






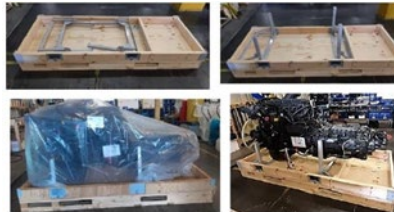

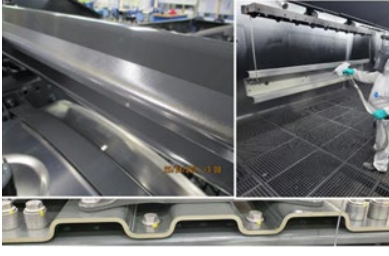




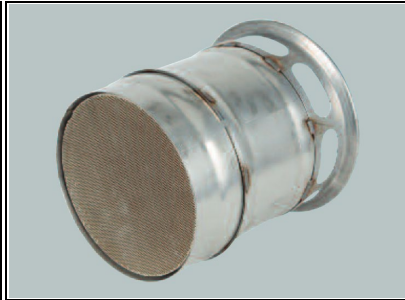
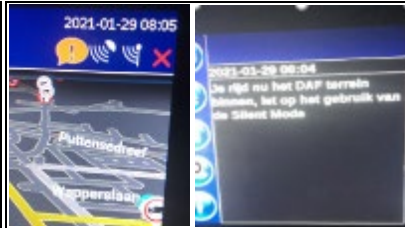


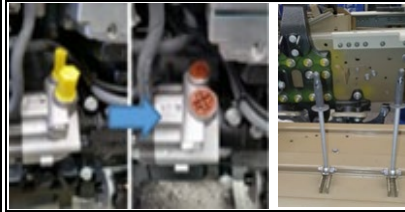







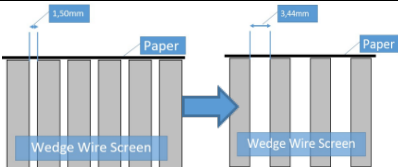
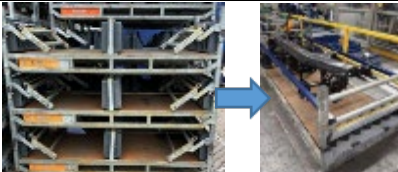
<p>2022</p>	<p>Waste segregation. A new waste disposal system for offices is launched in building C13, together with awareness sessions on how segregation of waste leads to reuse of materials and a smaller CO₂ footprint. The sorting of general waste into 5 separated types leads to an annual CO₂ emission reduction of 10.746 kg in this building alone.</p>	
<p>2022</p>	<p>Energy saving. Frequency convertors have been installed to reduce the speed of the fans with 30% during normal operation. Only when manual painting is required, the fan speed is returned to 100%. This saves 200,000 kWh/year of electricity.</p>	
<p>2022</p>	<p>Electrification of side loaders SMCP plant Eindhoven. Side loaders are used for the handling of longitudinal girders. The last LPG driven side loader has been replaced by an electrically driven side loader.</p>	
<p>2022</p>	<p>Grinding sludge camshafts Engine Plant Eindhoven Research based on composition has shown that the grinding sludge originating from the production of camshafts does not constitute hazardous (chemical) waste. The grinding sludge is now disposed of as industrial waste. As a result, the amount of hazardous (chemical) waste was reduced.</p>	


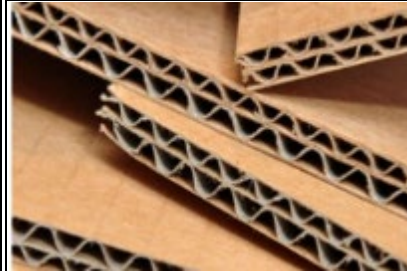
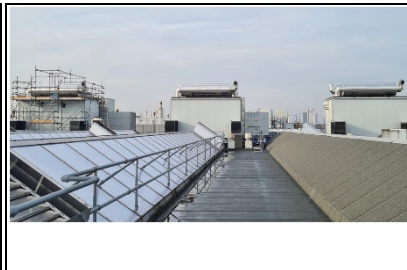

