

Trucker

Occupation | Technology | Passion

verkehrs RUNDSCHAU

Magazine for conveyance, transport and logistics



SPECIAL EDITION



GREEN TRUCK

1850 HP RACE

The Green Truck Award is presented annually: the most environmentally friendly and efficient tractor unit is selected — it's a close, neck-and-neck race

A close race

For Green Truck, TRUCKER annually selects the most environmentally friendly and efficient articulated lorry. DAF, MAN, Scania and Volvo Trucks have stepped up — and are competing in a close, neck-and-neck race. ▶



SCANIA 460 R SUPER

VOLVO FH 460 I-SAVE

DAF XF 450

MAN TGX 18,480



First place



The new DAF is already based on the new European length regulations for trucks

the MX-11 engine with a volume of "only" 10.8 litres. This is an advantage that particularly pays off in the weight evaluation that we will come to later.

On the road, however, the XF has no trouble keeping up with its competitors with larger-capacity engines. On the contrary, it has the second fastest average speed in the field. However, this is likely to change at a full 40 tonnes, as experience shows that the small DAF engine will die faster. However, if you have never reached—or only rarely reach—this limit, the MX-11 is a safe bet.

The MAN is also not going into the test unprepared. Only shortly before the start of the test, its D26 diesel engine received what was probably its last update before the new group engine developed by Scania is eventually also brought over in the TGX. In the course of the upgrade, the D26 was given an increase of 10 HP and 50 Newton meters. However, the internal engine improvements are more important here. The new low-friction pistons

for lower intra-engine friction are only mentioned here as examples. Measures that pay off at least during the test round, because with a low diesel consumption of 21.10 l/100 km, the Munich vehicle is a real challenge for the competition.

MAN WITH REDUCED TORQUE

Another technology that can be selected in the "Efficiency+" eco-programme certainly contributes to this. Once the torque reduction has been applied, the 2450 Newton meters of the 480-MAN can only play out their full powers in rare cases. Namely, when the on-board computer on Bergen, using the GPS speed limiter data, comes to the conclusion that downshifting can be prevented by using the full torque. If this is not the case, the torque is always limited to 2100 Newton meters. According to MAN, though many drivers do not like this, it does noticeably reduce fuel consumption.

The DAF XF also has a similar system on board, but in combination with a smaller MX11 diesel engine, the reduction in torque would have meant

6.97

tonnes is all that the DAF XF 450 weighs

Does the future belong to the electric truck? In a few years' time, the electric vehicles are likely to overtake the combustion engine. However, there is still a lack of vehicle options, to say nothing of a comprehensive charging infrastructure for heavy trucks.

Until both have been achieved, diesel remains the standard, which is why it is still the drive type chosen for the Green Truck Award, which TRUCKER awards annually together with its sister magazine VerkehrsRundschau. And, we can reveal this much: the six-cylinder inline models from the four participating manufacturers are more impressive than ever, with not a trace of the discontinued model!

Why are only four of the now eight well-known manufacturers in Europe competing here? We don't know, but they were of course all invited to the environmental competition. Perhaps Turin, Lyon, Wörth am Rhein and Türkiye looked at the high level of DAF, MAN, Scania and Volvo Trucks and how close the race would be?

Our Krone curtain-side truck is responsible for the transport task to be completed on the standardised TRUCKER Super Test Round. When loaded with 24 tonnes, it is not too heavy, which explains why all four manufacturers are racing with a conventional engine output between 450 and 480 HP. Of course, a full spoiler is part of the good sound, so that the air stream has as few "hiding places" as possible. There is also

DAF relies on its small MX-11 diesel

almost total unity in terms of the cab — with the exception of the Volvo FH, which has stepped up with the large Globetrotter XL, MAN, DAF and Scania are sending their medium-sized cabins into the race. Why? Because these high-roof cabins offer ample space, but more importantly they are not too high in front of the trailer. This allows for flatter spoiler angles, which have a positive effect on the aerodynamics.

