STEEL – OUR PREFERRED MATERIAL

SYSTEM EDSTRÖM

Why we prefer steel

As a leading supplier of van racking in the Nordics, we are committed to creating a more sustainable industry. We closely follow the development of different materials, to ensure we deliver high-quality products to our customers, while minimising our impact on the environment.

Until we find a material that exceeds the many advantages that steel has in fulfilling these aims, steel will remain our preferred material. This will be complemented by fewer aluminium and plastic articles. In addition to traditional steel, we are also using more high-strength steel (HSS), which offers all the advantages of steel, but weighs much less.

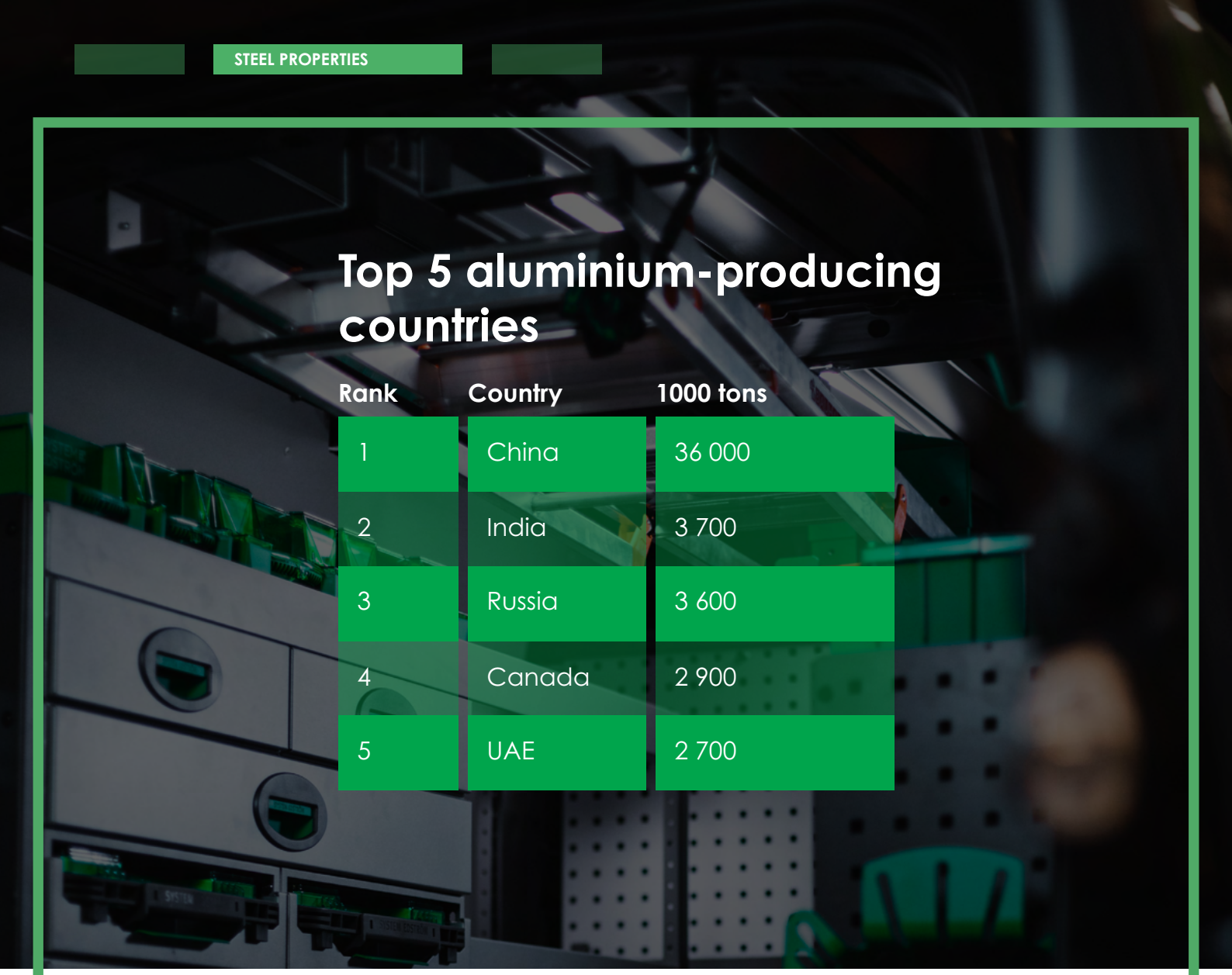
"High-strength steel brings all the benefits of steel, at a lower weight."

Steel caters best to the needs of our end users

Steel manufacturing has a long history in Sweden. The country produces a wide variety of steels, for a broad set of needs and applications. The cost of production is low and the material is strong and versatile. The environmental impact of our steel is several times lower than both aluminium and plastics, thanks to lower emissions during production and a more effective recycling market.