2022	<p>Energy saving: LED lighting. In several buildings, lighting has been replaced with LED lighting (A45, A50, A55, C08, C12 in Eindhoven, and Trimming Warehouse, parts of the Body and Axle factory in Westerlo).</p>	
2022	<p>DAF Trucks Westerlo rewarded 'The Happiest Place to Bike'. Flemish Minister of Mobility and Public Works Lydia Peeters handed out the corresponding certificate to the Cabin and Axle factory in Westerlo. "DAF has taken a pioneering role in the field of bicycle stimulation," said the minister.</p>	
2022	<p>Transport optimisation Logistics Eindhoven. A new type of box has been introduced as returnable packaging: the 4P box. The 4P is an alternative for the K6 box, which is 43 kg lighter than the K6 and can be folded more compactly than the K6. As a result, there is less transport weight and fewer number of transports are required.</p>	
2022	<p>Transport optimisation Logistics Eindhoven. One-way floors are no longer used for transportation, but returnable floors for engine blocks that are transported to Tatra.</p>	



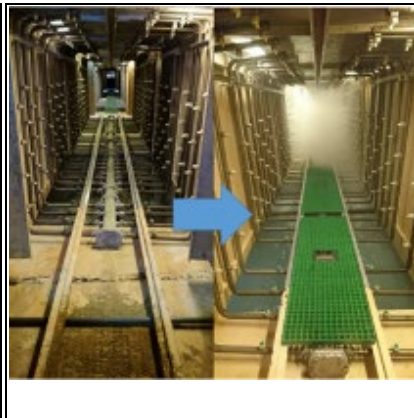
<p>2022</p>	<p>Usage of chemicals Axle plant Westerlo. After machining, wheel hubs are washed to remove chips and grease. To reduce environmental impact, a new phosphate-free cleaning agent has been introduced.</p>	
<p>2022</p>	<p>Reduction of paint usage SMCP plant Eindhoven. A new process was introduced in the Parts Paint Shop: from conventional spraying to electrostatic spraying, resulting in a significant increase of FROK (first run OK). Furthermore a paint reduction was achieved.</p>	
<p>2022</p>	<p>Transport optimisation Axle plant Westerlo. A universal rack has been designed that can be used for Eindhoven and Leyland transports. Because the new rack is lighter and smaller, more axle sets on a truck can be transported.</p>	
<p>2022</p>	<p>Fuel saving, temporary site Son. On the temporary site in Son fuel usage was reduced of a generator by placing smaller heater units, which are more fuel efficient (7L/h instead of 17L/h). Savings reduction of fuel consumption of 60%.</p>	
<p>2022</p>	<p>Reduction of the use of VOC containing cleaning agents (Nebol) at SMCP plant Eindhoven. A VOC containing cleaning agent has been replaced by a non VOC solvent-containing alternative (EM100+).</p>	





2022	<p>Energy saving. The temporary warehouse is heated by two gas-fired heaters. To reduce gas consumption, the temperature in the warehouse has been decreased from 21°C to 16 °C.</p>	
2021	<p>DAF Soot Filter Service: Improvement for the environment and for the customer. A particulate filter of a truck must be replaced between 180,000 and 540,000 km, depending on the use. Thanks to a special program at PACCAR Parts, the customer can have his particulate filter exchanged for a thoroughly cleaned filter that is just as clean as a new filter and has the same maintenance interval</p>	
2021	<p>Less noise by using DAF silent trucks. Transporter Jan de Rijk uses the “silent mode” as soon as the DAF truck enters the DAF Eindhoven site. The driver receives a message on the on-board computer to draw his attention to this. Driving in silent mode reduces noise from DAF Eindhoven site.</p>	
2021	<p>Saving of 3,600 liters of paint per year. In the Cabin Factory, changes in the spray program of the Cabin Paint Line and adjustments to the spray pattern mean that less white paint is needed to spray the cabins. The application of the paint is therefore more efficient and waste is prevented. This ultimately saves almost 3,600 liters of paint per year.</p>	