THE DAF IS ALREADY AHEAD

Speaking of aerodynamics, DAF is gaining ground with another wildcard: The newly developed Dutch vehicle is the only one of the four—or even on the market—to already comply with the new length rules in Europe. Among other things, these allow for a few centimetres longer length for aerodynamic measures. The front of the DAF is pulled forward by 16 centimetres and rounded off in a wedge shape. This reduces air flow and consumption.

The XF also bucks the trend with its drive. Where its three competitors rely on six-cylinder engines with a displacement of between 12.4 and 12.8 litres, DAF decided to downsize the test vehicle to

Second place



The Scania is going the highest speed

21.1

l/100 km of diesel consumption is what the MAN TGX has at 18,480

too big a reduction in speed, which is why Eindhoven decided not to use the energy-saving technology during the test drive. This also explains the relatively high average speed of the DAF, which has already been mentioned.

Reducing torque is also part of the eco-strategy at Volvo Trucks. Only the

dynamic torque reduction in the FH works more intelligently because it is not set to a fixed value, but recalculates the necessary torque for each gradient to climb the mountain "in the right combination of speed and consumption", as the manufacturer's marketing puts it.

We cannot judge whether the Volvo system has the same savings potential as the MAN system, but it is clear that the reduction in torque behind the Gothenburg wheel is less noticeable.

VOLVO WITH TURBOCOMPOUND

Perhaps this has to do with the fact that the Volvo gives the most confident impression on slopes anyway. More than 1200 revolutions are rarely available in the FH, even at steep slopes. This is due to the turbocompound turbine downstream of the turbocharger, which is boosted by the exhaust gases that are still hot, and which transmits the additional power generated directly to the crankshaft. The total nominal power plus

200 Newton metres is, however, part of the optional "I-Save" package at Volvo Trucks.

Scania already abandoned turbocompound technology several years ago, but at that time it was used more to improve performance than to reduce consumption. In Södertälje, it also appears that torque reduction is (still?) not a topic of interest. This is probably one reason why the 460 R Super has the fastest average speed on asphalt.

Maybe a touch too fast? This time round, the otherwise successful manufacturer is surprisingly in last place when it comes to consumption.

For this, the gripper drive deserves the honour of the most up-to-date design. And it too does well with a unique selling point that should have a positive effect on fuel consumption. This is in the new G25 gearbox, which Scania introduced together with its new "Super" engine. The 12-speed box has an additional overdrive function in the highest gear. This reduces the speed ▶



The MAN TGX proves to be the most economical representative of the test four



TEST TRACK



FUEL CONSUMPTION AND SPEED

	1st leg 74.3 km medium	2nd leg 80.8 km hilly	3rd leg 100.2 km rolling leg	4th leg 50.5 km country road	5th leg 37.0 km easy	Total 342.8 km
DAF	l/100 km: 20.71 km/h: 85.00	l/100 km: 22.96 km/h: 83.98	l/100 km: 21.26 km/h: 83.92	l/100 km: 18.83 km/h: 62.05	l/100 km: 21.91 km/h: 84.51	l/100 km: 21.26 km/h: 80.06
Scania	l/100 km: 20.79 km/h: 85.73	l/100 km: 22.70 km/h: 84.28	l/100 km: 21.89 km/h: 84.90	l/100 km: 19.27 km/h: 62.75	l/100 km: 22.64 km/h: 84.96	l/100 km: 21.54 km/h: 80.74
MAN	l/100 km: 20.50 km/h: 84.64	l/100 km: 22.35 km/h: 84.17	l/100 km: 21.11 km/h: 83.60	l/100 km: 19.15 km/h: 62.19	l/100 km: 22.15 km/h: 84.51	l/100 km: 21.10 km/h: 79.98
Volvo	l/100 km: 20.90 km/h: 84.11	l/100 km: 22.45 km/h: 85.23	l/100 km: 21.28 km/h: 83.51	l/100 km: 19.31 km/h: 61.71	l/100 km: 22.70 km/h: 84.47	l/100 km: 21.34 km/h: 79.95

