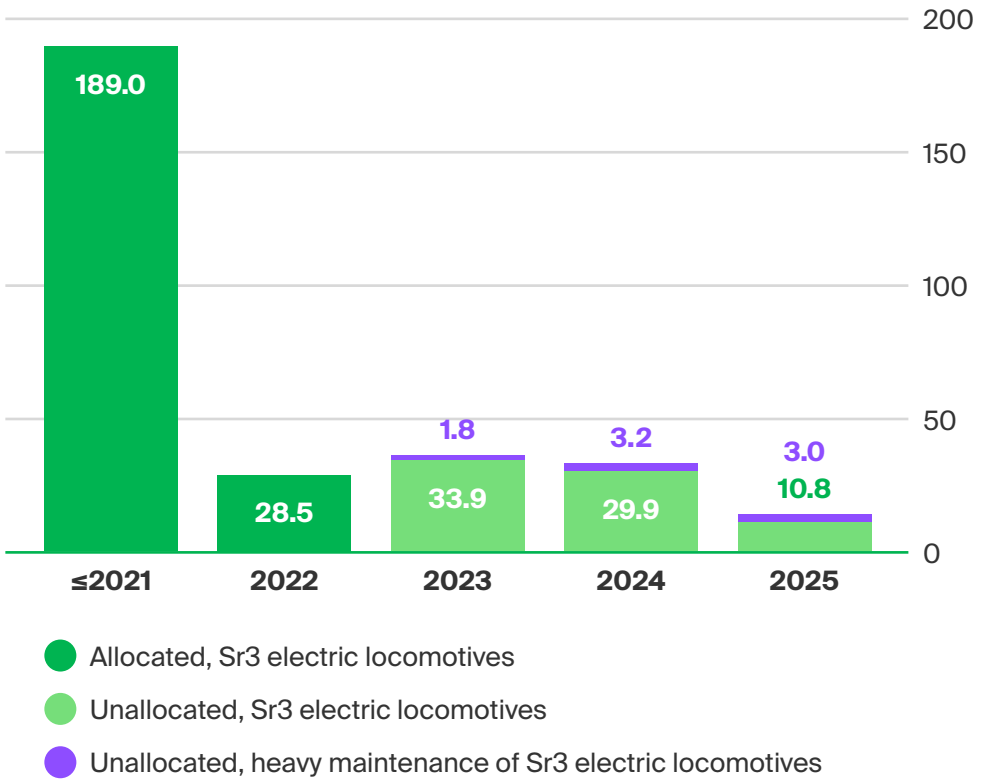
Green Bond report 2022

Key information on the bond and asset allocation

Key information on the bond	
Issuer	**VR Group Plc**
Issuer's credit rating	**A+ (stable), S&P**
Second Party Opinion	**Dark green by CICERO**
Bond type	**Senior unsecured green**
Listing	**Nasdaq Helsinki**
Nominal value	**EUR 300 million**
ISIN	**FI4000523287**
Bond rating	**A+ by S&P**
Issue date	**30 May 2022**
Maturity date	**30 May 2029**
Tenor	**7 years**
Coupon	**2.375% fixed**
Unallocated proceeds	**EUR 82.5 million / 28%**
Allocated proceeds	**EUR 217.5 million / 72%**
Refinancing	**EUR 189.0 million**
Financing	**EUR 28.5 million**

Categories used (EUR million)	Allocated	Unallocated	Total
Clean transportation			
Sr3 electric locomotives	217.5	74.6	292.1
Heavy maintenance of Sr3 electric locomotives	0,0	7.9	7.9
Total	**217.5**	**82.5**	**300.0**

Expected annual allocation (EUR million)



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Sr3 attributes and impact analysis

Summary of realised positive environmental impacts 2018–2022

- Savings in electricity consumption range from 26 to 40 GWh, depending on the specific consumption coefficients used.
- The Last Mile feature has reduced emissions by approximately 655 tCO_2e.
- Reductions in energy consumption and emissions per invested funds:
  - Electricity consumption as much as 184 MWh / EUR million
  - Emissions 3.0 tCO_2e / EUR million

The Sr3 is our most efficient and ecological locomotive

- Maximum output: 6,400 kW (8,700 hp).
- The Last Mile feature (two diesel engines for running on non-electrified railway sections) reduces emissions.
- About 20% more energy-efficient than the previous Sr2 model.
- Recyclability rate: 98%.

Technical attributes related to energy efficiency

- The Sr3 features a more efficient regenerative braking system than Sr2 locomotive. When electric braking is used, it transforms the braking energy into electricity and feeds it into the electrical network.
- Electricity consumption in standby mode is lower and less waste heat is generated than in Sr2.
- The Sr3 features LED lighting technology that uses electricity conservatively.
- Metering enables the monitoring and analysis of energy consumption.

Analysis of the energy consumption of the Sr3

- The first assessments of selected trains indicate a reduction in electricity consumption of as much as 20% compared to the Sr2 locomotive. According to a preliminary analysis of data at the monthly level, the Sr3's electricity consumption is, on average, 10% lower than that of the Sr2. A more comprehensive consumption analysis will be conducted in 2023.
- Electricity consumption depends on speed, train type, route, weather conditions and whether electric braking can be utilised.
- The savings in electricity consumption in 2018–2022 have been calculated in two ways:
  - Using the manufacturer's specific consumption factors: 26 GWh
  - Using the specific consumption factors obtained from a preliminary data analysis: 40 GWh
- The Last Mile feature has reduced the use of fossil light fuel oil by 250,000 litres, or 2.4 GWh, which corresponds to a reduction in emissions of approximately 655 tCO_2e (2018–2022).