigeration systems manufacturer.**

The company has been designing and producing hydraulic and electric-drive transport refrigeration systems for nearly 60 years and as the environmental and economic effects of diesel consumption become more evident, systems such as

Ecogen are increasingly seen as a sustainable solution.

Ecogen, now widely used throughout the UK and Europe, can be retrofitted easily to any truck with a PTO (power take off) and will drive any type of conventional diesel fridge with electric standby, from any of the major manufacturers.

▲ **Lower Emissions**

▲ **Lower Noise**

▲ **Reduced Running Costs**

▲ **Reduced Maintenance**

▲ **Greater Security**

▲ **Universal Integration**

▲ **Flexible Power Levels**

## HOW IT WORKS – ON A RIGID

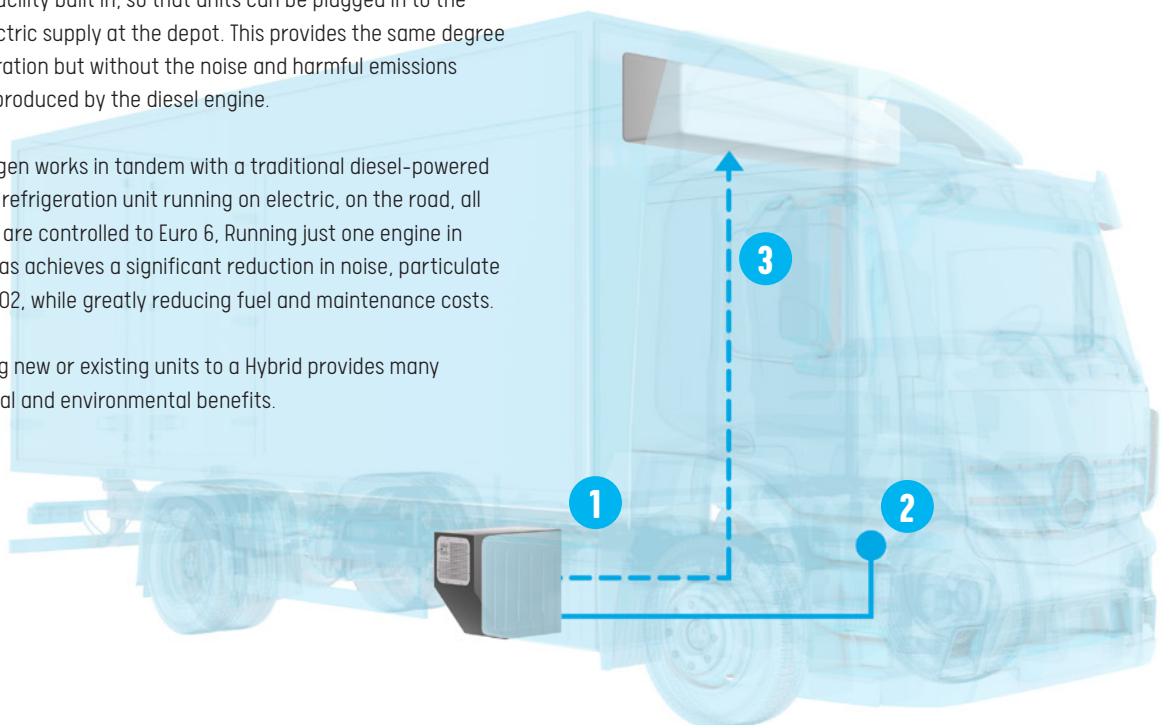
**Ecogen is a truck-powered hydraulic generator powered via the engine drive PTO. When combined with a traditional diesel transport refrigeration unit the complete system becomes a clean, hybrid, electric-powered refrigeration unit, during use on the road.**

Traditionally, diesel transport refrigeration units have an electric standby facility built in, so that units can be plugged in to the mains electric supply at the depot. This provides the same degree of refrigeration but without the noise and harmful emissions normally produced by the diesel engine.

When Ecogen works in tandem with a traditional diesel-powered transport refrigeration unit running on electric, on the road, all emissions are controlled to Euro 6. Running just one engine in urban areas achieves a significant reduction in noise, particulate NOx and CO2, while greatly reducing fuel and maintenance costs.

Converting new or existing units to a Hybrid provides many commercial and environmental benefits.

- 1 **Ecogen Lowline**
- 2 **Euro 6 Engine**
- 3 **Full Fridge Capacity even at Idle**