Consumption without AdBlue content, total test weight: 32 tonnes

GREEN TRUCK 2023

Manufacturer/type	Euro standard	Consumption	AdBlue consumption	Speed	Weight	Fuel Economy*	CO ₂ e
DAF XF 450	Euro 6e	21.26 l/100 km	1.32 l/100 km	80.06 km/h	6975 kg	1.330	675 g/km
Scania 460 R Super	Euro 6e	21.54 l/100 km	2.53 l/100 km	80.74 km/h	6985 kg	1.324	684 g/km
MAN TGX 18,480	Euro 6e	21.10 l/100 km	1.59 l/100 km	79.98 km/h	7200 kg	1.322	670 g/km
Volvo FH 460 I-Save	Euro 6e	21.34 l/100 km	1.26 l/100 km	79.95 km/h	7060 kg	1.320	677 g/km

* Average speed/(2 x consumption) + (0.172 x AdBlue consumption) + (unladen weight/400), CO₂e = CO₂ equivalents



at cruising speed to just over 800 revs, which was considered impossible not too long ago.

The new DC13 six-cylinder engine can cope no problem, but the Opticruise control system only enacts the overdrive

Torque reductions reduce fuel consumption

in certain situations, specifically when the train is on a level surface or even better on a slight slope. The auxiliary gear then reduces the engine resistance in the fuel-neutral overrun cut-off, where the competition has to resort to the Eco-Roll mode, in which the engines consume some fuel when idling.

Scania also has dynamic speed control in the stage, "Pulse and Glide". The electronics accelerate the train to plus 3 km/h above the set cruise control speed of 85 km/h, then switch to eco-roll and let the vehicle roll to 82 km/h. The vehicle then accelerates again and

the game starts from the beginning. The person behind the steering wheel needs to get used to it, but it saves a lot of fuel.

You can see the same in Volvo Trucks and MAN, which is why they prescribe similar systems for their trucks. Only Eindhoven doesn't opt for this solution, which is why the DAF XF maintains the 85 km/h stoically.

To date, AdBlue consumption has not played a role in the Green Truck Award, but that changes this year. Although the urea in the truck burns in a climate-neutral manner, a significant amount of natural gas is burned during its production. The amount of this factor was calculated by the Technical University of Munich and included in the Green Truck calculation formula (see page 21).

This weighs particularly on Scania. To lower diesel consumption, the developers opted for the hottest possible combustion, which, however, means that the new engine requires a doubled AdBlue injection to eliminate the nitrogen oxides in compliance

with Euro 6e. The logical consequence is a correspondingly higher urea consumption compared to competitors.

UNDER SEVEN TONNES

The last evaluation point for the Green Truck Award is the unladen weight of the test articulated lorries. Here, the manufacturers DAF and Scania in particular made the most of the configuration, or rather, got rid of what they could. This is why the XF and the 460 R lack some equipment that should be mandatory in long-distance vehicles, such as the cooler box or a roof hatch.

On the other hand, it is possible to reduce the dead weight of the articulated lorries to just under seven tonnes. In addition, the DAF can take advantage of another benefit of its lower displacement engine. The more compact engine weighs just under 180 kilograms less than the manufacturer's larger MX-13 six-cylinder engine.

At 7.2 tonnes, the MAN weighs the most on the scales and on the road. However, this is also due to the retarder, which the TGX is the only one to have on board on the Green

Truck test field. We don't understand why, seeing as the Munich vehicle also has a powerful engine brake up its sleeve. In any case, the MAN's decision for the retarder is based on the final result, because, as already mentioned, the TGX 18,480 leads the field in terms of consumption.

However, given that the DAF and Volvo are both only a tiny pace behind the MAN, this little advantage is not enough in the end. The XF, on the other hand, scores points in each category. The second lowest diesel consumption, coupled with the second highest average speed, is added to the

low weight. At 1.32 l/100 km, the Dutch vehicle doesn't need to be ashamed of its AdBlue consumption.