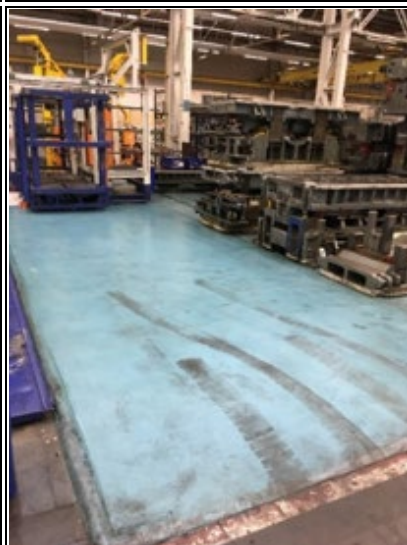
2021	<p>Saving energy by improving thermal insulation storage warehouse. The roof covering and roof insulation of the Central Storage Warehouse (COM) have been renovated. At the same time, the original air conditioning and heating system were replaced. This saves energy and thus reduces CO2. The COM is now ready to be fed via a low temperature generator, for example residual heat, ground heat or a heat pump.</p>	
2021	<p>Reusing plastic caps and plugs prevents waste and wastage. In the painting lines at DAF, masking tape and caps are used to cover screw threads before the products are painted. Both the Motorenfabriek and the Truckfabriek have now switched to the use of special plastic caps and plugs. These are reused. This prevents waste and wastage.</p>	
2021	<p>Environmentally friendly meal packaging in company restaurants. Hot meals in the company restaurants are served in a new, environmentally friendly takeaway box. These boxes are made from sustainable, compostable cardboard. The environmentally friendly boxes replace the white tempex boxes.</p>	
2021	<p>Less waste water by blowing off wet products. Axles are washed and rinsed in the Axle factory before they are painted. Contaminated water from the washing process on the axles is entrained in the rinsing process. Air knives placed between the washing and rinsing process blow away 50% of the polluted water on the washed axles, so that fewer regenerations of the demi-water installation are required (resulting in less waste water).</p>	




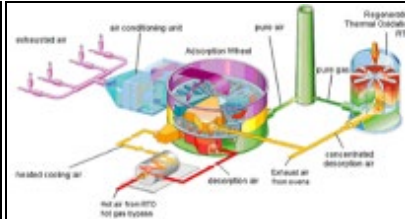
2021	<p>New cleaning agent, better for the environment. In the Engine factory a cleaning agent was replaced that operators use to clean tools and installation parts. The switch to the new agent is an improvement for the environment at the same cleaning quality.</p>	
2021	<p>DAF overhaul gives components a second life, now also for water pumps. A PACCAR Sig Sigma award in the Category Revenue was given to the Remanufacturing shop. Departments at PACCAR/DAF worked together to overhaul the two-stage water pump resulting in a better alternative than new water pumps.</p>	
2021	<p>New demi-water installation reduces the amount of waste water. In the Axle plant, a vacuum distillation unit has been integrated in the rewed demiwater installation of the axle paint shop. This unit removes a significant part of the pollution in the process water before sending it through the anion/cation of the demi water installation. Wastewater from the demiwater installation has been reduced from 750m³/year to less than 25 m³/year.</p>	
2020	<p>In the Engine Plant, Mayfran Coolant filtering system for MX-13 Cylinderhead Machining consumes an average of 660 rolls of filtering paper each year as a result of cool coolant flow. Improving the coolant flow through the wedge wire screen panels reduce the average consumption of paper roll to 264 per year.</p>	
2020	<p>In the Metal Sheet Component Plant, HY special packaging became obsolete for production. The obsolete HY packaging were modified to store the FUP safety stock. No investment in packaging was needed and the obsolete packaging was being re-used.</p>	