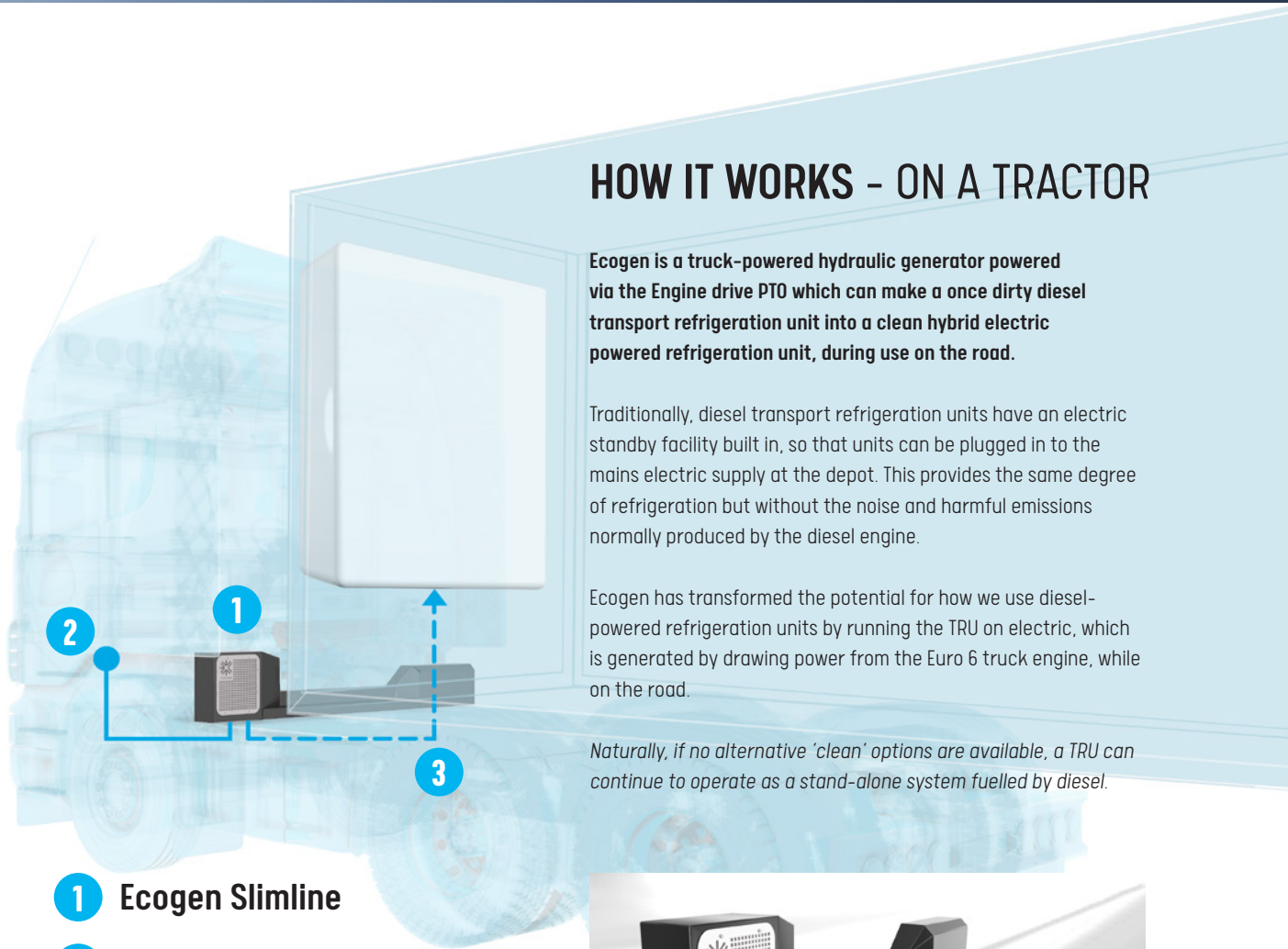


# Benefits

- ▶ 75% saving on diesel used
- ▶ Substantial carbon reduction
- ▶ 95% saving of particulate emissions
- ▶ Low noise
- ▶ Easily transfers to new trucks
- ▶ Extends fridge life expectancy
- ▶ Fits to any marque of truck or tractor\*

\* fitted with engine PTO

**DUTY BUSTER**  
HMRC withdraws the rebate on red diesel used for refrigerated transport on April 1st 2022.  
Users will face instant and massive cost increases as diesel prices shoot up.



## HOW IT WORKS - ON A TRACTOR

Ecogen is a truck-powered hydraulic generator powered via the Engine drive PTO which can make a once dirty diesel transport refrigeration unit into a clean hybrid electric powered refrigeration unit, during use on the road.

Traditionally, diesel transport refrigeration units have an electric standby facility built in, so that units can be plugged in to the mains electric supply at the depot. This provides the same degree of refrigeration but without the noise and harmful emissions normally produced by the diesel engine.

Ecogen has transformed the potential for how we use diesel-powered refrigeration units by running the TRU on electric, which is generated by drawing power from the Euro 6 truck engine, while on the road.

Naturally, if no alternative 'clean' options are available, a TRU can continue to operate as a stand-alone system fuelled by diesel.

- 1 Ecogen Slimline**
- 2 Euro 6 engine**
- 3 Full Fridge Capacity even at Idle**



Universal across your fleet  
Ecogen Slimline [30 KVA]



# On the road

"This is where environmental considerations and commercial efficiency meet. By retrofitting the Ecogen electric generator and effectively switching off the diesel fridge engines during transit, we not only save on fuel but also extend the life of each fridge by at least two years. All the while, cutting harmful emissions and making life better for our drivers and everybody around them."

*Mikael Nilsson, Vice President, Abbekås Åkeri.*

*Abbekås Åkeri operate 50 Scania and Volvo temperature-controlled vehicles and drawbar trailers, carrying mostly food products from Malmö in the south to Gothenburg and Stockholm in mid Sweden - making round trips of over 1,200 kms every day.*



"Of course, the fuel savings are great. However, the main reason for our interest in generators is not the fuel cost, but the environmental benefits which come with reduced emissions"

*Patrik Josefsson, Fleet Manager at Dagab*

*Dagab in Jönköping has 20 vehicles and 17 trailers on the road every week. The company is a part of the Axfood Group and delivers groceries to grocery stores all over Sweden.*





Trfrig  
VICE  
omelilla Örel

Manufacturer	Worlby
Body Model	CI 750
Body Serial Number	52025
Body-Production Week	03-201

For more info, please contact us.

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