THE TROPHY GOES TO DAF

In the end, this was the most important economic factor, which is why in 2023 the trophy goes to Eindhoven. At the same time, it is also a victory for the new European rules on length, which the DAF already fulfils. Of course the competition is working hard on its own "noses", which may be racing at the Green Truck 2024. By contrast, the diesel engine is likely to remain in place in the coming year. **JB**

CONCLUSION



TRUCK tester
Jan Burgdorf

To be honest, this does not come as a surprise: The latest truck design on the European market is, at the end of the day, at the front. This is the first time DAF has won the coveted title in the history of the Green Truck Award. Congratulations to Eindhoven for this success!

Test with reference

At the time of the Green Truck test drives, our previous Mercedes-Benz Actros 1845 Stream-Space was the reference, combined with a Schmitz-Cargobull curtain side. With the combination, which has been unloaded to 38 tons, we have experienced consumption values under good conditions. If this changes during the test, we know that the test truck has different

conditions. We can use the ratio of the change to obtain the values of the test trucks on a uniform basis. Advantage: Our data is comparable. We don't think it's worth comparing values that were collected without reference under changing conditions. The test with reference trucks is only available in the technical press at our company and is also practised by industry.



Our Actros has now been replaced by its successor, a Volvo FH 460 I-Save, with a new Schmitz-Cargobull trailer.



Leading by example:

TRUCKER compensates for the CO2 in the tests by means of certificates. The compensation goes into a wind energy project via supplier ClimatePartner. We owe it to the environment, to save it even when we drive!

TECHNICAL DATA

	DAF	MAN	SCANIA	VOLVO
Engine				
Type	Paccar MX-11	D2676	DC13 175 460	D13 T460 Turbo-TC
Charging	Single turbocharger	Single turbocharger	Single-stage turbocharger	Turbo with wastegate and turbocompound
Cylinder capacity	10,800 cm3	12,419 cm3	12,740 cm3	12,800 cm3
Rated power	449 HP (330 kW) at 1600 rpm	480 HP (353 kW) at 1800 rpm	460 HP (338 kW) at 1800 rpm	460 HP (338 kW) at 1240–1600 rpm
Max. torque	2350 Nm at 900–1125 rpm*	2450 Nm at 930–1350 rpm	2500 Nm at 900–1290 rpm	2600 Nm at 900–1240 rpm
Bore x stroke	123 x 152 mm	126 x 166 mm	130 x 160 mm	131 x 158 mm
Compression	N/A	15.5:1	23.0:1	18.0:1
Hazardous substances standard	Euro 6e	Euro 6e	Euro 6e	Euro 6e
Exhaust gas purification	SCR catalytic converter, EGR, particle filter	SCR catalytic converter, soft EGR, particle filter	SCR only (twin SCR), particle filter	SCR catalytic converter, cooled EGR, particle filter
GEARBOX				
Manufacturer	ZF	ZF	Scania	Volvo Group
Type	Traxon	Tip-Matic 12.26 DD	Opticruise G25CM	I-Shift AT2612F
Forward gears	12	12	12 plus overdrive	12
Reverse gears	2	2	4 (optional 8)	4
Rear axle ratio	i=2.21	i=2.31	i=2.31	i=2.31
CABIN				
Type	Sleeper High cab	GM	R Highline	GlobetrotterXL
RETARDER				
Engine Brake	MX engine brake	EVBeC	CRB	VEB+
Power	340 kW at 2100 rpm	305 kW at 2400 rpm	343 kW at 2400 rpm	430 kW at 2300 rpm
Retarder installed	No	Yes	No	No
MASS AND WEIGHTS				
L x W x H	6080 x 2500 x 3766 mm	6007 x 2500 x 3854 mm	5960 x 2250 x 3698 mm	5890 x 2495 x 3932 mm
Weight (incl. 400 l diesel, 60 l AdBlue)	6975 kg	7200 kg	6985 kg	7060 kg

* Gear 1–11: 2200 Nm at 900–1400 rpm

The transport task for the Green Truck 2023 is carried out by our 24-ton Krone test trailer



©All pictures: VerkehrsRundschau/fer in f. Leischmann



A close race

VR invites competitors to the Green Truck comparison test every year. This includes consumption, speed and the unladen weight of the articulated lorry. This year, four manufacturers are competing against each other.