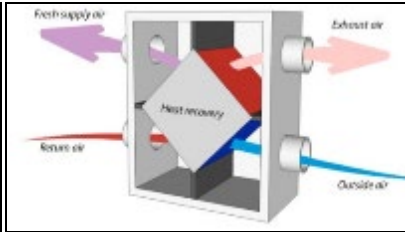

2020	In the Cab Plant, thinner for primer coat were delivered in 200 liter barrels. Thinner for primer coat are now delivered in containers of 1000 liters. Less waste of thinner and less handling to change barrels.	
2020	In the Engine Plant four layers of cardboard were used per pallet of cylinder blocks, after which the cardboard was thrown away. Due to a quick check, the cardboard layers can be reused, resulting in a 50% saving.	
2020	In the Engine Plant, on the engine test cells, new DeNOx and DPF (Diesel Particulate Filter) installations have been implemented.	
2020	Packaging material from the Engine Plant is supplied to the Sheet Metal Components Plant and reused. This spares the environment and saves costs.	



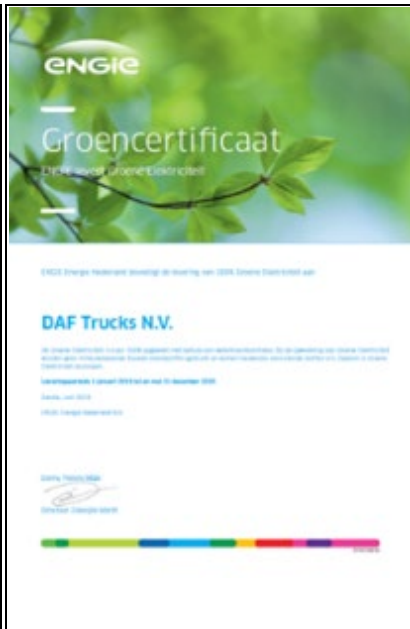
2020	<p>A new liquid and gas filling system has been installed in the Truck Assembly Plant. The new system results in less leakage of airco gas and is already suitable for future new airco gasses (e.g. R1234yf).</p>	
2020	<p>The final phase of the transition to LED lighting in the production buildings in Eindhoven has been successfully completed.</p>	
2019	<p>In the Component Paint Shop in Eindhoven, pretreatment with zinc phosphating was replaced by pretreatment with 'Oxsilan'. The switch to this new zinc and nickel-free pretreatment process results in less waste water pollution, less (chemical) waste and energy savings.</p>	

2019	New compressors in the boiler house produce much less noise and are more energy efficient than the original ones.	
2019	The introduction of LED lighting continued unabated in Westerlo, for example in the Cab Factory.	
2018	In Westerlo, an existing boiler was replaced by a new low-NOX boiler with increased efficiency.	
2018	The introduction of LED lighting continued unabated in Westerlo, for example in the Cab Factory: the trimming building.	

2018	In the boiler house in Eindhoven, two boilers were replaced by new, energy-efficient HR boilers.	
2018	So-called E-cubes were introduced in the Cab Paint Shop in Westerlo to collect paint particles. This makes this paint waste free from water, which has a positive effect on the amount of chemical waste.	
2018	The installation of liquid-tight floors continued in Eindhoven. These floors reduce the risk of soil contamination. Also in 2018, a considerable surface area was added, for example in the new-built extension to the Sheet Metal Component Factory.	