HSS has been developed to combine flexibility with remarkable strength, allowing us to use thinner steel in parts construction. This means we can build lighter products, with even less impact on the environment. At System Edström, we produce racking and interiors mainly for vans and end users who need a robust product that can take the wear and tear involved in day-to-day work and the transport of heavier loads.

The durability of steel makes it the smart choice for heavier loads.



Top 5 aluminium-producing countries

Rank	Country	1000 tons
1	China	36 000
2	India	3 700
3	Russia	3 600
4	Canada	2 900
5	UAE	2 700

Aluminium has a weight advantage but is not our preferred material for environmental reasons

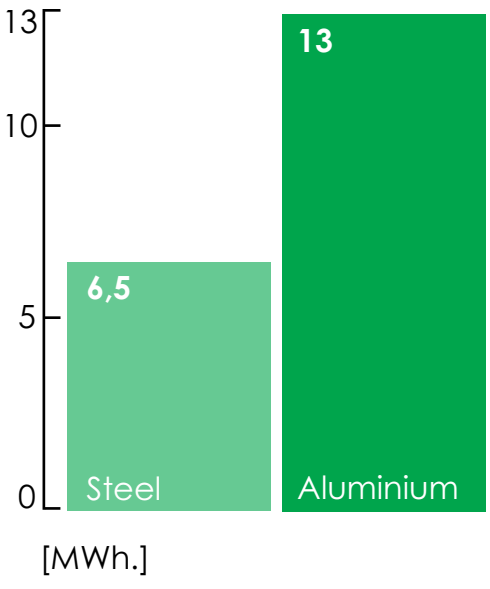
Aluminium is made from bauxite, which is mined in tropical and sub-tropical areas in Australia, South America, West- and Central Africa. It is classified as a light metal with low density, which is one of its primary advantages and makes it suitable for constructions requiring a low weight.

Aluminium has only one third of the density of steel, but it is also only one third as strong. The relative weakness of aluminium limits its usage and the metal is considered expensive to produce, mainly due to high energy consumption in the production process.

Aluminium's large negative impact on the environment...

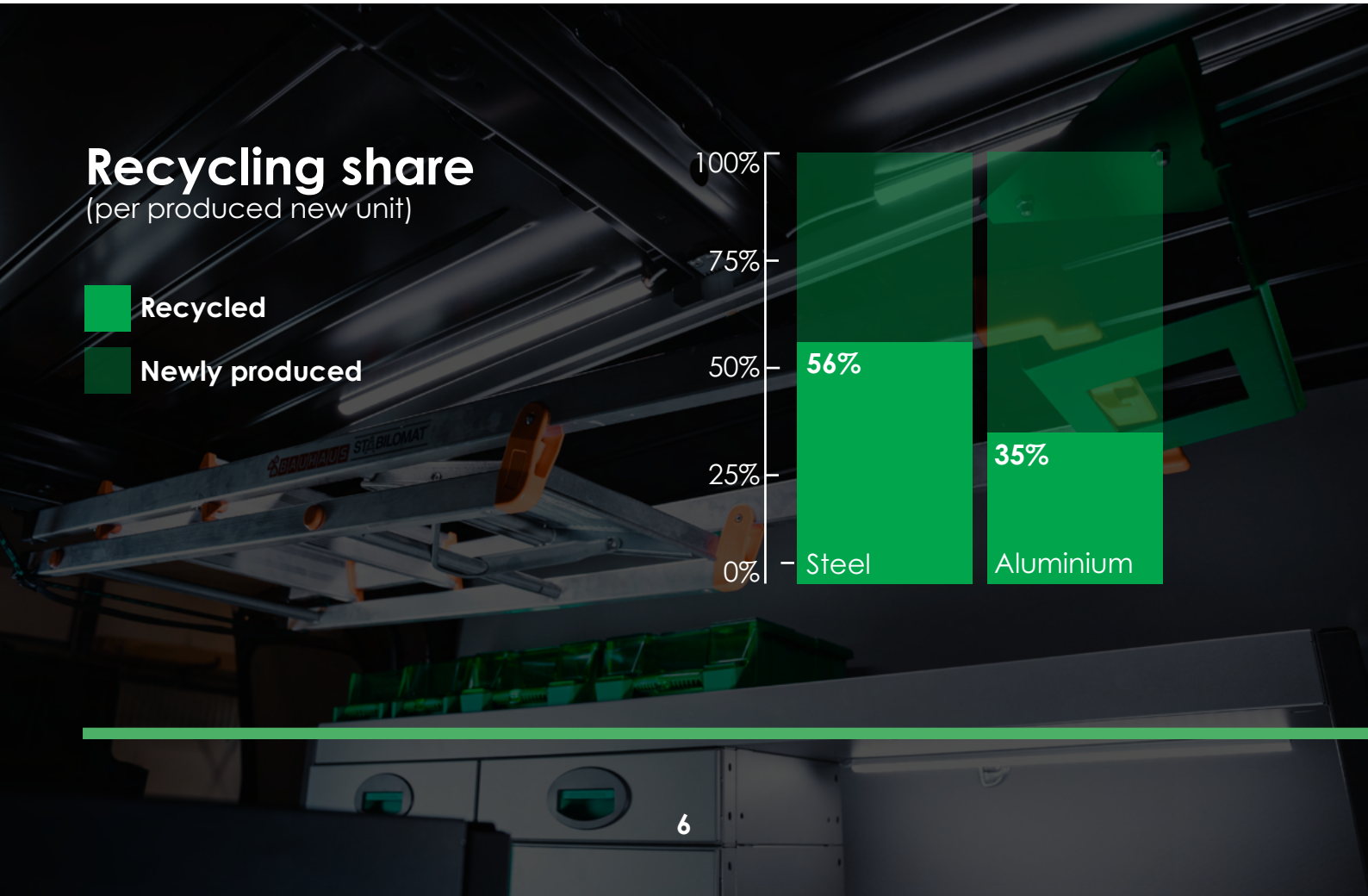
Despite the abundance of bauxite, aluminium is both cumbersome and energy-demanding to produce. The energy consumption for every ton of aluminium produced amounts to approximately 13 megawatt hours (MWh), compared to around 6-7 MWh for steel. Aluminium production therefore creates a substantially larger environmental impact than steel. This is even worse when it comes to carbon emissions. On average, the process emits more than 10 kg of carbon dioxide per kg of aluminium produced. The corresponding figure for steel is about 2 kg.