Coming soon

VerkehrsRundschau has been awarding the Green Truck Award annually since 2011. The editors do not rely on the manufacturer's specifications, but determine all the measured values and consumption values that count for the evaluation themselves.

Is environmentally friendly transport only possible with alternative drive types? We don't think so. An articulated lorry with a conventional diesel combustion engine can also contribute to the urgent relief of the climate, no question. In addition, the supply of heavy battery electric trucks, let alone those with hydrogen-based fuel cell drive, is not practical. A comprehensive network of E-Charging pedestals or H2 filling stations is also not yet available, which is why diesel remains the standard in goods transport for the time being.

DAF, MAN, Scania and Volvo

Because we test what our readers drive in everyday life, the diesel engine was also written into the tender for the 2023 edition of the Green Truck. VerkehrsRundschau awards the title annually together with its sister magazine TRUCKER and, we can reveal this much: the six-cylinder inline models from the four participating manufacturers are more impressive than ever, with not a trace of the discontinued model! Why are only four of the now eight well-known manufacturers in Europe competing here? We don't know, but



Test with reference truck

In the Green Truck test drives, our Mercedes-Benz Actros 1845 StreamSpace was the reference, combined with a Schmitz-Cargobull trailer. The VR test round was completed in good weather conditions. If the consumption values of the reference truck on the test day are above or below this value, it is clear that the test vehicle had better or worse conditions, which can be calculated back accordingly.

they were of course all invited to the environmental competition. Perhaps Turin, Lyon, Wörth am Rhein and Türkiye looked at the high level of DAF, MAN, Scania and Volvo Trucks and how close the race would be?

Performance ratings between 450 and 480 HP

Our Krone curtain-side truck is responsible for the transport task to be completed on the VerkehrsRundschau standardised professional test round. When loaded with 24 tonnes, it is not too heavy, which explains why all four manufacturers are racing with a conventional engine output between 450 and 480 HP. Of course, a full spoiler is part of the good sound, so that the air stream has as few "hiding places" as possible. There is also

almost total unity in terms of the cab — with the exception of the Volvo FH, which has stepped up with the large Globetrotter XL, MAN, DAF and Scania are sending their medium-sized cabins into the race. Why? Because these high-roof cabins offer ample space, but are not too high in front of the trailer. This allows flatter spoiler angles, which have a positive effect on the aerodynamics. Speaking of aerodynamics, DAF is gaining ground with a wildcard: The newly developed Dutch vehicle is the only one of the four—or even on the market—to already comply with the new length rules in Europe. Among other things, these allow for a few centimetres longer length for aerodynamic measures. The front of the DAF is pulled forward by 16 centimetres and rounded off in a wedge shape. This reduces air flow and consumption.

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DAF dispenses with displacement

The XF also bucks the trend with its drive. Where MAN, Scania and Volvo Trucks sent their six-cylinder engines with a displacement of between 12.4 and 12.8 litres into the race, DAF decided to downsize the test vehicle to the MX-11 engine with a volume of "only" 10.8 litres. This is an advantage that particularly pays off in the weight evaluation that we will come to later. On the road, however, the XF has no trouble keeping up its competitors with larger-capacity engines. On the contrary, it has the second fastest average speed in

the field. However, this is likely to change at a full 40 tonnes, as experience shows that the small DAF engine will die faster. However, if you have never reached—or only rarely reach—this limit, the MX-11 is a safe bet. The MAN is also not going into the Green Truck comparison unprepared. Only shortly before the start of the test, its D26 diesel engine received what was probably its last update before the new group engine developed by Scania is eventually also brought over in the TGX. In the course of the upgrade, the D26 was given an increase of 10 HP and 50 Newton meters.

However, the internal engine improvements are more important here. The new low-friction pistons for lower intra-engine friction are only mentioned here as examples. Measures that pay off at least during the test round, because with a low diesel consumption of 21.10 l/100 km, the Munich vehicle is a real challenge for the competition.