2018	<p>A new and state-of-the-art press was placed in the Sheet Metal Component Factory. To limit vibrations as much as possible, the press is equipped with computer-controlled cutting stroke damping and large spring packages.</p>	
2017	<p>In Eindhoven and Westerlo, a stretch of 25 kilometers of illumination was replaced and 13,000 LED luminaires were installed. The new luminaires use only 50 Watt, instead of 120 Watt. This means that more than 16,000 kWh is saved per production day.</p>	
2017	<p>The introduction of an assembled camshaft will result in substantial savings on metal waste in the Engine Factory: an average of 30 kilos per engine, or 1.2 million kilos in total on an annual basis.</p>	
2017	<p>Thanks to the advanced paint systems of DAF's new Cab paint shop in Westerlo, an emission reduction of 50% was achieved. Numerous innovative solutions have been applied, including a special method to reduce and absorb the inevitable 'overspray'. The latest technologies are also used to clean the air that leaves the spray booths. The warmth that is released during this process is recovered and reused for heating the baths in the pre-treatment.</p>	

2017	In Eindhoven, two low noise and energy saving compressors have been installed in the Boiler House. This results in a reduction of noise emission and energy use.	
2016	In Westerlo, a new environmental permit for the new Cab Paint Shop has been received. This Paint Shop will be the most ecological paint shop for truck cabs in the world.	
2016	In Westerlo, a number of energy saving projects has been realized. In the Body Plant, the roof has been renovated and an old compressed air compressor and a boiler have been replaced by new energy saving equipment. In the Trimming, a new air handling unit is placed enabling heat recovery.	
2016	In Eindhoven, the installation of liquid tight floors continues for machines in the Engine Plant, the Tool Shop and the Hardening Shop. These floors reduce the risk of soil pollution. Also preparations are made for the execution of soil remediation in the Sheet Metal Component Plant.	

<p>2016</p>	<p>DAF financially contributes to new asphaltting with low noise asphalt of the road “Geldropseweg” in Eindhoven. This resulted in an expansion of the noise limits for the premises in Eindhoven/Geldrop in the Development Plan.</p>	
<p>2016</p>	<p>In Eindhoven, two gas fueled ovens in the Hardening Shop are replaced by electrical ovens. This results in a reduction of CO₂ emission on the location.</p>	
<p>2016</p>	<p>On all locations of DAF in the Netherlands (Eindhoven, Geldrop, Sint Oedenrode), green power (with Guaranties of Origin) is supplied.</p>	

2015	In Westerlo, the construction of a new Cab Paint Shop has started, which will ultimately result in a significant reduction of hydrocarbon emission.	
2015	In Eindhoven, 5 boilers of the Central Boiler House are replaced by 4 new ones. The new boilers emit less NOx and use 10% less gas. The emission of CO ₂ is linked with gas consumption directly, so also the CO ₂ emission will be reduced with 10%. This contributes to the PACCAR environmental objective to realize a reduction of 15% CO ₂ per unit of revenue in 2020.	
2015	In Eindhoven, dunnage was reduced by more use of returnable pool packaging. At the Sheet Metal Component Plant, several Six Sigma projects result in a significant reduction of metal waste.	
2015	In Westerlo, a closed system for recirculation of cooling water is realized. This results in a reduction of consumption of drinking water.	
2015	As part of the Energy Policy Agreement, heat recovery on the air compress is realized. This results in a further reduction of energy consumption and contributes to the PACCAR environmental objective to realize a reduction of 15% CO ₂ per unit of revenue in 2020.	
2015	In Eindhoven, 8 of 12 test cells of the Engine Test Centre have been replaced by generators. This contributes to the PACCAR environmental objective to realize a reduction of 15% CO ₂ per unit of revenue in 2020.	
2013-2016	In Eindhoven, LPG forklift trucks are replaced by electrical forklift trucks, resulting in a further reduction of CO ₂ emission on site.	
2013	In the Eindhoven, the new PACCAR Parts Distribution Centre becomes operational. Compared to the building it replace, electricity consumption is reduced by 50%, and natural gas consumption by no less than 90%.	
2012-2013	In Westerlo, the waste water treatment of the Cab Paint Shop has been improved significantly. This results in large saving of fresh (washing) water consumption and cleaner waste water.	
2012	In the Engine Plant in Eindhoven, a "Dissolved Air Flotation Unit" is placed for separation of the waste fluid of machining installations into water and solid particles. This method results in cleaner waste water and less waste.	