The figures show us that, viewed for every unit of energy put in, the amount of racking created can be doubled if made of steel compared to aluminium. This amount is even greater when considering carbon footprint.



... outweighs any weight advantage

Heavier vehicles emit more C02. Many people assume that aluminium racking, with its lower density, must be the best choice from an environmental point of view. However, if we consider the lower strength of aluminium, the higher energy consumption needed in production, and the related C02 emissions, aluminium becomes both more expensive and less environmentally friendly. To offset the initial negative environmental impact from aluminium production through lower CO2 emissions on the road, a van must be driven more than 200,000 km. This is higher than the average lifetime of light commercial vehicles in Europe. Most of the energy requirements of steel and aluminium come during primary production. Here, steel has an additional advantage thanks to effective recycling processes and markets – more than half of all steel in the world is recycled.



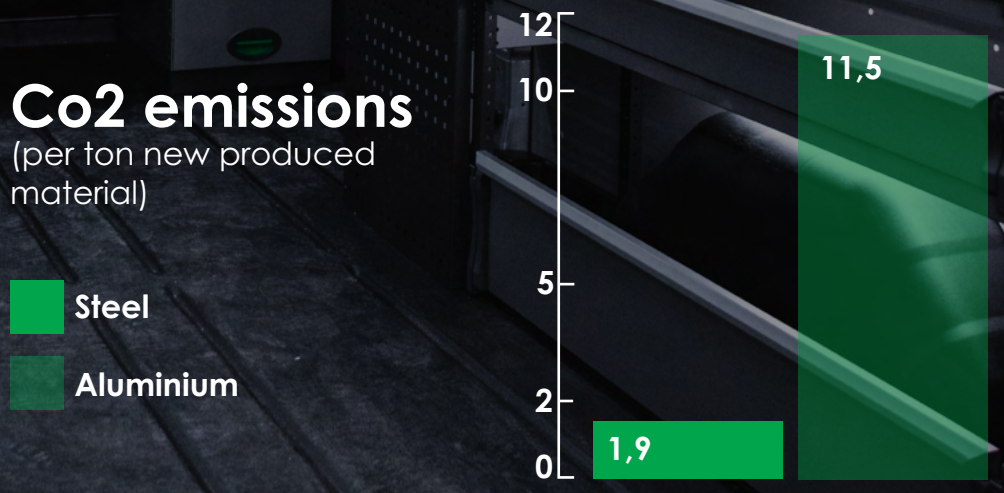
Lightweight van racking naturally results in a van emitting less C02 on the road than a heavier system. This could be seen as an argument for using aluminium racking. However, considering the environmental impact from the production of aluminium, it falls short of steel when it comes to minimising total impact on the environment. Also, the fundamental strength and durability of steel makes it the natural choice for end users looking for a high- quality product while minimising the impact on the environment.

Aluminium requires more material to get close to the strength of steel and consumes a lot of energy in production, which emits many times the CO2 footprint of steel. Also, the imported materials for aluminium production require transport, causing further emissions, especially when comparing to Swedish steel, which is estimated to go CO2 neutral as early as 2026.

https://www.ssab.se/fossilfri/faqs-the-big-questions-answered

Co2 emissions

(per ton new produced material)



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