Full torque only when it makes sense

Another technology that can also be selected in the "Efficiency+" eco-programme certainly contributes to this. Once the torque reduction has been applied, the 2450 Newton metres of the 480-MAN can only play out their full powers in rare cases. Namely, when the on-board computer on Bergen, using the GPS speed limiter data, comes to the conclusion that downshifting can be prevented by using the full torque. If this is not the case, the torque is always limited to 2100 Newton meters. According to MAN, though many drivers do not like this, it does noticeably reduce fuel consumption. The DAF XF also has a similar system on board, but in combination with a smaller MX11 diesel engine, the reduction in torque would have meant too big a reduction in speed, which is why Eindhoven decided not to use the energy-saving technology during the test drive. This also explains the relatively high average speed of the DAF, which has already been mentioned.



The Scania has the fastest average speed



At 21.10 l/100 km, the MAN TGX 18,480 consumes the least diesel in the test

Turbocompound in Volvo FH

Reducing torque is also part of the eco-strategy at Volvo Trucks, and it works more intelligently in the FH because the reduction is not set to a fixed value, but recalculates the necessary torque for each gradient to climb the mountain "in the right combination of speed and consumption", as the manufacturer's marketing puts it.

We cannot judge whether the Volvo system has the same savings potential as the MAN system, but it is clear that the reduction in torque behind the Gothenburg wheel is less noticeable. Perhaps this has to do with the fact that the Volvo gives the most confident impression on slopes anyway. More than 1200 revolutions are rarely available in the FH, even at steep slopes. This is due to the turbocompound turbine downstream of the turbocharger. This uses the exhaust gases that are still hot after the turbo and transmits the additional power generated directly to the crankshaft. The total nominal power plus 200 Newton metres is, however, part of the optional "I-Save" package at Volvo Trucks. Scania already abandoned turbocompound technology several years ago, but at that time it was used more to improve performance than to reduce consumption. In Södertälje, it also appears that torque reduction is (still?) not a topic of interest.

This is probably one reason why the 460 R Super has the fastest average speed on asphalt. Maybe a touch too fast? This time round, the otherwise successful manufacturer is surprisingly in last place when it comes to consumption.

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Scania opts for overdrive

For this, the gripper drive deserves the honour of the most up-to-date design. And it too does well with a unique selling point that should have a positive effect on fuel consumption. This is in the new G25 gearbox, which Scania introduced together with its new "Super" engine. The automated 12-speed box has an additional overdrive function in its highest gear. This reduces the speed at cruising speed to just over 800 revs, which was considered impossible not too long ago. The new DC13 six-cylinder engine can cope no problem, but the Opticruise control system only enacts the overdrive in certain situations, specifically when the train is on a level surface or even better on a slight slope. The auxiliary gear then reduces the engine resistance in the fuel-neutral overrun cut-off, where the competition has to resort to the Eco-Roll mode, in which the engines consume some fuel when idling.

Energy-saving technology even on flat routes

Scania also has dynamic speed control ▶





in the stage, "Pulse and Glide". The electronics accelerate the train to plus 3 km/h above the set cruise control speed of 85 km/h, then switch to eco-roll and let the vehicle roll to 82 km/h. The vehicle then accelerates again and the game starts from the beginning. The person behind the steering wheel needs to get used to it, but it saves a lot of fuel. You can see the same in Volvo Trucks and MAN, which is why they have prescribed similar systems for their trucks. Only Eindhoven doesn't opt for this solution, which is why the DAF XF maintains the 85 km/h stoically.

but that changes this year. Although the urea in the truck burns in a climate-neutral manner, a significant amount of natural gas is burned during its production. The amount of this factor was calculated by the Technical University of Munich and included in the Green Truck calculation formula (see page 72). This weighs particularly on Scania. To lower diesel consumption, the developers opted for the hottest combustion, which, however, means that the new engine requires a doubled AdBlue injection to eliminate the nitrogen oxides in compliance with Euro 6. The logical consequence is a correspondingly higher urea consumption compared to competitors.