2011-2014	In Eindhoven en Westerlo, all (infrastructural) cooling units, still using cooling liquid R22, are replaced. Refilling of this cooling liquid is banned per 2015, because it can deteriorate the ozone layer in case of leakage.	
2010-2014	In Eindhoven, impervious floors are realized on more than 60 locations.	
2010	In Eindhoven and Westerlo, the consumption of energy is reduced with 12% per truck in comparison with 2009.	
2008	As of October 1st, waste to landfill has been reduced to zero. All waste is recycled, used as raw material or building material or used for the generation of energy through incineration. This applies for all production facilities in both Eindhoven and Westerlo. In the end of January 2009, DAF Trucks N.V. receives the official statement from Lloyd's Register Netherlands that it has achieved 'Zero Waste to Landfill'.	
Since 2008	In Eindhoven, participation in CO ₂ Emission trading system and verification of data by an external verification body.	
As of 2008	Since 1 January Green Energy is used at the test circuit in Sint-Oedenrode (NL).	
2007	Instead of the usual truck industry norm of using water brakes, in the test cells of DAF's new engine test facilities, use is made of electrical engine brakes, which can also function as dynamos. These brakes can deliver up to twenty per cent of the total electricity requirement of DAF in Eindhoven.	
2007	In order to further reduce chemical waste, central cooling liquid cleaning is applied in the Engine Plant, thereby making the annual replacement of cooling emulsion superfluous. For the treatment of the cooling emulsion advanced ultra filtration technologies are used as well.	
2005-2013	In Eindhoven, participation in NO _x Emission trading system and verification of data by an external verification body.	
2005	A further reduction in (particulate) dust emissions and a reduction in heat loss through the use of modern 'closed loop' filter systems.	
2004	Use of liquid-tight facilities for minimising the risk of soil pollution.	

2003	In Eindhoven, the use of drinking water is drastically reduced by using canal water for the cooling processes. In Westerlo, the use of drinking water is reduced by fitting valves to the machines in the axle factory.	
As of 2002	The implementation of various large-scale energy-saving measures, such as the commissioning of energy-saving test cells in the engine factory, the insulation of various buildings and the demolition of a few old buildings. In addition, the reduction in the temperature of the hot water systems leads to considerable energy savings.	
As of 2000	Reduction in heavy metal discharge in Eindhoven: as a result of chromium-free passivation in the side-members paints shop (2000) and the components paint shop (2005); the waste water from DAF in Eindhoven no longer contains any chromium.	
2000	New axle paint shop in Westerlo, in which low emission paints are used.	
As of 2000	Removal of remaining underground tanks at DAF's engine factory in Eindhoven and the test circuit in Sint Oedenrode. These tanks were replaced with above-ground tanks for storing diesel oil, engine oil, spent oil and domestic fuel oil.	
1999	Test remediation of soil contamination in Eindhoven by stimulating biological breakdown.	
As of 1999	In 1999, the new engine paint shop is commissioned in Eindhoven, for low emission painting. As of 2002, low emission paints are also used in the chassis paint shop.	
1997	Switch to water based paints in the paint shops for the chassis side members	
1995	Opening of new chassis paint shop for the use of water based paints.	
1994	Switch to high-solid paints in various paint shops. These paints have a lower percentage of solvents, resulting in reduced solvent emissions.	
1994	Phased soil remediation in Eindhoven.	
1990	Cool water recirculation systems for use in engine test cells etc.	
1975	Waste water treatment in various production processes.	
1970	Energy saving through insulation of buildings and heating control systems.	