Consumption and speed			
DAF	Scania	MAN	Volvo
			
1st leg: 74.3 km medium			
I/100 km: 20.71 km/h: 85.00	I/100 km: 20.97 km/h: 85.73	I/100 km: 20.50 km/h: 84.64	I/100 km: 20.90 km/h: 84.11
2nd leg: 80.8 km hilly			
I/100 km: 22.96 km/h: 83.98	I/100 km: 22.70 km/h: 84.28	I/100 km: 22.35 km/h: 84.17	I/100 km: 22.45 km/h: 85.23
3rd leg: 100.2 km rolling leg			
I/100 km: 21.26 km/h: 83.92	I/100 km: 21.89 km/h: 84.90	I/100 km: 21.11 km/h: 83.60	I/100 km: 21.28 km/h: 83.51
4th leg: 50.5 km country road			
I/100 km: 18.83 km/h: 62.05	I/100 km: 19.27 km/h: 62.75	I/100 km: 19.15 km/h: 62.19	I/100 km: 19.31 km/h: 61.71
5th leg: 37.0 km easy			
I/100 km: 21.91 km/h: 84.51	I/100 km: 22.64 km/h: 84.96	I/100 km: 22.15 km/h: 84.51	I/100 km: 22.70 km/h: 84.47
Total 342.8 km			
I/100 km: 21.26 km/h: 80.06	I/100 km: 21.54 km/h: 80.74	I/100 km: 21.10 km/h: 79.98	I/100 km: 21.34 km/h: 79.95

Consumption without AdBlue content, total test weight: 32 tonnes

Somewhat spartan

The last evaluation point for the Green Truck is the unladen weight of the test articulated lorries. Here, the manufacturers DAF and Scania in particular made the most of the configuration, or rather, got rid of what they could. This is why the XF and the 460 R lack some equipment that should be mandatory in long-distance vehicles, such as the cooler box or a roof hatch. On the other hand, it is possible to reduce the dead weight of the articulated lorries to under the seven tonnes mark. In addition, the DAF can take advantage of another benefit of its lower displacement engine. The more compact engine weighs just under 180 kilograms less than the manufacturer's larger MX-13 six-cylinder engine. At 7.2 tonnes, the MAN weighs the most on the scales and on the road. However, this is also due to the retarder, which the TGX is the only one to have on board on the Green Truck test field. We don't understand why, seeing as the Munich vehicle also has a powerful engine brake up its sleeve. In any case, the MAN's decision for the retarder is based on the final result, because, as already mentioned, the TGX 18,480 leads the field in terms of consumption. However, given that the DAF and Volvo are both only a tiny pace behind the MAN, this little advantage is not enough in the end. The XF, on the other hand, scores points in each category. The

second lowest diesel consumption, coupled with the second highest average speed, is added to the low weight. At 1.32 l/100 km, the Dutch vehicle doesn't need to be ashamed of its AdBlue consumption.

The victory goes to Eindhoven

In the end, this was the most important economic factor, which is why in 2023 the trophy goes to Eindhoven in the Netherlands. At the same time, it is also a victory for the new European rules on length, which the DAF already fulfils. Of course the competition is working hard on its own "noses", which may be racing at the Green Truck 2024. By contrast, the diesel engine is likely to remain in place in the coming year.

jb ■■■

Conclusion



Jan Burgdorf, Test Editor

A clean idea

The manufacturers have really given it their all! It's remarkable how close the test results of the four articulated lorries have ended up. This shows how high the standard is among the manufacturers. I am not surprised that the DAF made it to the top in the end; the vehicle is the latest truck design on the European market. This is the first time in the history of the Green Truck Award that the Dutch have won the coveted title. Congratulations to Eindhoven for this success!

jan.burgdorf@springernature.com



Thanks to Turbocompound, no one is more confident on the test round than the Volvo FH 460 I-Save

NEW GENERATION DAF



XF XG XG+



XD



XF



Milestones!

The new DAF generation sets milestones in terms of efficiency, safety and driver comfort:

- International Truck of the Year 2022 for the DAF XF, XG, XG+
- International Truck of the Year 2023 for the DAF XD
- Green Truck Award 2023 for the DAF XF

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